

August 15, 2018

Dr. Wen Yang
Information Technology Unit
California Regional Water Quality Control Board – Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, California 90013

**FIRST SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON CITY/COUNTY LANDFILL, SYLMAR, CALIFORNIA**

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

This report has been prepared by Geo-Logic Associates on behalf of Browning Ferris Industries (BFI) of California. It summarizes the results of groundwater, surface water, leachate, vadose zone, liquid management, and waste disposal monitoring activities completed during the January 1 to June 30, 2018, semiannual monitoring period.

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

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

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

Sincerely,



Chris Coyle
General Manager
Sunshine Canyon Landfill

**SEMI-ANNUAL MONITORING REPORT
FIRST SEMI ANNUAL 2018**

**SUNSHINE CANYON LANDFILL
FACILITY WDID #L10006014618**

**AUGUST 2018
PROJECT NO. SO18.1024**

PREPARED FOR:

**Republic Services, Inc.
Sunshine Canyon Landfill
14747 San Fernando Road
Sylmar, California 91342**

PREPARED BY:

**Geo-Logic Associates
11415 West Bernardo Court, Suite 200
San Diego, California 92127
(858) 451-1136**



TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

1.0 INTRODUCTION 3

2.0 GENERAL SITE INFORMATION 3

 2.1 Site Description 3

 2.2 Climate and Surface Water Hydrology 3

 2.3 Hydrogeologic Setting 4

 2.4 Groundwater Geochemistry 4

3.0 GROUNDWATER MONITORING 5

 3.1 Water Quality Monitoring Network 5

 3.2 Sampling and Laboratory Analyses 5

 3.3 QA/QC Results 6

 3.4 Groundwater Elevations and Flow Conditions 7

 3.5 Groundwater Chemistry Results 8

 3.5.1 Fourth Quarter 2017 Retest Groundwater Chemistry Results 9

 3.5.2 First Quarter 2018 Groundwater Chemistry Results 9

 3.5.3 Second Quarter 2018 Groundwater Chemistry Results 10

 3.5.4 Tracking Mode Evaluation 11

4.0 VADOSE ZONE MONITORING 14

 4.1 Subdrain Monitoring 14

 4.1.1 Subdrain Liquid Monitoring Points 14

 4.1.2 First Quarter 2018 Subdrain Monitoring Results 15

 4.1.3 Second Quarter 2018 Subdrain Monitoring Results 15

 4.2 Lysimeter Monitoring 15

 4.2.1 Lysimeter Monitoring Points 16

5.0 VADOSE ZONE GAS MONITORING 16

6.0 SURFACE WATER MONITORING 16

 6.1 NPDES Storm Water Quality Monitoring 17

 6.2 Stream Diversion Monitoring 17

 6.3 Other Surface Water Monitoring 17

7.0 LEACHATE MONITORING 17

8.0 LIQUID GENERATION AND MANAGEMENT 18

 8.1 Liquid Management 18

9.0 DRAINAGE STRUCTURE MONITORING 18

10.0 WASTE DISPOSAL MONITORING 19

11.0 WASTE ACCEPTANCE 19
 11.1 First Semiannual 2018 Waste Acceptance Results 21
12.0 SUMMARY 21
13.0 REFERENCES..... 23

TABLES

Table 1 Regulatory Compliance Checklist
Table 2 Analytical Parameters and Methods
Table 3A Summary of Blank Sample Results – First Quarter 2018
Table 3B Summary of Blank Sample Results – Second Quarter 2018
Table 4A Summary of Duplicate Sample Results – First Quarter 2018
Table 4B Summary of Duplicate Sample Results – Second Quarter 2018
Table 5 Groundwater Elevations and Site Monitoring Well Information
Table 6A Summary of Groundwater Analytical Results – First Quarter 2018 Monitoring Period
Table 6B Summary of Groundwater Analytical Results – Second Quarter 2018 Monitoring Period
Table 7A Comparison of Intrawell Water Quality Protection Standards to Analytical Results – First Quarter 2018 Monitoring Period.
Table 7B Comparison of Intrawell Water Quality Protection Standards to Analytical Results – Second Quarter 2018 Monitoring Period.
Table 8A Summary of Analytical Results for Vadose Zone Liquid Monitoring Points – First Quarter 2018 Monitoring Period.
Table 8B Summary of Analytical Results for Vadose Zone Liquid Monitoring Points – Second Quarter 2018 Monitoring Period.
Table 9 Summary of Methane Concentrations for Vadose Zone Gas Monitoring Points – First Semiannual 2018 Monitoring Period
Table 10 Summary of Analytical Results for Stormwater Samples – First Semiannual 2018 Monitoring Period
Table 11 Summary of Analytical Results for Leachate Monitoring Points – April 2018
Table 12 Summary of Collected Water Sources – First Semiannual 2018 Monitoring Period
Table 13 Imported Soil Sampling Summary
Tables 14-17 Waste Discharge Sampling Results

FIGURES

- Figure 1 Site Location Map
- Figure 2 Groundwater Monitoring Point Location Map
- Figure 3A March 2018 Groundwater Equipotential Contours
- Figure 3B June 2018 Groundwater Equipotential Contours
- Figure 4 Vadose Zone Gas Monitoring Point Location Map

APPENDICES

- Appendix A Sampling and Analysis Plan
- Appendix B Field Sample Collection Logs and Laboratory Analytical Data Reports
- Appendix C Landfill Gas Reports
- Appendix D NPDES Certification of Completion
- Appendix E Waste Placement Areas – First Semiannual 2018 Monitoring Period.
- Appendix F Waste Acceptance Analytical Reports
- Appendix G Tracking Mode Trends

EXECUTIVE SUMMARY

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

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

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

WELL	ANALYTE	QUARTER(S) OF WQPS EXCEEDANCE	RETEST RESULTS
MW-1	1,4-Dioxane	1 st	Not Applicable
	t-Butanol	1 st and 2 nd	Not Applicable
MW-5	1,4-Dioxane	1 st and 2 nd	Not Applicable
	Ammonia-Nitrogen	1 st and 2 nd	<i>Exceeded WQPS</i>
MW-6	Ammonia-Nitrogen	2 nd	Results Pending
MW-13R	1,4-Dioxane	1 st and 2 nd	Not Applicable
	Ammonia-Nitrogen	1 st and 2 nd	<i>Exceeded WQPS</i>
	Carbon Disulfide	1 st	Below WQPS
	Potassium	2 nd	Not Applicable
MW-14	Ammonia-Nitrogen	1 st and 2 nd	Below WQPS/Results Pending
DW-3	Ammonia-Nitrogen	1 st and 2 nd	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. All retest results for samples collected in response to fourth quarter 2017 WQPS exceedances were measured at concentrations below respective WQPS. Retest results for samples collected following first quarter 2018 WQPS exceedances confirm elevated concentrations of ammonia-nitrogen at wells MW-5 and MW-13R. Accordingly ammonia-nitrogen at wells MW-5 and MW-13R was placed in tracking mode during the monitoring period. Results are currently pending for the second quarter 2018 WQPS exceedance of the following:

- Ammonia-nitrogen at wells MW-6 and MW-14

Retest results will be presented in the Second Semiannual 2018 Water Quality Monitoring Report.

During the first semiannual 2018 monitoring period, a few 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. The liquids collected at the subdrains are conveyed to the sewer under a City of Los Angeles Bureau of Sanitation permit.

Lysimeters LY-6 and LY-7 could not be sampled during the monitoring period. SCLF is currently in the process of scheduling a contractor to rehabilitate the lysimeters.

Annual leachate sampling was performed in October 2017. Based on the results obtained, retesting was performed for cyanide at LR-2R in April 2018. Cyanide was not detected in the retest sample.

During the first semiannual 2018 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 sewer under a City of Los Angeles Bureau of Sanitation permit. Combined with other liquids managed by the site (subdrains, leachate, landfill gas condensate, and seep collectors), approximately 26,847,510 gallons of liquid were collected at the site and disposed to the sewer during the first semiannual 2018 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 first semiannual 2018 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 first and second quarter monitoring events. 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-4, Parts 1 and 2.

2.2 Climate and Surface Water Hydrology

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

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

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

2.3 Hydrogeologic Setting

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

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

2.4 Groundwater Geochemistry

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

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

3.0 GROUNDWATER MONITORING

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

3.1 Water Quality Monitoring Network

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

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

During the first semiannual 2018 monitoring period, groundwater monitoring was conducted between March 12 through 15 (first quarter) and on June 12 through 14 (second quarter). The locations of groundwater monitoring wells, piezometers, and other environmental monitoring points are shown on Figure 2.

3.2 Sampling and Laboratory Analyses

Groundwater samples were collected by GLA during the first and second quarter 2018 monitoring events, and submitted to TestAmerica Laboratories, Inc. (TA) of Irvine, California, a state certified laboratory under contract to BFI/Republic. During the first quarter 2018 monitoring period, samples were analyzed for the indicator parameters. During the second quarter 2018 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 first semiannual 2018 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:

First Quarter 2018 Monitoring Event

- All analyses were completed within the holding times prescribed by the respective analytical method.
- As indicated on Table 3A, a trace concentration of naphthalene was measured in a method blank. However, naphthalene was not detected in any primary samples. No other VOCs were detected in blank samples.
- Potassium was measured at a trace concentration in method blank samples analyzed with primary samples collected on March 13, 2018 (Table 3A). The relatively low concentrations of potassium did not affect the interpretation of primary sample results. No other analytes were detected in method blanks.
- As shown in Table 4A, with one exception, the relative percent difference (RPD) between primary and duplicate samples was generally seven percent or less for quantifiable results. The RPD for total alkalinity was 91 percent. The analytical laboratory has been notified and is looking into the discrepancy. Of note, total alkalinity at the well where the duplicate sample was collected (CM-9R3) has varied significantly, but the primary and duplicate sample results fall within the historical range of values.

Second Quarter 2018 Monitoring Event

- All analyses were completed within the holding times prescribed by the respective analytical method.
- As indicated on Table 3B, no VOCs were detected in blank samples.
- Calcium was detected at a trace concentration in the blank sample analyzed with samples collected on June 12, 2018 (Table 3B). Quantifiable and trace concentrations of sodium and a trace concentration of calcium were detected in method blanks analyzed with

samples collected in June 2018. The relatively low concentrations of these constituents measured in the method blanks did not affect the interpretation of primary samples.

- As shown on Table 4B, with one exception, the RPD between primary and duplicate samples was nine percent or less for quantifiable results, which indicates good agreement. Carbon dioxide had an RPD of 35 percent.

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

3.4 Groundwater Elevations and Flow Conditions

During the first semiannual 2018 monitoring period, quarterly depth to groundwater measurements were measured on March 12 and June 12, 2018. Between September 18, 2017 and March 12, 2018, the following changes in the groundwater elevation were measured:

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
MW-1	+1.28
MW-2A	-0.14
MW-2B	-0.29
MW-5	-0.33
MW-6	+0.58
MW-8	-1.73
MW-9	-1.57
MW-13R	+0.80
MW-14	-0.17
PZ-1	-0.52
PZ-2	+0.04
PZ-3	-1.45
PZ-4	-0.11

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
DW-1	No Change
DW-2	-0.68
DW-3	-0.61
DW-4	-1.21
DW-5	+0.31
CM-9R3	+3.40
CM-10R	+2.68
CM-11R	+3.98
CM-5R	-2.01

Between December 4, 2017 and June 12, 2018, the following changes in the groundwater elevation were measured:

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
MW-1	+0.86
MW-2A	+1.45
MW-2B	+0.98
MW-5	+0.28
MW-6	+0.38
MW-8	-1.75
MW-9	-4.37
MW-13R	+1.26
MW-14	+0.22
PZ-1	-0.05
PZ-2	+0.37
PZ-3	-0.67
PZ-4	+0.38

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
DW-1	No Change
DW-2	+0.34
DW-3	+0.11
DW-4	-0.27
DW-5	+0.80
CM-9R3	+2.87
CM-10R	+1.21
CM-11R	+3.50
CM-5R	Not Applicable

Groundwater equipotential surface contours were developed using the first and second quarter 2018 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 0.34 ft/ft. The estimated horizontal groundwater velocity within the unweathered bedrock is approximately 1 to 10 feet per year (Geo-Logic Associates, 2009).

Comparison of groundwater elevations 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 first quarter 2018 monitoring period and for indicator and supplemental parameters during the second quarter 2018 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 Fourth Quarter 2017 Retest Groundwater Chemistry Results

During the previous monitoring period (fourth quarter 2017), the following results were measured above the water quality protection standards (WQPS):

- Ammonia-nitrogen at well MW-5;
- Potassium at well PZ-2.

Accordingly, retest samples were collected on February 20, 2018. The results are summarized in the following table.

WELL	ANALYTE	UNITS	WQPS	RETEST RESULT (1)	RETEST RESULT (2)
MW-5	Ammonia-N	mg/L	5.714	5.0	5.5
PZ-2	Potassium	mg/L	4.693	3.7	3.8

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

3.5.2 First Quarter 2018 Groundwater Chemistry Results

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

WELL	ANALYTE	UNITS	WQPS	1 ST QUARTER 2018 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-1	1,4-Dioxane	µg/L	1.0 (PQL)	21	TM	TM
	t-Butanol	µg/L	10 (PQL)	15	TM	TM
MW-5	1,4-Dioxane	µg/L	0.98 (PQL)	20	TM	TM
	Ammonia-N	mg/L	5.714	7.3	ND	5.9
MW-13R	1,4-Dioxane	µg/L	1.1 (PQL)	9.4	TM	TM
	Carbon Disulfide	µg/L	1.0 (PQL)	1.8	ND	ND
	Ammonia-N	mg/L	7.732	8.8	7.3	7.8
MW-14	Ammonia-N	mg/L	0.5703	0.58	0.22	0.21
DW-3	Ammonia-N	mg/L	0.7564	1.3	TM	TM

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 April 23, 2018 for analyses of the following:

- Ammonia-N at wells MW-5, MW-13R, and MW-14;
- Carbon disulfide at well MW-13R.

Retest results confirm elevated ammonia-N at wells MW-5 and MW-13R. Accordingly, ammonia-N at wells MW-5 and MW-13R has been placed in tracking mode. Retest results for ammonia-N at well MW-14 and carbon disulfide at well MW-13-R were measured at concentrations below the respective WQPS and will remain in detection 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 t-butanol was measured in the sample from well MW-13R. With respect to corrective action evaluation monitoring wells, two trace-level VOCs were detected in the sample from well DW-4, and five VOCs (one trace and four quantifiable) 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 and the chloride concentration in well MW-9, none of the analyte concentrations measured in samples collected during the first quarter 2018 monitoring period exceeded a State of California drinking water standard or Federal Maximum Contaminant Level (Table 6A).

3.5.3 Second Quarter 2018 Groundwater Chemistry Results

During the second quarter 2018 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	2 ND QUARTER 2018 RESULT
MW-1	1,4-Dioxane	µg/L	0.94 (PQL)	11
MW-5	Ammonia-N	mg/L	5.714	7.5
	1,4-Dioxane	µg/L	0.94 (PQL)	19
MW-6	Ammonia-N	mg/L	1.337	1.5
MW-13R	1,4-Dioxane	µg/L	0.95 (PQL)	9.2
	Ammonia-N	mg/L	7.732	8.4
	Potassium	mg/L	27.224	33

WELL	ANALYTE	UNITS	WQPS	2 ND QUARTER 2018 RESULT
MW-14	Ammonia-N	mg/L	0.5703	0.73
DW-3	Ammonia-N	mg/L	0.7564	2.4

Note: PQL - Practical Quantitation Limit.

Many of the well/constituent pairs listed above are currently in “tracking mode”. Retesting is currently scheduled for the following:

- Ammonia-N at wells MW-6 and MW-14.

Retest results will be presented in the Second Semiannual 2018 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, six VOCs (one trace-level and five quantifiable) were detected in the sample from well MW-9 (Table 6B).

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

3.5.4 Tracking Mode Evaluation

Verification retest results obtained during the current monitoring period confirm the presence of ammonia-N that exceeds the WQPS at wells MW-5 and MW-13R. Accordingly, these constituent/well pairs have 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	None	Continue Quarterly Monitoring
MW-5	1,4-Dioxane, t-Butanol, Ammonia-N	1,4-Dioxane, Ammonia-N	None	Continue Quarterly Monitoring

WELL	PARAMETERS IN TRACKING MODE	TRACKING MODE PARAMETERS EXCEEDING WQPS DURING THE CURRENT MONITORING PERIOD	PENDING EXCEEDANCES	PLANNED ACTION
MW-6	Chemical Oxygen Demand	None	Ammonia-N	Retest for Ammonia-N; Continue Quarterly Monitoring
MW-13R	1,4-Dioxane, Potassium, Ammonia-N	1,4-Dioxane, Potassium, Ammonia-N	None	Continue Quarterly Monitoring
MW-14	Vinyl Chloride, Alkalinity, TDS	None	Ammonia-N	Retest for Ammonia-N; Continue Quarterly Monitoring
DW-1	Chloride	None	None	Continue Quarterly Monitoring
DW-3	Alkalinity, Ammonia-N	Ammonia-N	None	Continue Quarterly Monitoring
DW-5	Ammonia-N, Allyl Chloride	None	None	Continue Quarterly Monitoring
PZ-2	None	None	None	Continue Quarterly Monitoring
PZ-4	Alkalinity, Chloromethane	None	None	Continue Quarterly Monitoring

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

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	1 ST QUARTER RESULTS	2 ND QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-1: 1,4-Dioxane	PQL	21	11	Variable concentrations with slight increasing long-term trend. Concentrations between 10 µg/L and 20 µg/L during the last 11 sampling events.
MW-1: t-Butanol	PQL	15	ND	Variable (cyclic) concentrations typically between 8 µg/L and 22 µg/L.
MW-5: 1,4-Dioxane	PQL	20	19	Variable concentrations with slight increasing long-term trend; consistently measured above the PQL.
MW-5: t-Butanol	PQL	ND	ND	Only one observation exceeding the WQPS. Not detected during past nine monitoring events.
MW-5: Ammonia-N	5.714 mg/L	7.3	7.5	Slight increasing trend over past three years.

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	1 ST QUARTER RESULTS	2 ND QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-6: Chemical Oxygen Demand	75.338 mg/L	17j	13j	Two sporadic results measured over the concentration limit.
MW-13R: 1,4-Dioxane	PQL	9.4	9.2	Variable concentrations between 4 µg/L and 11 µg/L during the last four years.
MW-13R: Potassium	27.224 mg/L	25	33	Increasing trend since 2012. First measurement over WQPS in 2017.
MW-13R: Ammonia-N	7.732 mg/L	8.8	8.4	First measurement over WQPS in 2018.
MW-14: Vinyl Chloride	PQL	ND	ND	Intermittent detections, generally below the WQPS. Non-detect during last nine sampling events.
MW-14: Alkalinity	587.83	480	470	Variable concentrations typically below the WQPS.
MW-14: TDS	5128.5	4000	3900	Three results above the WQPS that are likely associated with elevated rainfall and runoff in early 2017.
DW-1: Chloride	17.737 mg/L	14	11j	One anomalous result over the concentration limit. Below WQPS during last 11 sampling events.
DW-3: Alkalinity	162.81 mg/L	160	150	Results are typically very near (both above and below) the WQPS.
DW-3: Ammonia as N	0.7564 mg/L	1.3	2.4	Results are typically very near (both above and below) the WQPS, except for three anomalous results in 2014, 2016, and 2018.
DW-5: Ammonia as N	0.3918 mg/L	0.27	0.44j	Results are typically very near (both above and below) the WQPS, except for one anomalous result in 2013.
DW-5: Allyl Chloride	PQL	ND	ND	Intermittent detections.
PZ-4: Alkalinity, total	341.13 mg/L	330	320	Concentrations are generally below or slightly above the WQPS.
PZ-4: Chloromethane	PQL	ND	ND	One historical detection.

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

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

4.0 VADOSE ZONE MONITORING

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

4.1 Subdrain Monitoring

Order No. R4-2008-0088 requires quarterly monitoring of landfill subdrain systems. As with groundwater samples, 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 from sample locations 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 sewer (City of Los Angeles Bureau of Sanitation permit W-535428). Subdrain CC2-3A liquid samples are collected from pumped discharge from this angled riser.

4.1.2 First Quarter 2018 Subdrain Monitoring Results

During the first quarter 2018 monitoring event, samples from each subdrain monitoring point were collected on March 12, 2018. Samples were delivered to TestAmerica Labs for the indicator parameters.

As shown on Table 8A, the sample from Subdrain N contained two VOCs with a total concentration of 4.51 µg/L. The sample from Combined Subdrains contained four VOCs with a total concentration of 22.01 µg/L. These results are generally similar to those measured during the previous monitoring period. All VOC concentrations were measured below State and federal drinking water standards, or have no established ARAR. TDS concentrations and the field-measured pH and turbidity values in both samples exceeded the state secondary drinking water standard.

4.1.3 Second Quarter 2018 Subdrain Monitoring Results

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

As shown on Table 8B, eight VOCs were detected in the sample from Subdrain N and two VOCs were detected in the sample from Combined Subdrains, with total VOC concentrations of 29.65 µg/L and 5.83 µg/L (respectively). All VOC concentrations were measured below State and federal drinking water standards.

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

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

4.2 Lysimeter Monitoring

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

4.2.1 Lysimeter Monitoring Points

The SCLF is currently equipped with two lysimeters: LY-6 and LY-7. 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.

During the monitoring period samples could not be obtained from either lysimeter sampling point. SCLF is in the process of scheduling a contractor to rehabilitate the lysimeters to permit future sampling.

5.0 VADOSE ZONE GAS MONITORING

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

During the first semiannual 2018 monitoring period, screening of the permanent vadose zone monitoring locations (monthly) was conducted during the following dates: January 24-25, February 13-15, March 27-29, April 17-19, May 22-24, and June 26-28, 2018. As shown on Table 9, methane was detected at very low concentrations in a couple probes; however, no results exceeded five percent by volume (%V). The following summarizes methane results at or above 2.5 %V:

- Probe P-205R-D during each monthly monitoring event (ranging from 2.6 %V to 3.1 %V)
- Probe P-240-E during the February monitoring event (3.6 %V). However, this was rechecked later in February following adjustments to the landfill gas extraction system with a result of 0.2 %V.
- Probe P-241-A during the June monitoring event (2.6 %V).

6.0 SURFACE WATER MONITORING

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

6.1 NPDES Storm Water Quality Monitoring

Landfill personnel periodically monitor the quality of storm water as part of the general NPDES Permit adopted for the facility, and additional storm water monitoring is conducted as part of the SCLF waste acceptance monitoring program. Stormwater samples were collected January 9 and March 2, 8, 12, and 29, 2018. Sampling results are summarized in Table 10.

6.2 Stream Diversion Monitoring

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

6.3 Other Surface Water Monitoring

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

7.0 LEACHATE MONITORING

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

The SCLF 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” and “LR-2R” on October 17, 2017. Leachate monitoring location “Leachate” could not be sampled due to a possible bend/fold in the leachate riser at depth (Appendix A). Based on the results obtained, confirmation retesting was performed on April 23, 2018 to verify the quantifiable concentration of cyanide in the sample from LR-2R in October 2017. As shown in Table 11, cyanide was not

detected in the retest sample collected from LR-2R; and therefore, will not be added to the COC list.

8.0 LIQUID GENERATION AND MANAGEMENT

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

8.1 Liquid Management

During the first semiannual 2018 monitoring period, approximately 26,847,510 gallons of liquid were collected from the SCLF and transferred to the sewer (Table 12; under City of Los Angeles Bureau of Sanitary permit W-535428). In order to supplement water needs, the site purchased approximately 20,967,188 gallons of water from the City of Los Angeles Department of Water and Power (Table 12).

9.0 DRAINAGE STRUCTURE MONITORING

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

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

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

10.0 WASTE DISPOSAL MONITORING

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

MONTH	WASTE DISPOSAL TONNAGE	ESTIMATED VOLUME (CYDS)
January	184,974.98	249,966.19
February	156,275.23	211,182.74
March	176,410.21	238,392.18
April	175,119.09	236,647.42
May	187,456.37	253,319.42
June	177,992.10	240,529.86
January – June 2018 Totals:	1,058,227.98	1,430,037.81

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

As summarized in the preceding table, during the first semiannual 2018 monitoring period, approximately 1,058,227.98 tons of waste were disposed at the SCLF. As of July 1, 2018, the remaining capacity at the SCL is estimated at approximately 76,717,625 cubic yards. Based on the currently approved maximum tonnage acceptance rate, the site has a remaining life of approximately 26 years.

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

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

11.0 WASTE ACCEPTANCE

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

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

“Soils contaminated with TPH, VOCs, SVOCs, organochlorine pesticides, PCBs, or CAM metals may be disposed in lined cells provided the following threshold concentrations are not exceeded:

- *For petroleum hydrocarbon contaminated soils, the threshold concentrations are 1,000 mg/kg in the C4-C12 carbon chain range, 10,000 mg/kg in the C13-C22 carbon chain range, or an average TPH concentration of 50,000 mg/kg.*
- *Threshold concentration levels for constituents other than petroleum hydrocarbons include:*
 - *Soils with an average, contaminant-specific concentration that does not exceed a Preliminary Remediation Goal (PRG) for industrial sites established by the USEPA.*
 - *Soils with an average, contaminant-specific concentration that does not exceed a California Human Health Screening Level (CHHSL) for industrial sites established by the Cal-EPA.*
 - *Soils with for which a PRG or CHHSL has not been established with an average, contaminant-specific concentration that does not exceed, on a per weight basis, 100 times the MCL established by the USEPA or the State of California Department of Public Health.*

Soils with VOC, SVOCs, organochlorine pesticide, PCB, or CAM metal contaminant concentrations higher than these limits may be disposed of in lined portions of the landfill based on the results of an evaluation that shows the contaminated soils are not classified as a Designated Waste in accordance with the Central Valley Regional Water Quality Control Board 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 Tables 14 through 17.

11.1 First Semiannual 2018 Waste Acceptance Results

The contaminated soil generators, analyses performed, type of special waste, and quantity of special waste disposed of during the monitoring period are summarized in Table 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 CHSL levels may be accepted if the analyte concentrations do not exceed the respective State of California Hazardous Waste levels (as listed in Title 22 of the California Code of Regulations Section 66261.24) and Total Designated Levels (as calculated following the guidelines in Section C.3 of the Amended WDRs), whichever is lower. When comparing analyte concentrations to California hazardous waste levels, the total analyte concentration must be below its respective Total Threshold Limit Concentration (TTLC) and it must be below ten times the Soluble Threshold Limit Concentration (STLC). If a total analyte concentration is more than ten times the STLC value, then the sample must be submitted for a Waste Extraction Test to determine its soluble analyte concentration. To be considered acceptable, the soluble analyte concentration must also be below its respective STLC value.

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

12.0 SUMMARY

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

During the first semiannual 2018 monitoring period, concentration limits were exceeded for VOCs at three of the five shallow, alluvial detection monitoring wells and at none of the six deep, bedrock detection monitoring wells. Additionally, concentration limits were exceeded for

inorganic constituents at one deep, bedrock monitoring detection monitoring well and four of the shallow, alluvial detection monitoring wells. With the exception of ammonia-N at wells MW-5 and MW-13R, 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. Retest samples for second quarter 2018 results that exceeded concentration limits that require retesting (ammonia-N at wells MW-6 and MW-14) will be collected during the third quarter 2018 and presented in the July through December 2018 report.

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

No new seeps were identified during the first semiannual 2018 monitoring period.

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

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

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

13.0 REFERENCES

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

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

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

TABLES

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

MRP SECTION	REPORTING REQUIREMENT	REPORT SECTION
I.A.1	Transmittal Letter	Republic Transmittal Letter
	Discussion of Violations	Executive Summary
	Planned Corrective Actions	Executive Summary
	Signature of Owner/Operator Principal	Republic Transmittal Letter
	Statement of validity, accuracy, and completeness	Republic Transmittal Letter
I.A.2	Summary of Non-Compliance	Executive Summary
I.A.3	Site Conditions	Section 2
I.A.4	Narrative Description	
	Monitoring Parameters	Section 3.2, Table 2
	Groundwater Monitoring	Section 3
	Water Quality Protection Standards	Section 3.5, Tables 7A, 7B
	Statistical and Non-Statistical Data Analysis	Section 3.5, Tables 7A, 7B
	Groundwater Flow Monitoring	Section 3.4
	Leachate Monitoring	Section 7.0
	Vadose Zone Liquid Monitoring	Section 4.0
	Vadose Zone Gas Monitoring	Section 5.0
	Surface Water Monitoring	Section 6.0
On-Site Water Use Monitoring	Section 8.0	
Seep and Trench Liquid Monitoring	Section 8.0	
I.A.5	Laboratory Results	
	Groundwater	Appendix B, Tables 6A and 6B
	Subdrain and Lysimeter Liquid	Appendix B, Tables 8A and 8B
	NPDES Monitoring	Table 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	Appendix B
QA/QC Sample Results	Section 3.3, Tables 3A, 3B, 4A, and 4B, Appendix B	
I.A.6	Summary and Certification of Standard Observation in accordance with NPDES requirements	Appendix 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

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

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

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

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
3/12/18	3/12/18	QCAB	None Detected
	3/12/18	QCTB	None Detected
	3/12/18	Method Blank	None Detected
3/13/18	3/13/18	QCAB	None Detected
	3/13/18	QCTB	None Detected
	3/13/18	Method Blank	Potassium: 0.416j mg/L Potassium: 0.267j mg/L
3/14/18	3/14/18	QCAB	None Detected
	3/14/18	Method Blank	Naphthalene: 0.466j ug/L
3/15/18	3/15/18	QCAB	None Detected
	3/15/18	QCTB	None Detected
	3/15/18	Method Blank	None Detected

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

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
6/12/18	6/12/18	QCAB	None Detected
	6/12/18	QCTB	None Detected
	6/12/18	Method Blank	Calcium: 0.0577j mg/L
6/13/18	6/13/18	QCAB	None Detected
	6/13/18	QCTB	None Detected
	6/13/18	Method Blank	Sodium: 0.366j mg/L
			Sodium: 1.39 mg/L
		Calcium: 0.0860j mg/L	
6/14/18	6/14/18	QCAB	None Detected
	6/14/18	QCTB	None Detected
	6/14/18	Method Blank	Sodium: 0.321j mg/L

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

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

ANALYTE	CM-9R3 3/12/2018	DUPLICATE 3/12/2018	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	180	67	91
Ammonia (as N)	4.6	4.6	0
Chemical Oxygen Demand	10	10	NC
Chloride	15	15	0
Total Dissolved Solids	4800	4700	2
Total Organic Compound	7.1	7.2	1
METALS (mg/L):			
Potassium	14	13	7
VOLATILE ORGANIC COMPOUNDS (µg/L): Not Detected			
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L): Not Detected			

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

ANALYTE	CM-10R 6/12/2018	DUPLICATE 6/12/2018	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	470	480	2
Ammonia (as N)	13	13	0
Bicarbonate alkalinity	470	480	2
Carbon Dioxide	70	49	35
Chemical Oxygen Demand	12	10	NC
Chloride	7.7	7.9	3
Fluoride	1.2	1.2	NC
Sulfate	1400	1400	0
Sulfide, total	3.7	3.9	NC
Total Dissolved Solids	2500	2500	0
Total Organic Carbon	5.2	5.5	6
METALS (mg/L):			
Boron	0.98	0.98	0
Calcium	250	250	0
Iron	0.11	0.12	9
Magnesium	190	190	0
Manganese	0.40	0.40	0
Potassium	12	12	0
Sodium	190	200	5
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.

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

Well Number	MW-1	MW-2A	MW-2B	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4
Well Casing Elevation (ft. MSL)	1344.48	1381.71	1381.98	1341.42	1347.32	1363.32	1345.78	1354.19	1351.93	1521.92	1682.54	1382.02
Approximate Well Casing Elevation (ft. MSL)*	1397.01	1398.68										1400.82
Total Depth of Well (ft)	29.60	26.00	54.40	26.20	23.50	26.70	27.80	28.10	205.80	72.30	256.60	116.00
Pump Depth (ft)	27.30	24.70	52.20	25.00	19.70	24.90	26.40	25.00	199.00	70.00	247.00	
Well Diameter (in)	4	4	4	2	2	4	4	4	4	4	4	4
Type of Pump (ft)	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Drop Tube	Bladder	Bladder	Bladder
Depth to Water (ft below TOC)												
3/9/12	17.08	21.38	5.58	19.03	16.97	20.96	17.59	14.83	0.00	25.74	151.46	5.54
3/28/12	16.85	21.37	5.44	NM	16.72	20.28	16.89	14.79	0.00	NM	NM	5.52
6/22/12	17.31	21.42	5.57	19.37	17.13	15.26	17.83	15.47	0.00	26.64	151.69	5.63
9/18/12	17.56	21.74	5.81	19.70	17.09	13.36	18.10	15.08	0.00	28.38	151.68	5.79
12/17/12	17.94	21.96	5.90	19.24	16.62	12.56	17.51	14.98	0.00	27.33	151.98	5.90
3/11/13	15.88	21.60	5.73	18.84	16.34	14.81	16.57	14.48	0.00	26.88	150.31	5.94
6/25/13	16.13	21.74	5.89	19.36	16.57	16.57	17.36	14.75	0.00	27.68	151.13	6.28
9/16/13	16.95	21.88	6.04	19.71	16.85	16.95	17.71	14.92	0.00	28.78	151.82	6.35
12/16/13	16.58	21.81	5.84	19.44	16.62	17.01	17.62	14.68	0.00	29.48	152.19	6.28
3/24/14	15.92	21.89	5.70	19.82	17.16	13.05	18.00	15.42	0.00	29.42	152.53	6.21
6/9/14	16.41	21.96	7.04	19.14	16.54	12.63	17.74	14.80	0.00	30.47	152.54	6.65
9/15/14	17.16	22.38	6.76	19.67	16.82	12.01	18.04	14.79	0.00	31.82	152.72	6.87
12/15 & 23/2014	16.39	20.60	4.98	19.05	16.17	11.65	18.24	14.35	0.00	32.33	152.89	5.24
3/23/15	16.58	21.65	5.77	19.28	16.59	20.04	18.16	14.65	0.00	31.57	152.88	5.92
6/15/15	16.86	22.10	5.57	19.41	16.72	22.02	18.34	14.73	0.00	32.74	151.25	5.75
9/28/15	17.27	21.91	5.59	19.91	16.69	19.49	18.75	14.80	0.00	33.88	151.11	5.86
12/1/15	17.04	16.08	1.46	19.72	16.70	20.20	18.83	14.92	0.00	34.33	151.56	2.21
3/28/16	16.61	19.05	12.41	19.33	16.46	20.47	18.53	14.61	0.00	33.56	151.71	14.12
6/20/16	16.89	17.14	11.52	19.81	16.67	16.64	18.61	14.85	0.00	34.66	152.51	18.11
9/19/16	17.49	32.29	20.05	20.01	16.83	15.46	19.20	14.87	0.00	35.10	153.10	32.82
12/19/16	17.12	31.33	19.49	19.85	17.33	15.15	19.26	14.61	0.00	35.28	153.56	34.65
3/13/17	15.19	30.43	17.64	17.58	16.38	13.96	17.22	14.44	0.00	23.08	153.54	21.79
6/12/17	15.59	30.84	17.11	18.61	16.53	12.95	17.42	14.58	0.00	23.56	153.21	21.94
9/18/17	15.64	33.57	18.38	19.14	16.69	11.88	17.74	14.50	0.00	24.83	153.77	31.51
12/4/17	15.35	34.01	18.75	19.16	16.85	13.44	17.95	14.74	0.00	25.90	154.74	32.32
3/12/18	14.36	33.71	18.67	19.47	16.11	13.45	16.94	14.67	0.00	25.51	154.38	32.72
6/12/18	14.49	32.56	17.77	18.88	16.47	17.81	16.69	14.52	0.00	25.56	154.63	32.59
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	1376.94	1321.71	1330.47	1346.37	1328.07	1339.27	1351.93	1493.14	1530.72	1375.67
12/16/13	1327.90	1359.90	1376.14	1321.98	1330.70	1346.31	1328.16	1339.51	1351.93	1492.44	1530.35	1375.74
3/24/14	1328.56	1359.82	1376.28	1321.60	1330.16	1350.27	1327.78	1338.77	1351.93	1492.50	1530.01	1375.81
6/9/14	1328.07	1359.75	1374.94	1322.28	1330.78	1350.69	1328.04	1339.39	1351.93	1491.45	1530.00	1375.37
9/15/14	1327.32	1359.33	1375.22	1321.75	1330.50	1351.31	1327.74	1339.40	1351.93	1490.10	1529.82	1375.15
12/15 & 23/2014	1328.09	1361.11	1377.00	1322.37	1331.15	1351.67	1327.54	1339.84	1351.93	1489.59	1529.65	1376.78
3/23/2015	1327.90	1360.06	1376.21	1322.14	1330.73	1343.28	1327.62	1339.54	1351.93	1490.35	1529.66	1376.10
6/15/2015	1327.62	1359.61	1376.41	1322.01	1330.60	1341.30	1327.44	1339.46	1351.93	1489.18	1531.29	1376.27
9/28/2015	1327.21	1359.80	1376.39	1321.51	1330.63	1343.83	1327.03	1339.39	1351.93	1488.04	1531.43	1376.16
12/1/2015	1327.44	1365.63	1380.52	1321.70	1330.62	1343.12	1326.95	1339.27	1351.93	1487.59	1530.98	1379.81
3/28/2016	1327.87	1362.66	1369.57	1322.09	1330.86	1342.85	1327.25	1339.58	1351.93	1488.36	1530.83	1367.90
6/20/2016	1327.59	1364.57	1370.46	1321.61	1330.65	1346.68	1327.17	1339.34	1351.93	1487.26	1530.03	1363.91
9/19/2016	1326.99	1364.72	1378.63	1321.41	1330.49	1347.86	1326.58	1339.32	1351.93	1486.82	1529.44	1368.00
12/19/2016	1327.36	1365.68	1379.19	1321.57	1329.99	1348.17	1326.52	1339.58	1351.93	1486.64	1528.98	1366.17
3/13/2017	1329.29	1366.58	1381.04	1323.84	1330.94	1349.36	1328.56	1339.75	1351.93	1498.84	1529.00	1379.03
6/12/2017	1328.89	1366.17	1381.57	1322.81	1330.79	1350.37	1328.36	1339.61	1351.93	1498.36	1529.33	1378.88
9/18/2017	1328.84	1363.44	1380.30	1322.28	1330.63	1351.44	1328.04	1339.69	1351.93	1497.09	1528.77	1369.31
12/4/2017	1329.13	1363.00	1379.93	1322.26	1330.47	1349.88	1327.83	1339.45	1351.93	1496.02	1527.80	1368.50
3/12/18	1330.12	1363.30	1380.01	1321.95	1331.21	1349.87	1328.84	1339.52	1351.93	1496.41	1528.16	1368.10
6/12/18	1329.99	1364.45	1380.91	1322.54	1330.85	1345.51	1329.09	1339.67	1351.93	1496.36	1527.91	1368.23

Note:

MSL = Mean Sea Level
 TOC = Top of Casing
 BOC = Bottom of Casing
 NA = Not Available
 NM = Not Measured

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

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

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

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

Note:

MSL = Mean Sea Level

TOC = Top of Casing

BOC = Bottom of Casing

NA = Not Available

NM = Not Measured

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

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

Analyte	Units	BACKGROUND WELLS				SHALLOW MONITORING WELLS								DEEP MONITORING WELLS								ARAR
		CM-9R3	CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4		
		3/12/2018	DUP	3/12/2018	3/12/2018	3/15/2018	3/14/2018	3/13/2018	3/13/2018	3/13/2018	3/14/2018	3/13/2018	3/13/2018	3/13/2018	3/13/2018	3/13/2018	3/14/2018	3/15/2018	3/14/2018	3/13/2018	3/12/2018	
Alkalinity	mg/L	180	67	13	270	690	330	680	460	1300	790	480	520	360	160	340	920	330	360	330	NV	
Ammonia-Nitrogen	mg/L	4.6	4.6	1.6	10	4.5	3.4	7.3	1.1	16	8.8	0.58	2.3	3.5	1.3	4.6	0.27	3.8	3.5	2.5	NV	
Chemical Oxygen Demand	mg/L	10	10	10	10	100	10	81	17j	420	280	10	10	10	10	10	10	10	10	13j	NV	
Chloride	mg/L	15	15	12	8.2	290	13	280	30	700	160	0.37j	14	10	13	12	19	13	0.25	8.3	500(2)	
Potassium, total	mg/L	14	13	12	11	31	5.3	27	4.8	35	25	8.7	2.6	4.3	8.7	4.5	1.0	4.6	3.8	4.5	NV	
Total Dissolved Solids	mg/L	4800	4700	4200	2700	3800	2600	3700	3100	4400	2100	4000	3200	2000	1900	2800	1200	2700	4100	1100	1000(2)	
Total Organic Carbon	mg/L	7.1	7.2	5.0	2.8	24	3.1	36	5.6	130	27	7.1	3.4	1.7	0.63	2.0	8.4	2.0	2.7	1.2	NV	
Acetone	µg/L	10	10	10	10	10	10	10	10	14j	10	10	10	10	10	11j	10	10	10	10	NV	
Carbon disulfide	µg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.8	0.50	0.50	0.50	0.50	0.79j	0.50	0.50	0.50	0.50	NV	
t-Butanol	µg/L	5.0	5.0	5.0	5.0	15	5.0	5.0	5.0	120	6.0j	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	0.25	0.66	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6(1)-70(3)	
1,4-Dioxane	µg/L	0.24	0.24	0.25	0.24	21	0.25	20	0.28	67	9.4	0.26	0.25	0.24	0.26	0.26	0.25	0.24	0.25	0.25	NV	
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV	

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

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

NV: No ARAR value.

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

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

2500 Analyte concentration exceeds ARAR value.

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

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS								DEEP MONITORING WELLS							ARAR
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		6/12/18	6/12/18	6/12/18	6/13/2018	6/14/18	6/12/2018	6/12/2018	6/13/2018	6/12/2018	6/12/2018	6/13/2018	6/13/2018	6/13/2018	6/14/2018	6/13/2018	6/14/2018	6/12/2018	6/14/2018	
Inorganic Monitoring Parameters:																				
Alkalinity, total	mg/L	160	27	470	600	340	670	450	1000	660	470	520	350	150	340	940	340	350	320	NV
Alkalinity, bicarbonate	mg/L	160	27	470	600	340	670	450	1000	660	470	420	350	150	340	910	340	350	320	NV
Ammonia-Nitrogen	mg/L	5.4	2.5	13	3.7	3.2	7.5	1.5	16	8.4	0.73	0.76	3.3	2.4	4.5	0.44j	3.7	3.4	2.5	NV
Bromide	mg/L	1.3	1.3	0.50	2.3	0.33j	3.7	0.88j	5.2	2.2	1.6j	0.50	0.29j	0.25	0.50	0.25	0.33j	2.5	0.25	NV
Carbon Dioxide, free	mg/L	70	33	70	120	48	150	56	150	26	65	2.0	25	18	18	7.0	19	2.0	28	NV
Chemical Oxygen Demand	mg/L	10	10	12j	81	10	82	13j	220	220	10	11j	10	10	13j	20	10	10	10	NV
Chloride	mg/L	13	12	7.7	170	15	240	37	300	150	54	14	11	15	13	19	14	11	8.7	500(2)
Fluoride	mg/L	2.0j	1.3	1.2	1.8	1.1	2.2j	1.0	1.8j	0.36j	1.6j	2.4	0.51	0.37j	0.56j	3.5	0.76	2.5	1.1	2(1)-4(3)
Nitrate-Nitrogen	mg/L	0.28	0.28	0.22	0.11	0.055	0.28	0.11	0.30j	0.055	0.28	0.11	3.3	0.055	0.11	0.055	0.055	0.55	0.056j	10(1,3)
Sulfate	mg/L	2800	2900	1400	1400	1500	1700	1700	1500	380	2200	1700	1100	1200	1700	0.25	1500	2500	520	500(2)
Sulfide, total	mg/L	0.027	0.027	3.7	0.027	0.027	0.027	9.3	0.027	14	0.027	0.19	0.027	0.027	0.027	0.058	0.027	0.027	0.027	NV
Total Dissolved Solids	mg/L	4300	4200	2500	3000	2700	3600	3100	3900	1500	3900	3200	1900	1900	2900	1100	2700	4000	1100	1000(2)
Total Organic Carbon	mg/L	6.5	4.8	5.2	13	2.8	36	5.1	14	25	6.2	3.2	1.6	0.34	1.8	7.3	1.8	2.4	1.2	NV
Metals:																				
Boron	mg/L	2.1	1.6	0.98	1.2	0.55	1.2	0.72	2.2	0.85	0.57	2.1	0.60	0.061	0.64	2.7	0.55	1.5	0.19	NV
Calcium	mg/L	340	270	250	330	200	450	310	430	110	390	2.8	98	290	200	5.4	170	13	110	NV
Iron	mg/L	13	0.20	0.11	44	9.1	23	0.29	67	0.10	0.32	0.050	1.3	0.62	1.8	0.12	2.0	0.050	0.80	0.3(2)
Magnesium	mg/L	230	180	190	150	110	210	170	210	140	200	1.5	65	100	130	0.88	93	11	64	NV
Manganese	mg/L	2.9	5.3	0.40	2.4	0.44	5.4	0.81	3.6	0.042	3.1	0.015	0.13	0.46	0.13	0.093	0.12	0.026	0.10	0.05(2)
Potassium, total	mg/L	14	13	12	25	5.4	30	5.3	33	33	8.1	2.5	4.6	9.2	5.0	1.4	4.6	4.0	4.2	NV
Sodium	mg/L	480	600	190	320	380	300	290	510	180	420	1100	460	72	500	460	410	1300	130	NV
Volatile and Semivolatile Organic Compounds:																				
t-Butanol	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	47	5.0j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV
1,4-Dichlorobenzene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.26j	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	5(1)-75(3)
cis-1,2-Dichloroethene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.96	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6(1)-70(3)
1,4-Dioxane	µg/L	0.24	0.25	0.28	11	0.23	19	0.26	32	9.2	0.24	0.25	0.24	0.25	0.23	0.25	0.25	0.25	0.23	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1.0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	13(1)/5(2)
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	12	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 - FIRST QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS
Alkalinity	mg/L	690	844.76	680	727.34	460	571.59	790	972.24	480	587.83	520	658.76	360	410.47	160	162.81	920	1009.98	360	411.93	330	341.13
Ammonia-Nitrogen	mg/L	4.5	10.634	7.3	5.714	1.1	1.337	8.8	7.732	0.58	0.5703	2.3	2.4	3.5	4.308	1.3	0.7564	0.27	0.3918	3.5	3.598	2.5	2.976
Chemical Oxygen Demand	mg/L	100	202.056	81	135.7	17j	75.338	280	407.58	10	54.674	10	49.801	10	52.743	10	15.206	10	76.47	10	26.386	13j	24.85
Chloride	mg/L	290	408.469	280	469.603	30	70.829	160	213.802	0.37j	88.987	14	17.737	10	15.462	13	17.534	19	101.838	0.25	16.398	8.3	11.706
Potassium, total	mg/L	31	54.763	27	34.393	4.8	10.679	25	27.224	8.7	12.508	2.6	3.838	4.3	6.183	8.7	12.357	1.0	5.262	3.8	4.693	4.5	5.643
Total Dissolved Solids	mg/L	3800	4495	3700	4614.2	3100	4486.5	2100	3450.9	4000	5128.5	3200	3600.2	2000	2178.3	1900	2313.1	1200	1417.3	4100	4403.2	1100	1529.5
Total Organic Carbon	mg/L	24	75.928	36	50.696	5.6	15.408	27	54.233	7.1	13.006	3.4	9.947	1.7	3.499	0.63	2.115	8.4	11.745	2.7	2.887	1.2	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
t-Butanol	µg/L	15	10	5.0	10	5.0	10	6.0j	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10
Carbon Disulfide	µg/L	0.50	1.0	0.50	1.0	0.50	1.0	1.8	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0
1,4-Dioxane	µg/L	21	1.0	20	0.98	0.28	1.1	9.4	1.1	0.26	1.1	0.25	0.99	0.24	0.98	0.26	1.0	0.25	0.99	0.25	1.0	0.25	1.0

Notes:

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

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

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

2500 Analyte concentration exceeds intrawell WQPS.

**TABLE 7B
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - SECOND QUARTER 2018
SUNSHINE CANYON LANDFILL**

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		6/13/2018	WQPS	6/12/2018	WQPS	6/12/2018	WQPS	6/12/2018	WQPS	6/12/2018	WQPS	6/13/2018	WQPS	6/13/2018	WQPS	6/13/2018	WQPS	6/13/2018	WQPS	6/12/2018	WQPS	6/14/2018	WQPS
Alkalinity	mg/L	600	844.76	670	727.34	450	571.59	660	972.24	470	587.83	520	658.76	350	410.47	150	162.81	940	1009.98	350	411.93	320	341.13
Ammonia-Nitrogen	mg/L	3.7	10.634	7.5	5.714	1.5	1.337	8.4	7.732	0.73	0.5703	0.76	2.4	3.3	4.308	2.40	0.7564	0.44j	0.3918	3.4	3.598	2.5	2.976
Chemical Oxygen Demand	mg/L	81	202.056	82	135.7	13j	75.338	220	407.58	10	54.674	11j	49.801	10	52.743	10	15.206	20	76.47	2	26.386	10	24.85
Chloride	mg/L	170	408.469	240	469.603	37	70.829	150	213.802	54	88.987	14	17.737	11	15.462	15	17.534	19	101.838	11	16.398	8.7	11.706
Potassium, total	mg/L	25	54.763	30	34.393	5.3	10.679	33	27.224	8.1	12.508	2.5	3.838	4.6	6.183	9.2	12.357	1.4	5.262	4.0	4.693	4.2	5.643
Total Dissolved Solids	mg/L	3000	4495	3600	4614.2	3100	4486.5	1500	3450.9	3900	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	13	75.928	36	50.696	5.1	15.408	25	54.233	6.2	13.006	3.2	9.947	1.6	3.499	0.34	2.115	7.3	11.745	2.4	2.887	1.2	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
t-Butanol	µg/L	5.0	10	5.0	10	5.0	10	5.0j	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	11	0.94	19	0.94	0.26	0.99	9.2	0.95	0.24	1.0	0.24	0.94	0.25	0.94	0.27	1.0	0.27	0.98	0.25	1.0	0.26	0.96

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
FIRST QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		3/12/2018	3/12/2018	3/15/2018	3/15/2018	
Field Parameters:						
Electrical Conductivity	mS/cm	3190	3460	NS	NS	NV
Oxidation Reduction Potential	mV	194	166	NS	NS	NV
Oxygen, dissolved	mg/L	2.65	3.26	NS	NS	NV
pH	Units	6.50	6.25	NS	NS	6.5-8.5(2)
Temperature	°C	25.36	24.81	NS	NS	NV
Turbidity	NTU	80.7	164	NS	NS	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	240	260	NS	NS	NV
Ammonia-Nitrogen	mg/L	1.4	0.79	NS	NS	NV
Chemical Oxygen Demand	mg/L	17j	15j	NS	NS	NV
Chloride	mg/L	56	55	NS	NS	500(2)
Total Dissolved Solids	mg/L	2700	2600	NS	NS	1000(2)
Total Organic Carbon	mg/L	9.6	8.7	NS	NS	NV
Metals:						
Potassium	mg/L	9.4	9.1	NS	NS	NV
Volatile and Semivolatile Organic Compounds:						
t-Butanol	µg/L	5.0	17	NS	NS	NV
cis-1,2-Dichloroethene	µg/L	0.51	0.93	NS	NS	6(1)-70(3)
1,4-Dioxane	µg/L	4.0	3.8	NS	NS	NV
Trichloroethene	µg/L	0.25	0.28j	NS	NS	5(1,3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

NS: Not Sampled.

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

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

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

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

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

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		6/12/2018	6/12/2018	6/14/2018	6/14/2018	
Field Parameters:						
Electrical Conductivity	Ω/cm	3.56	2.94	NS	NS	NV
Oxidation Reduction Potential	mV	92	182	NS	NS	NV
Oxygen, dissolved	mg/L	2.33	2.29	NS	NS	NV
pH	Units	6.03	6.25	NS	NS	6.5-8.5(2)
Temperature	°C	29.14	31.39	NS	NS	NV
Turbidity	NTU	0	117	NS	NS	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	670	280	NS	NS	NV
Alkalinity, bicarbonate	mg/L	670	280	NS	NS	NV
Ammonia-Nitrogen	mg/L	3.4	1.2	NS	NS	NV
Bromide	mg/L	0.94j	0.87j	NS	NS	NV
Carbon dioxide	mg/L	170	6.1	NS	NS	NV
Chemical Oxygen Demand	mg/L	49	10	NS	NS	NV
Chloride	mg/L	40j	63	NS	NS	500(2)
Fluoride	mg/L	1.4	1.0	NS	NS	2(1)-4(3)
Nitrate as Nitrogen	mg/L	0.11	2.9	NS	NS	10(1,3)
Sulfate	mg/L	1600	1500	NS	NS	500(2)
Total Dissolved Solids	mg/L	3200	2700	NS	NS	1000(2)
Total Organic Carbon	mg/L	26	6.1	NS	NS	NV
Metals						
Boron	mg/L	0.96	0.33	NS	NS	NV
Calcium	mg/L	360	290	NS	NS	NV
Iron	mg/L	26	12	NS	NS	0.3(2)
Magnesium	mg/L	190	210	NS	NS	NV
Manganese	mg/L	6.2	2.7	NS	NS	0.05(2)
Potassium	mg/L	13	7.8	NS	NS	NV
Sodium	mg/L	260	120	NS	NS	NV
Volatile and Semivolatile Organic Compounds:						
Benzene	µg/L	0.70	0.25	NS	NS	1(1)-5(3)
Chlorobenzene	µg/L	0.25j	0.25	NS	NS	70(1)-100(3)
t-Butanol	µg/L	9.7j	5.0	NS	NS	NV
cis-1,2-Dichloroethene	µg/L	1.5	0.73	NS	NS	6(1)-70(3)
1,4-Dichlorobenzene	µg/L	3.6	0.25	NS	NS	5(1)-75(3)
1,4-Dioxane	µg/L	3.7	5.1	NS	NS	NV
Methyl tert-butyl ether	µg/L	1.2	0.25	NS	NS	13(1)/5(2)
Tetrahydrofuran	µg/L	9.0j	5.0	NS	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.

NS: Not Sampled.

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

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

0.25

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

173

 Analyte was detected.

2500

 Analyte concentration exceeds ARAR value.

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

Probe ID	Interval	Depth (ft bgs)	1/24/2018 - 1/25/2018	2/13/2018 - 2/15/2018	3/27/2018 - 3/29/2018	4/17/2018 - 4/19/2018	5/22/2018 - 5/24/2018	6/26/2018 - 6/28/2018
P-202	A	10-15	Removed Due to Construction					
	B	25-30						
	C	40-45						
P-203	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-205R	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	20-25	0.1	0.3	0.2	0.4	0.7	0.7
	C	33-38	1.5	1.4	1.5	0.2	2.0	1.9
	D	48-53	2.6	2.5	2.9	2.9	3.1	3.0
	E	62-67	0.9	1.5	0.4	0.9	2.0	1.8
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	0.1
P-214	A	7-16	0.0	0.0	0.0	0.0	0.0	0.0
	B	23-32	0.0	0.1	0.0	0.0	0.0	0.0
	C	42-51	0.0	0.1	0.0	0.0	0.0	0.0
P-215	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	24-31	0.0	0.0	0.0	0.0	0.0	0.0
	C	41-48	0.0	0.0	0.0	0.0	0.0	0.0
	D	58-65	0.0	0.0	0.0	0.0	0.0	0.1
	E	75-82	0.0	0.0	0.0	0.0	0.0	0.1
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 - FIRST SEMI ANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/24/2018 - 1/25/2018	2/13/2018 - 2/15/2018	3/27/2018 - 3/29/2018	4/17/2018 - 4/19/2018	5/22/2018 - 5/24/2018	6/26/2018 - 6/28/2018
P-218R	A	5-8	0.0	0.0	0.0	0.0	0.1	0.0
	B		0.1	0.1	0.0	0.0	0.0	0.0
	C		0.0	0.0	0.0	0.0	0.0	0.0
P-219	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	57-66	0.0	0.0	0.0	0.0	0.0	0.0
	C	109-117	0.0	0.0	0.0	0.0	0.0	0.0
	D	158-167	0.0	0.0	0.0	0.0	0.0	0.0
	E	209-218	0.0	0.0	0.0	0.0	0.0	0.0
P-220	A	6.9-14	0.0	0.0	1.8	0.0	0.0	0.0
	B	44-51	0.0	0.0	0.1	0.0	0.0	0.0
	C	79-88	0.0	0.0	0.4	0.0	0.0	0.0
	D	117-127	0.0	0.0	0.0	0.1	0.0	0.0
	E	150-159	0.1	0.0	0.4	0.3	0.7	0.0
P-220B	A	8-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-39	0.0	0.0	0.0	0.0	0.0	0.0
	C	56-61	0.1	0.0	0.0	0.0	0.0	0.0
	D	80-87	0.0	0.0	0.0	0.0	0.0	0.0
	E	104-111	0.0	0.0	0.0	0.0	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	0.1	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	0.1
	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	0.1	0.0	0.0	0.0
	B	32-41	0.0	0.0	0.1	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 - FIRST SEMI ANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/24/2018 - 1/25/2018	2/13/2018 - 2/15/2018	3/27/2018 - 3/29/2018	4/17/2018 - 4/19/2018	5/22/2018 - 5/24/2018	6/26/2018 - 6/28/2018
P-227	A	6-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	46-55	0.0	0.0	0.0	0.0	0.0	0.0
	C	85-95	0.0	0.0	0.0	0.0	0.1	0.0
	D	126-134	0.0	0.0	0.0	0.0	0.1	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	0.1	0.0
	B	56-65	0.0	0.0	0.0	0.0	0.0	0.0
	C	107-115	0.0	0.0	0.0	0.0	0.1	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	0.1
	E	150-159	0.0	0.0	0.0	0.0	0.0	0.1
P-230R	A	7-14	REMOVED DUE TO CONSTRUCTION					
	B	35						
	C	50						
P-231	A	4-14	REMOVED DUE TO CONSTRUCTION					
	B	20-27						
	C	33-40						
	D	45-53						
	E	58-67						
P-239	A	10-15	0.0	0.0	0.0	0.0	0.0	0.1
	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	3.6	0.3	0.2	0.2	0.2
P-241	A	10-15	0.0	0.0	0.0	0.0	0.1	2.6
	B	37-42	0.0	0.0	0.0	0.0	0.0	0.1
	C	61-66	0.0	0.0	0.0	0.0	0.0	0.1
	D	85-90	0.0	0.0	0.0	0.0	0.0	0.1
	E	109-114	0.0	0.0	0.0	0.0	0.0	0.1
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	0.1	0.1	0.0	0.2
	B	20-29	0.0	0.0	0.0	0.0	0.0	0.0
	C	33-38	0.0	0.0	0.0	0.0	0.0	0.0
P-244	A	6-11	0.0	0.0	0.1	0.0	0.1	0.0
	B	21-26	0.0	0.1	0.2	0.2	0.2	0.1
	C	36-41	0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

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

Probe ID	Interval	Depth (ft bgs)	1/24/2018 - 1/25/2018	2/13/2018 - 2/15/2018	3/27/2018 - 3/29/2018	4/17/2018 - 4/19/2018	5/22/2018 - 5/24/2018	6/26/2018 - 6/28/2018
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	0.1	0.0	0.0
P-246	A	6-9						
	B	12-19						
Subdrains	P-203D		0.0	0.0	0.0	0.0	0.0	0.0
	P204D		0.0	0.0	0.0	0.0	0.0	0.0
	P-211D		0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 10
SUMMARY OF ANALYTICAL RESULTS FOR STORMWATER SAMPLES
FIRST SEMI-ANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Analyte	Units	Stormwater	Stormwater	Stormwater	Stormwater	Stormwater
		1/9/2018	3/2/2018	3/8/2018	3/12/2018	3/29/2018
General Chemistry Parameters:						
Ammonia-Nitrogen	mg/L	2.5	0.87	0.92	0.96	1.0
Biochemical Oxygen Demand	mg/L	28	5.8	4.1	3.3	16
Bromide	mg/L	0.25	NA	NA	NA	NA
Chemical Oxygen Demand	mg/L	200	150	10	10	74
Chloride	mg/L	18	10	18	18	17
Fluoride	mg/L	0.40j	0.70	0.67	0.70	1.7
Iodide	mg/L	0.25	NA	NA	NA	NA
Nitrate as N	mg/L	0.99	0.76	1.4	1.1	1.0
Nitrite as N	mg/L	0.079j	0.070	0.070	0.083j	0.67
Nitrate+Nitrite as N	mg/L	1.1	0.76	1.4	1.2	1.7
Oil & Grease (HEM)	mg/L	1.4	1.3	1.5	1.4	1.4
Total Suspended Solids	mg/L	20000	1300	6.4	14	53
Metals:						
Aluminum	mg/L	32	19	0.11	0.38	1.0
Antimony	mg/L	0.00089j	0.00074j	0.00050	0.00052j	0.0014j
Arsenic	mg/L	0.015	0.0095	0.00075j	0.0010	0.0015
Beryllium	mg/L	0.0017	0.00066	0.00025	0.00025	0.00025
Cadmium	mg/L	0.010	0.0028	0.0027	0.0034	0.0046
Copper	mg/L	0.065	0.035	0.0041	0.0053	0.0061
Iron	mg/L	77	47	0.20	0.50	2.0
Lead	mg/L	0.017	0.014	0.00050	0.00050	0.00078j
Manganese	mg/L	2.6	1.5	1.8	2.0	2.3
Mercury	mg/L	0.00028	0.00010	0.00010	0.00010	0.00010
Nickel	mg/L	0.16	0.071	0.078	0.088	0.12
Phosphorus	mg/L	7.2	1.2	0.025	0.032j	0.090
Selenium	mg/L	0.0045	0.0026	0.0021	0.0020	0.0014j
Silver	mg/L	0.00050	0.00050	0.00050	0.00050	0.00050
Zinc	mg/L	0.41	0.15	0.10	0.073	0.11
Volatile Organic Compounds (8260):						
Acrylonitrile	µg/L	1.0	1.0	1.0	1.0	1.0
Alpha-Terpineol	µg/L	3.0	3.0	3.1	3.0	3.0
Benzene	µg/L	0.25	0.25	0.25	0.25	0.25
Ethylbenzene	µg/L	0.25	0.25	0.25	0.25	0.25
Toluene	µg/L	0.25	0.25	0.25	0.25	0.25
Trichloroethene	µg/L	0.25	0.25	0.25	0.25	0.25
Semivolatile Organic Compounds (8270C):						
Benzoic Acid	µg/L	19j	9.8	9.8	9.7	11j
Butyl Benzyl Phthalate	µg/L	10	9.8	9.8	9.7	9.7
Cresol, p-	µg/L	5	2	2	1.9	1.9
Dimethyl Phthalate	µg/L	5	1.5	1.5	1.5	1.5
Flouranthene	µg/L	5	4.9	4.9	4.9	4.9
Phenol	µg/L	8.3j	4.9	4.9	4.9	4.9
Pyrene	µg/L	10	4.9	4.9	4.9	4.9
Polychlorinated Biphenyls (8082): None detected.						

Notes:

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

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

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

NA Analyte was not analyzed.

173 Analyte was detected. Value reported by laboratory.

TABLE 11
SUMMARY OF ANALYTICAL RESULTS FOR LEACHATE MONITORING POINTS - APRIL 2018 RETEST
SUNSHINE CANYON LANDFILL

Analyte	Units	LEACHATE MONITORING POINTS			ARAR
		LR-2R	CA-L	LEACHATE	
		No Sampling Required	No Sampling Required	No Sampling Required	
General Chemistry Parameters:					
Cyanide	mg/L	0.013	No Sampling Required	No Sampling Required	

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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

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

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

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

Month	Total Purchase Water	Subdrains	Landfill Leachate	Landfill Gas Condensate	Seep Collectors	Groundwater Cutoff Wall	MONTHLY TOTALS
January	2,801,260	1,064,730	676,883	1,028,250	327,650	1,154,805	7,053,578
February	3,356,276	1,131,554	406,991	748,022	300,540	611,545	6,554,928
March	1,864,016	1,012,795	1,041,092	2,211,310	532,482	1,102,650	7,764,345
April	4,506,700	1,369,476	640,353	789,304	485,124	744,648	8,535,605
May	4,323,440	1,502,796	584,283	877,192	443,218	2,099,353	9,830,282
June	4,115,496	621,755	446,599	818,444	332,819	1,740,847	8,075,960
TOTAL:	20,967,188	6,703,106	3,796,201	6,472,522	2,421,833	7,453,848	47,814,698

Notes:

**TABLE 13
SUNSHINE CANYON LANDFILL
IMPORTED SOIL SAMPLING SUMMARY - FIRST SEMI-ANNUAL 2018 MONITORING PERIOD**

GENERATOR	SAMPLER	WASTE TYPE	QUANTITY	CONSTITUENTS ANALYZED
Medical Waste Services, LLC	No Samples Taken	Treated Medical Waste	2100 Tons	No Samples Taken
Los Angeles County Metropolitan Transportation Authority	No Samples Taken	Weathered Wood	25 Tons	No Samples Taken
California Department of Food and Agriculture	No Samples Taken	Food Products	5 Tons	No Samples Taken
City of Santa Monica	No Samples Taken	Weathered Wood	120 Tons	No Samples Taken
HMart Logistics	No Samples Taken	Food Products	40 Cubic Yards	No Samples Taken
City of Redondo Beach	No Samples Taken	Weathered Wood	50 Tons	No Samples Taken
DP Produce, Inc	No Samples Taken	Food Products	0.75 Tons	No Samples Taken
Los Angeles County Fire	No Samples Taken	Garments	5 Tons	No Samples Taken
Doreen Colato	No Samples Taken	Weathered Wood	40 Cubic Yards	No Samples Taken
Paradigm Industries Inc.	Matthew Kim	Mineral Foam and Gathering of small fabrics	60 Cubic Yards	VOCs, SVOCs, Metals
Puratos Corporation	No Samples Taken	Food Products	20.4 Tons	No Samples Taken
Kauai Organic Farms	No Samples Taken	Food Products	1.7 Tons	No Samples Taken
Green House Nurseries Inc.	No Samples Taken	Unidentifiable Insect eggs on plants from Florida	1 Cubic Yard	No Samples Taken
Department of Transportation - CalTrans District 7	No Samples Taken	Weathered Wood	2 Tons	No Samples Taken
Times Produce Inc	No Samples Taken	Food Products	0.2 Tons	No Samples Taken
Rainfield Marketing Group	No Samples Taken	Food Products	1.5 Tons	No Samples Taken
City of San Gabriel	No Samples Taken	Weathered Wood	17 Cubic Yards	No Samples Taken
Southern California Edison Walnut Substation	Cam Kamali	Non-Haz Soil	2 Cubic Yards	PCBs, TPH, Metals, VOCs
Aerocraft Heat Treating	Juan	Furnace Insulation	25 Cubic Yards	Metals
John S Meek Company	No Samples Taken	Weathered Wood	120 Cubic Yards	No Samples Taken
Norwalk La Mirada Unified School District	Kristina Hill	Soil	5 Cubic Yards	Metals and VOCs
Northrop Grumman Aerospace Systems	James	Soil	100 Tons	Metals, TPH, VOCs, SVOCs, PCBs
United States Coast Guard	No Samples Taken	Weathered Wood	150 Tons	No Samples Taken
Jushi USA Fiberglass Co	No Samples Taken	Fiberglass	40 Tons	No Samples Taken
Port of Long Beach	No Samples Taken	Weathered Wood	15 Tons	No Samples Taken
City of Long Beach	No Samples Taken	Weathered Wood	50 Tons	No Samples Taken
Southern California Edison Irwindale Corporate Warehouse	No Samples Taken	Non-Haz Soil	800 Cubic Yards	TPH, Metals, VOCs, PCBs,

Notes:

VOC: Volatile Organic Compound

PCB: Polychlorinated Biphenyls

PAH: Polynuclear Aromatic Hydrocarbons

*No Samples Taken: Waste previously characterized, or no characterization required (e.g. cured asphalt, treated wood, etc). Special waste decision changed/recertified to exte date, account for increases in volume estimates, or to change to ongoing disposal.

Assumptions:

Cubic Yard of Cured Asphalt = 3780 Pounds

Cubic Yard of Weathered Wood = 1134 Pounds

Cubic Yard of Cigarettes = 700 Pounds

Cubic Yard of Soil = 2000 Pounds

TPH: Total Petroleum Hydrocarbons

SVOC: Semivolatile Organic Compound

MSDS: Material Safety Data Sheet

TABLE 14
SUNSHINE CANYON LANDFILL
GENERATOR: PARADIGM INDUSTRIES
ESTIMATED ANNUAL QUANTITY: 60 Cubic Yards

SAMPLE	P-1	Hazardous Level TTL (mg/kg)	Lined Cell Limit (mg/kg)	Unrestricted Limit (mg/kg)
DATE SAMPLED	11/20/17			
TIME SAMPLED	11:00			
SAMPLED BY	Dan Burley			
DATE ANALYZED	11/27-28/2017			
METALS (mg/kg): NA				
Antimony	54	500	380	30
Arsenic	4.0	500	500	12
Barium	130	10,000	10,000	5,200
Beryllium	1.0	75	75	16
Cadmium	3.4	100	100	1.7
Chromium	150	2,500	2,500	45
Cobalt	15	8,000	350	23
Copper	390	2,500	2,500	2,500
Lead	80	1,000	350	80
Mercury	0.20	20	20	9.4
Molybdenum	98	3,500	3,500	380
Nickel	250	2,000	2,000	1,500
Selenium	9.6	100	100	100
Silver	3.2	500	500	380
Thallium	4.0	700	111	0.78
Vanadium	8.8	2,400	2,400	390
Zinc	1200	5,000	5,000	5,000
VOLATILE ORGANIC COMPOUNDS (ug/L): None Detected				
SEMI-VOLATILE ORGANIC COMPOUNDS (ug/L): None Detected				

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.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 2 Cubic yards

SAMPLE	HA10-0.5'	HA10-2.0'	HA11-0.5'	HA11-2.0'	HA12-0.5'	HA12-2.0'	HA13-0.5'	HA13-2.0'	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	Level TTL (mg/kg)	Limit (mg/kg)	Limit (mg/kg)
TIME SAMPLED	6:40	6:45	7:10	7:15	7:45	7:50	8:30	8:50			
SAMPLED BY	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali			
DATE ANALYZED	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18			
METALS (mg/kg) METHOD 6010B/7471A:											
Antimony	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	500	380	30
Arsenic	2.5	2.5	2.5	2.5	3.03	3.29	2.5	2.5	500	500	12
Barium	103	106	113	106	116	110	108	128	10,000	10,000	5,200
Beryllium	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	75	75	16
Cadmium	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	100	100	1.7
Chromium	17.9	17.9	19.2	18.9	19.7	18.3	19.1	22.3	2,500	2,500	45
Cobalt	7.45	7.95	7.96	8.18	8.43	7.79	7.68	8.42	8,000	350	23
Copper	21.8	22.1	22.0	22.3	23.5	22.9	23.5	23.0	2,500	2,500	2,500
Lead	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1,000	350	80
Mercury	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	20	20	9.4
Molybdenum	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3,500	3,500	380
Nickel	14.4	14.7	15.9	15.1	15.2	14.7	16.9	15.0	2,000	2,000	1,500
Selenium	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	100	100	100
Silver	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	500	500	380
Thallium	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	700	111	0.78
Vanadium	33.1	33.3	34.6	33.8	36.8	35.3	34.0	39.3	2,400	2,400	390
Zinc	38.6	39.2	42.0	40.6	40.0	40.9	47.4	45.7	5,000	5,000	5,000
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:											
TRPH (C4-C12)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	NS	50,000	NS
*TPH Diesel (13-22)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	NS	10,000	10
*TPH Heavy (23-40)	100	100	100	100	100	100	100	100	NS	NS	500
*TPH Diesel + Heavy (23-40)	100	100	100	100	100	100	100	100	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED											

Notes:

- ND: Not Detected
- NA: Not Analyzed
- NS: Not Specified

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

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

Right-Justified and no shading: Qualifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 2 cubic yards

SAMPLE	HA8-0.5'	HA8-2.0'	HA7-0.5'	HA7-2.0'	C1	C2	C3	C4	C5	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	08/29/17	Level TTLT (mg/kg)	Limit (mg/kg)	Limit (mg/kg)
TIME SAMPLED	9:25	9:30	8:50	9:00	12:15	13:20	13:00	13:10	13:10			
SAMPLED BY	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali	Cem Kamali			
DATE ANALYZED	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18	8/30-9/6/18			
METALS (mg/kg) METHOD 6010B/7471A:												
Antimony	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	500	380	30
Arsenic	2.5	2.5	2.5	2.5	NA	NA	NA	NA	NA	500	500	12
Barium	138	129	117	114	NA	NA	NA	NA	NA	10,000	10,000	5,200
Beryllium	2.5	2.5	2.5	2.5	NA	NA	NA	NA	NA	75	75	16
Cadmium	2.5	2.5	2.5	2.5	NA	NA	NA	NA	NA	100	100	1.7
Chromium	18.5	16.8	16.9	15.5	NA	NA	NA	NA	NA	2,500	2,500	45
Cobalt	8.28	8.00	6.87	7.81	NA	NA	NA	NA	NA	8,000	350	23
Copper	22.4	20.5	22.5	19.2	NA	NA	NA	NA	NA	2,500	2,500	2,500
Lead	5.0	5.0	5.28	5.0	NA	NA	NA	NA	NA	1,000	350	80
Mercury	0.2	0.2	0.2	0.2	NA	NA	NA	NA	NA	20	20	9.4
Molybdenum	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	3,500	3,500	380
Nickel	15.0	14.0	12.2	12.5	NA	NA	NA	NA	NA	2,000	2,000	1,500
Selenium	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	100	100	100
Silver	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	500	500	380
Thallium	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	700	111	0.78
Vanadium	34.0	31.8	31.0	29.6	NA	NA	NA	NA	NA	2,400	2,400	390
Zinc	52.7	39.2	54.0	36.6	NA	NA	NA	NA	NA	5,000	5,000	5,000
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:												
TRPH (C4-C12)	10.0	10.0	10.0	10.0	NA	NA	NA	NA	NA	NS	50,000	NS
*TPH Diesel (12-28)	253	10.0	139	10.0	NA	NA	NA	NA	NA	NS	10,000	10
*TPH Heavy (29-40)	104	100	100	100	NA	NA	NA	NA	NA	NS	NS	500
*TPH Diesel + Heavy (23-40)	357	100	154	100	NA	NA	NA	NA	NA	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED												

Notes:

- ND: Not Detected
- NA: Not Analyzed
- NS: Not Specified
- *Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg

TTLT: Total Threshold Limit Concentration.

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

Right-Justified and no shading: Qualifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

TABLE 16
SUNSHINE CANYON LANDFILL
GENERATOR: AEROCRAFT HEAT TREATING
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 25 Cubic Yards

SAMPLE	Waste Inswool Ceramic Fiber	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	12/13/17	Level TTLC (mg/kg)	Limit (mg/kg)	Limit (mg/kg)
TIME SAMPLED	9:00			
SAMPLED BY	Juan			
DATE ANALYZED	12/28/17			
GENERAL CHEMISTRY (mg/kg): NA				
METALS (mg/kg) METHOD 6010B/7471A:				
Antimony	29.7	500	380	30
Arsenic	0.8	500	500	12
Barium	12.3	10,000	10,000	5,200
Beryllium	0.5	75	75	16
Cadmium	0.5	100	100	1.7
Chromium	298	2,500	2,500	45
Cobalt	35.9	8,000	350	23
Copper	78.0	2,500	2,500	2,500
Lead	0.5	1,000	350	80
Mercury	0.020	20	20	9.4
Molybdenum	1250	3,500	3,500	380
Nickel	392	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	222	2,400	2,400	390
Zinc	88.0	5,000	5,000	5,000

Notes:

ND: Not Detected

TTLC: Total Threshold Limit Concentration.

NA: Not Analyzed

NS: Not Specified

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

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

Right-Justified and no shading: Qualifiable result shown.

Only detected Organics are shown.

TABLE 17
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 2 Cubic yards

SAMPLE	WC-Bin	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	04/26/18	Level TTL (mg/kg)	Limit (mg/kg)	Limit (mg/kg)
TIME SAMPLED	8:50			
SAMPLED BY	Kristina Hill			
DATE ANALYZED	04/27/18			
METALS (mg/kg) METHOD 6010B/7471A:				
Antimony	0.37	500	380	30
Arsenic	9.81	500	500	12
Barium	118	10,000	10,000	5,200
Beryllium	0.17	75	75	16
Cadmium	0.61	100	100	1.7
Chromium	20.4	2,500	2,500	45
Cobalt	10.3	8,000	350	23
Copper	23.6	2,500	2,500	2,500
Lead	25.6	1,000	350	80
Mercury	0.16	20	20	9.4
Molybdenum	0.61	3,500	3,500	380
Nickel	16.0	2,000	2,000	1,500
Selenium	0.72	100	100	100
Silver	0.40	500	500	380
Thallium	0.42	700	111	0.78
Vanadium	34.8	2,400	2,400	390
Zinc	234	5,000	5,000	5,000
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:				
TRPH (C6-C12)	10	NS	50,000	NS
*TPH Diesel (13-22)	10	NS	10,000	10
*TPH Heavy (23-40)	11	NS	NS	500
VOLATILE ORGANIC COMPOUNDS (ug/kg) METHOD 8260:				
Acetone	63	NS	NS	NS
m+p-xylenes	0.56	NS	97,465	630
xylenes	0.79	NS	97,465	630

Notes:

ND: Not Detected

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 Organics are shown.

FIGURES

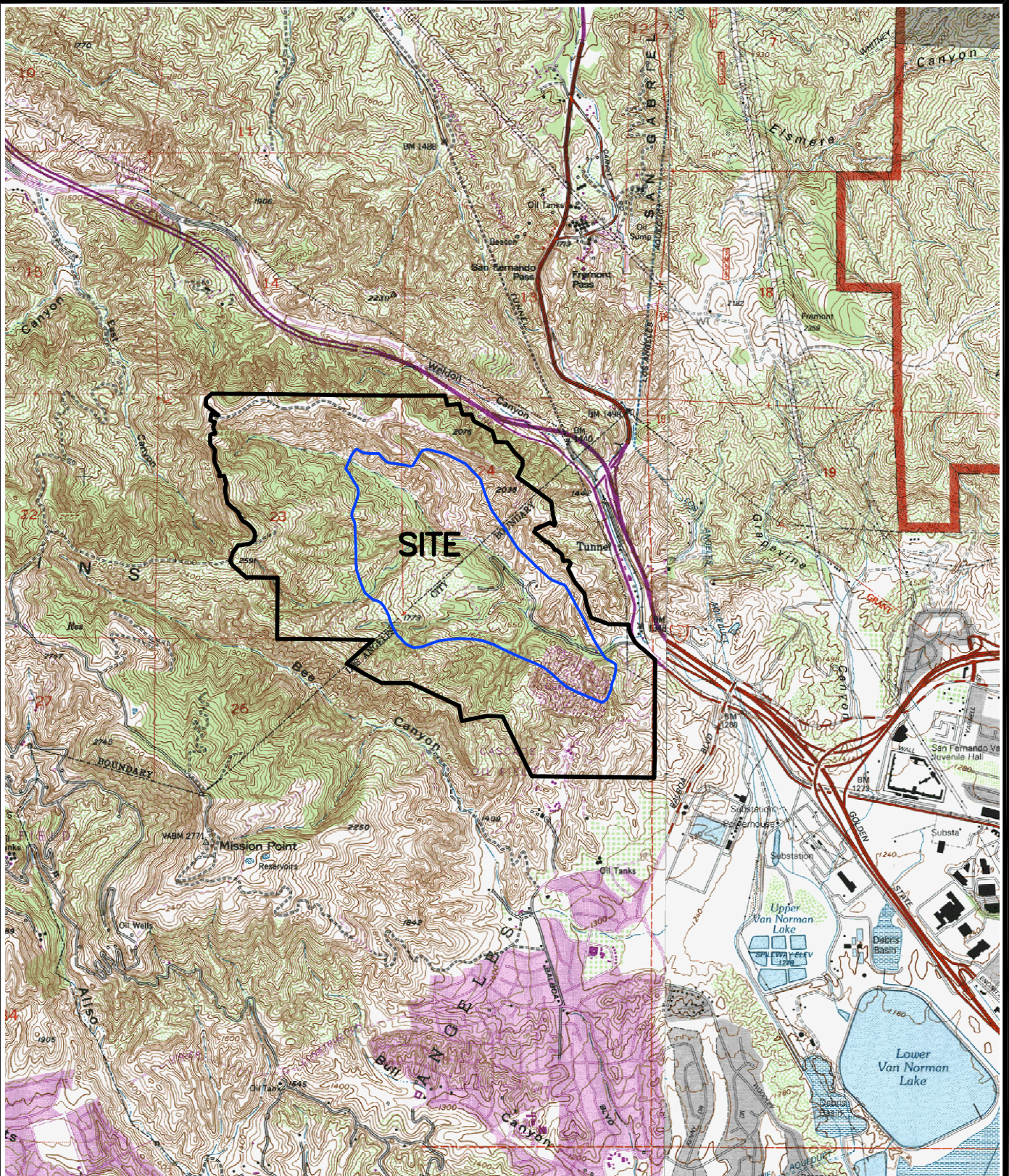


FIGURE 1

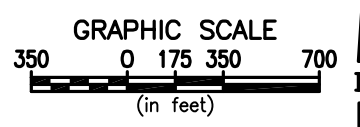
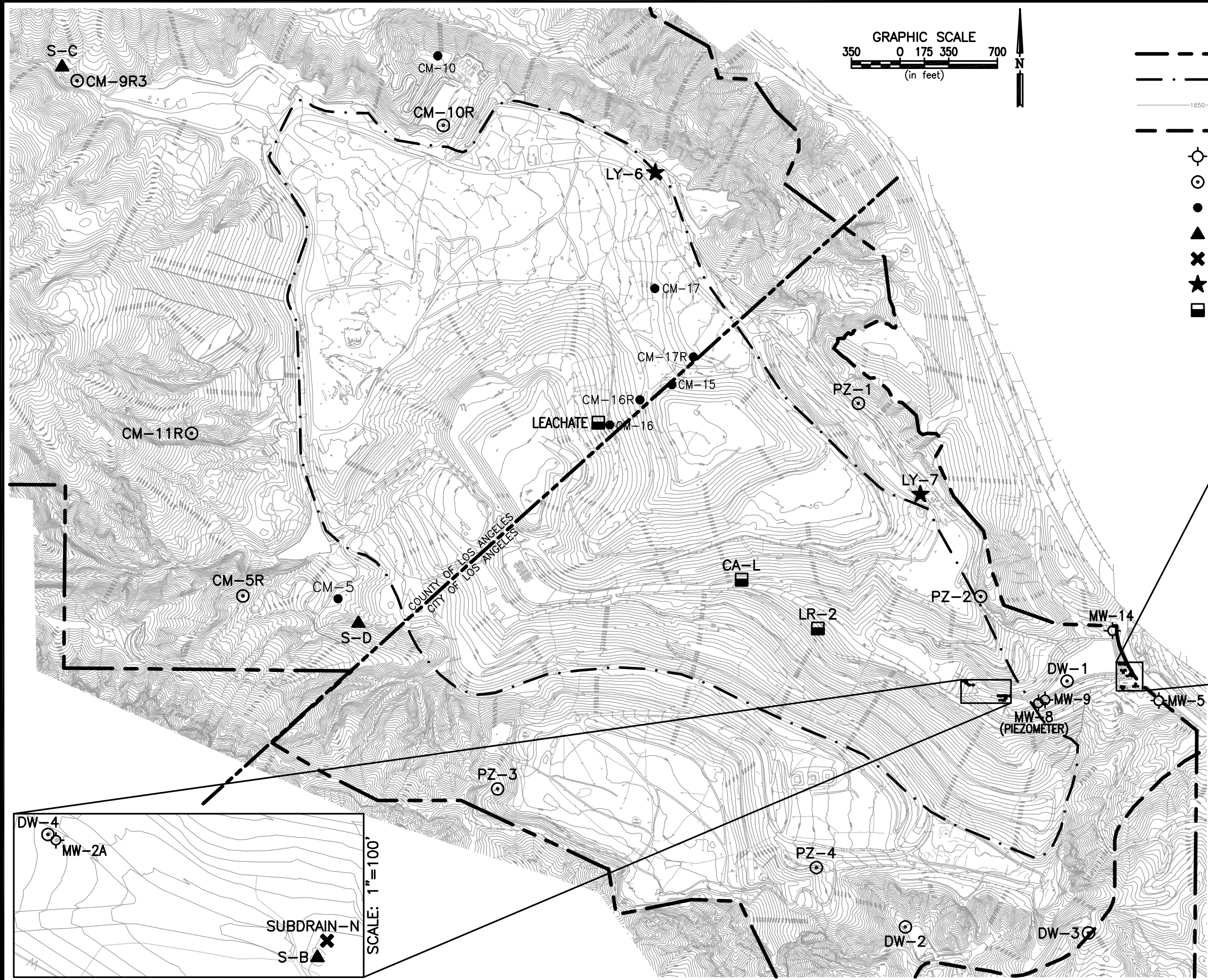
SITE LOCATION MAP

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

Geo-Logic
 ASSOCIATES

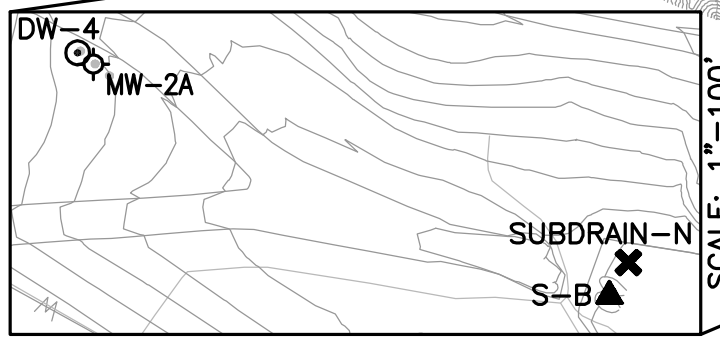
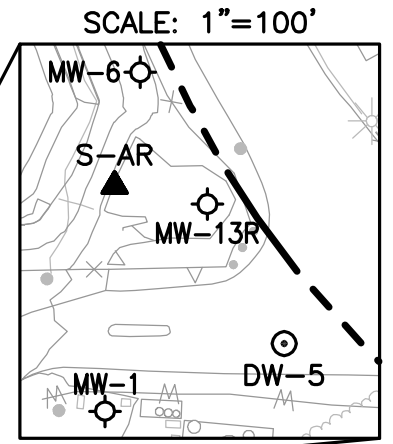
DRAFTER/PM: VL/KW DATE: AUGUST 2018 JOB NO. S018.1024

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



EXPLANATION:

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



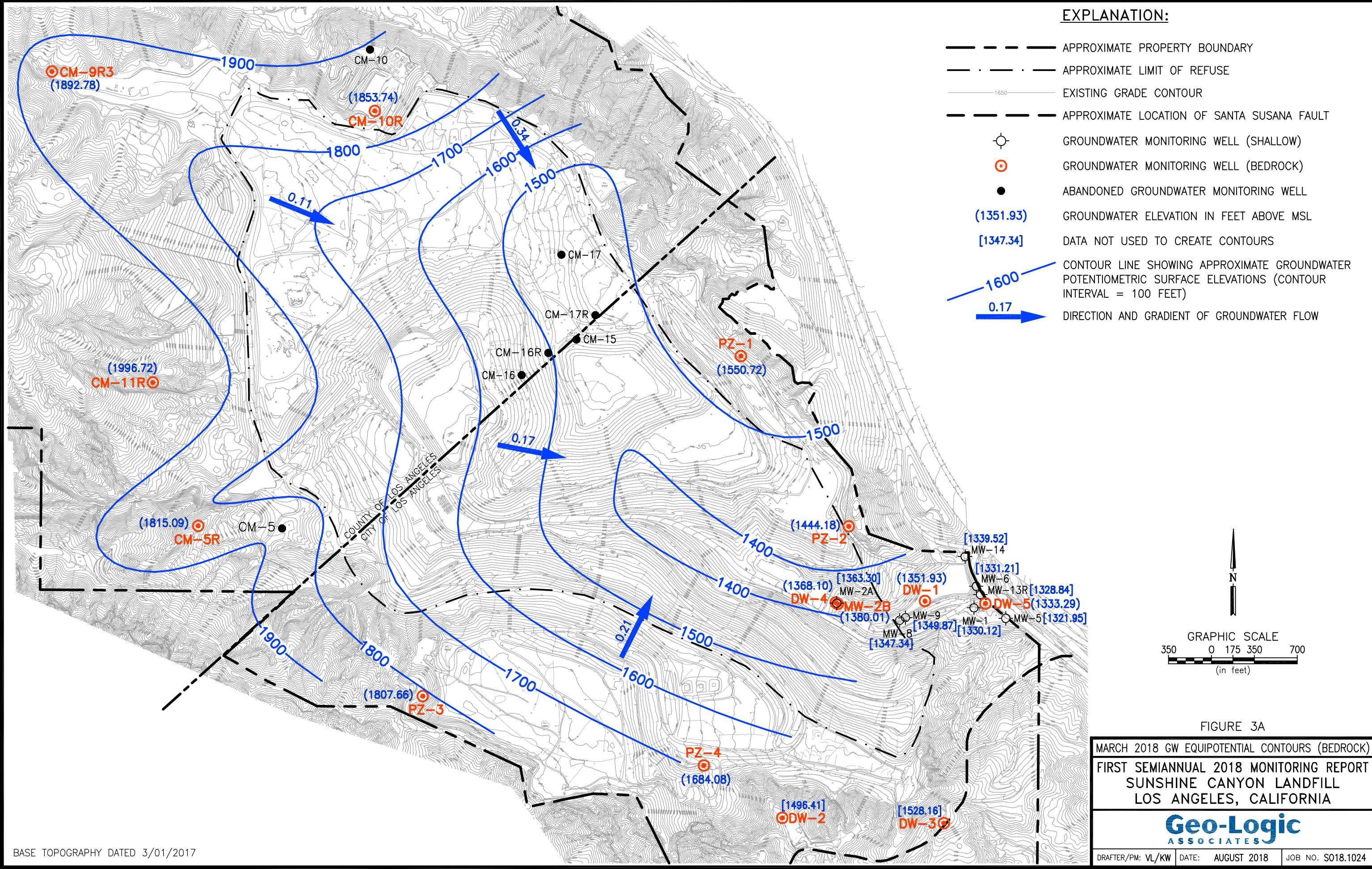
BASE TOPOGRAPHY DATED 3/01/2017

FIGURE 2
SITE MONITORING POINTS LOCATION MAP
FIRST SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA



DRAFTER/PM: VL/KW | DATE: AUGUST 2018 | JOB NO. S018.1024

\\word\dwgs\2018\S0_1024-Sunshine\18-1\site_mon-pnts_location_map.dwg



EXPLANATION:

- APPROXIMATE PROPERTY BOUNDARY
- . - . - APPROXIMATE LIMIT OF REFUSE
- 1650--- EXISTING GRADE CONTOUR
- APPROXIMATE LOCATION OF SANTA SUSANA FAULT
- ⊙ GROUNDWATER MONITORING WELL (SHALLOW)
- ⊙ GROUNDWATER MONITORING WELL (BEDROCK)
- ABANDONED GROUNDWATER MONITORING WELL
- (1351.93) GROUNDWATER ELEVATION IN FEET ABOVE MSL
- [1347.34] DATA NOT USED TO CREATE CONTOURS
- 1600 CONTOUR LINE SHOWING APPROXIMATE GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (CONTOUR INTERVAL = 100 FEET)
- 0.17 DIRECTION AND GRADIENT OF GROUNDWATER FLOW

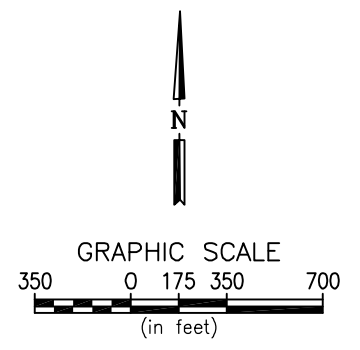


FIGURE 3A

MARCH 2018 GW EQUIPOTENTIAL CONTOURS (BEDROCK)

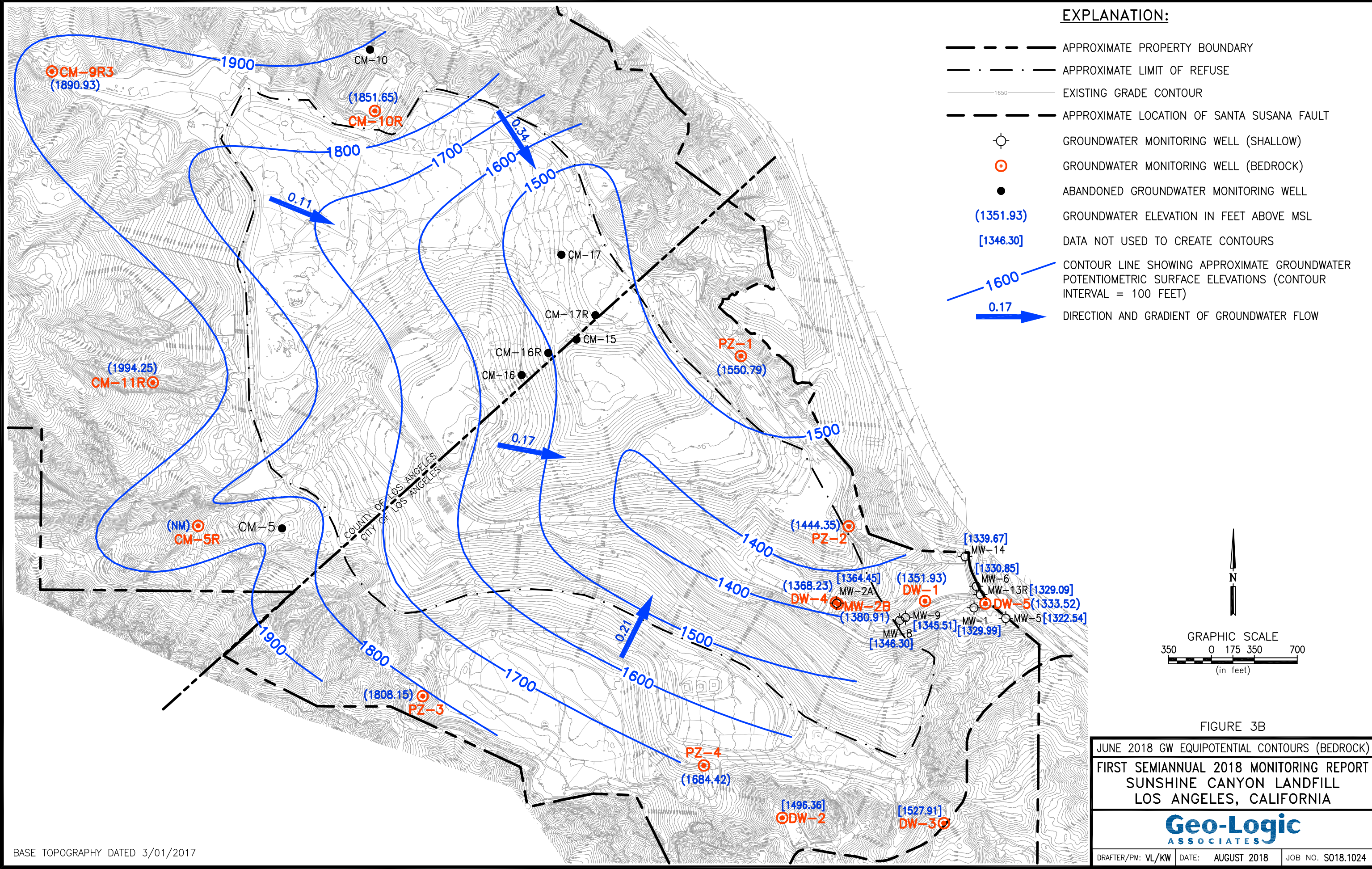
FIRST SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic
ASSOCIATES

DRAFTER/PM: VL/KW | DATE: AUGUST 2018 | JOB NO. S018.1024

BASE TOPOGRAPHY DATED 3/01/2017

\\word\Draws\2018\S0_1024-Sunshine\18-1\gw-cont-Mar18-bedrock.dwg



\\word\Draws\2018\S0_1024-Sunshine\18-1\gw-cont-lin18-bedrock.dwg

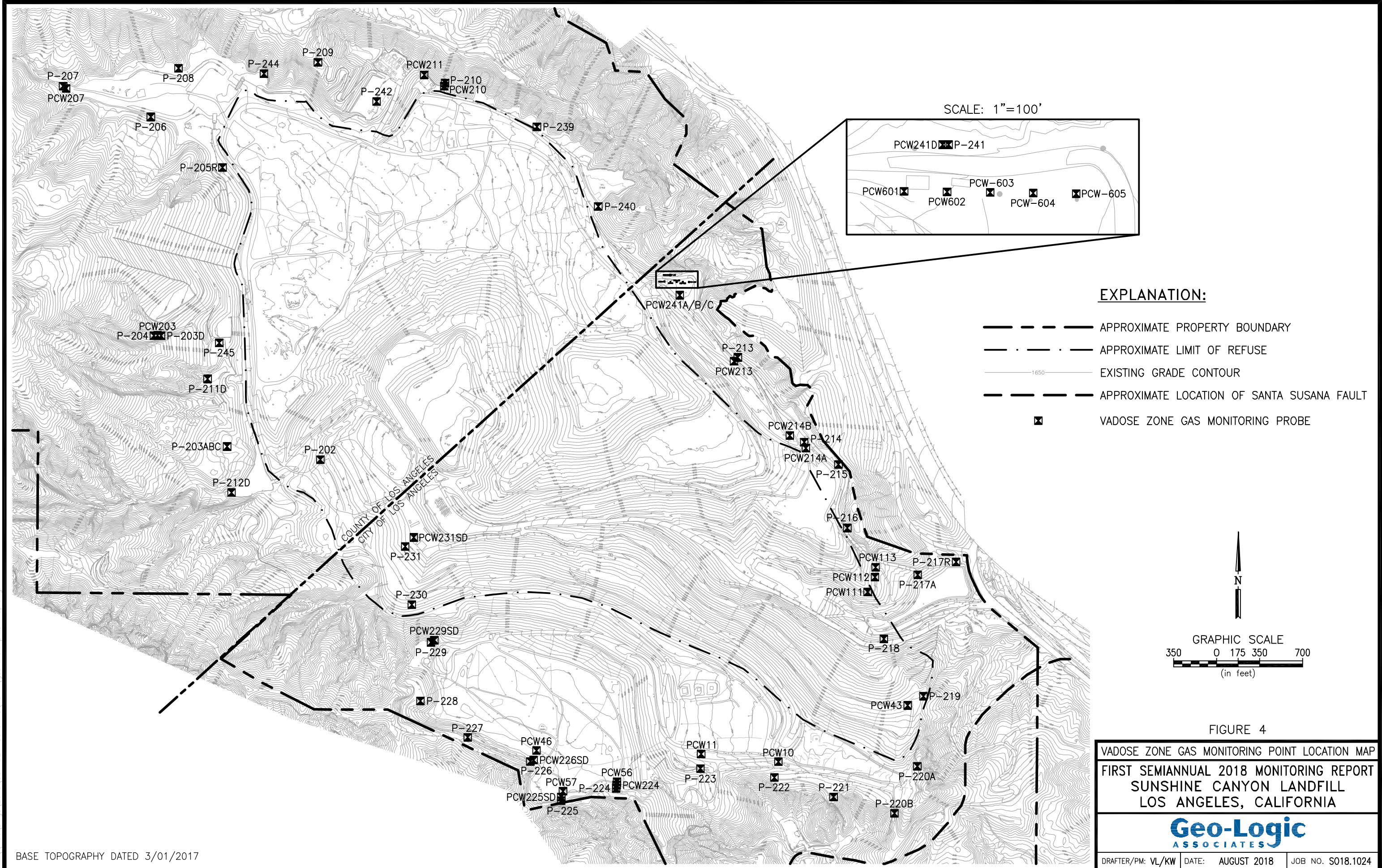
BASE TOPOGRAPHY DATED 3/01/2017

FIGURE 3B

JUNE 2018 GW EQUIPOTENTIAL CONTOURS (BEDROCK)
 FIRST SEMIANNUAL 2018 MONITORING REPORT
 SUNSHINE CANYON LANDFILL
 LOS ANGELES, CALIFORNIA

Geo-Logic
 ASSOCIATES

DRAFTER/PM: VL/KW | DATE: AUGUST 2018 | JOB NO. S018.1024



SCALE: 1"=100'

EXPLANATION:

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

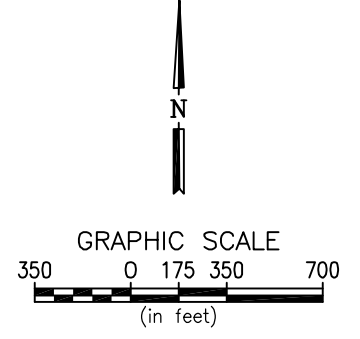


FIGURE 4
VADOSE ZONE GAS MONITORING POINT LOCATION MAP
FIRST SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic
 ASSOCIATES

\\word\Draws\2018\S0_1024-Sunshine\18-1\vac-map-pnts-map.dwg

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

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

Chain of Custody Record

205790

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

Regulatory Program: DW NPDES RCRA Other:

Company Name: Geological Associates
 Address: 11415 West Bernardo Court Suite 200
 City/State/Zip: San Diego CA 92127
 Phone: 619.451-1136
 Fax:
 Project Name: SUNSHINE CANNON BEACH
 Site: SUNSHINE CANNON BEACH
 PO # 40107651

Client Contact
 Project Manager: Kyle Williams
 Tell/Fax:
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)		Perform MS/MSD (Y/N)		Sample Specific Notes:
						Y	N	Y	N	
MW-S-A	2/20/18	1030		GW	1			X		
MW-S-B	2/20/18	1030			1			X		
PZ-2-A	2/20/18	0940			1			X		METALS NOT FIELD FILTERED
PZ-2-B	2/20/18	0940			1			X		METALS NOT FIELD FILTERED

Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other
 Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____
 Custody Seal No.: _____
 Relinquished by: [Signature] Company: Geological Associates Date/Time: 2/20/18/1250
 Relinquished by: NICHOLAS BEASON Company: Geological Associates Date/Time: 2/20/18/1250
 Relinquished by: _____ Company: _____ Date/Time: _____

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

RETEST

Site Name: SUNSHINE CANYON
 Well I.D.: MW-5-A, MW-5-B
 Collected By: MC, NR
 Casing Diameter (inches): 2
 Starting Water Level: 19.03
 Total Depth (feet): 26.20
 Water column (feet): 7.17
 Screen Length (feet): -
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/WSY1WB00

Project No.: SO17.1047
 Sampling Date: 2/20/18
 Purge start Time: 10:05
 Purge Stop time: 10:21
 Sampling (Well Recovery) Time: 10:30
 Ending Water Level (feet): 19.52
 Total Purged (gallons): 2.04
 Duplicate Sample: YES

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	DO mg/L	TEMPERATURE °C	ORP mV
10:09	.5	19.52	6.64	4.50	1.7	1.19	19.72	-80
10:13	1.0	19.52	6.63	4.50	0.7	.72	19.83	-87
10:15	1.25	11	6.61	4.50	0.7	.63	19.89	-89
10:17	1.50	11	6.61	4.50	0.8	.60	19.92	-89
10:19	1.75	11	6.61	4.50	0.7	.59	19.94	-90
10:21	2.0	11	6.61	4.49	0.4	.57	19.96	-91

Purge Sampling Rates: 20 psi refill 30 duress 12
water contains greenish yellow color, with odor

Well condition: OK

Additional Info/Comments: clear, cold, windy

Name: Mike Conpher

Signature: Mike Conpher

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-5 Date: 2/20/18

Access:

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

Concrete Pad:

Integrity: Good: Inadequate:
 Presence of depressions or standing water around well: Yes: No:
 Remarks: PAD IS BURIED

Protective Outer Casing:

Material: METAL

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

Well Riser:

Material: PVC

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

Dedicated Pump:

Type: BLADDER

Condition: Good: Damaged: Missing:
 Pumping Rate (gpm): N/A Current (Hz): N/A (check if electrical problems suspected)
 Remarks:

Field Certification: Nicholas Reason
 Signed

FIELD TECHNICIAN
 Title

2/20/18
 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Retest

Site Name: Sunshine Cyn
 Well I.D.: P2-2A and P2-2B
 Collected By: MSY NR
 Casing Diameter (inches): 2
 Starting Water Level: 122.30
 Total Depth (feet): 160.90
 Water column (feet): 38.60
 Screen Length (feet): _____
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: LI-52/W54145A

Project No: 5017-1047
 Sampling Date: 2.20.18
 Purge start Time: 9:02
 Purge Stop time: 9:32
 Sampling (Well Recovery) Time: 9:40
 Ending Water Level (feet): 128.51
 Total Purged (gallons): 20
 Duplicate Sample: YES NO

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D O mg/L	TEMPERATURE °C	ORP mV
9:11	.5	124.92	8.60	5.81	2.0	2.48	21.80	-76
9:19	1.0	126.46	8.60	5.81	0.3	1.05	21.98	-54
9:22	1.25	127.24	8.57	5.80	0.0	1.85	22.11	-50
9:26	1.50	127.64	8.55	5.80	0.0	1.82	22.13	-50
9:29	1.75	128.08	8.54	5.79	0.0	1.78	22.11	-51
9:32	2.0	128.51	8.53	5.78	0.0	1.75	22.18	-51

Purge Sampling Rates: 20 psi refill 30 discharge

Well condition: OK
 Additional Info/Comments: Had to carry equipment and bottles across concrete channel
clear cold, very windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: PZ-2 Date: 2/20/18

Access:
 Accessibility: Good: _____ Fair: _____ Poor: ✓
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____
 Presence of depressions or standing water around well: Yes: _____ No: ✓
 Remarks: HAD TO CARRY EQUIPMENT AND SAMPLE BOTTLES ACROSS CONCRETE CHANNEL TO GET TO WELL

Concrete Pad:
 Integrity: Good: NIA Inadequate: _____
 Presence of depressions or standing water around well: Yes: _____ No: ✓
 Remarks: NO CONCRETE PAD

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

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

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

Field Certification: Nicholas Pearson FIELD TECHNICIAN 2/20/18
 Signed Title Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sapphire Canyon PROJECT NAME / NUMBER 5017.1047

Instrument Make/Model # <u>U-52 / W5412-BDR</u>							
Date/Time <u>3-20-10 8:43</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments	
Pre. Cal	<u>3.87</u>	<u>4.57</u>	<u>0.5</u>	<u>11.25</u>			
Calibration	<u>4.00</u>	<u>4.50</u>	<u>0.0</u>	<u>10.11</u>			
Calibration Successful? (Y/N)	<u>yes</u>				enter YES or NO		
Satisfies Protocol?	<u>yes</u>				Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	<u>[Signature]</u>				Signature or initials	<u>[Signature]</u>	
Physical Condition of Unit			<u>Good</u>				

TestAmerica

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: 440-203766-1

Client Project/Site: Republic Sunshine Canyon Retest

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

3/5/2018 11:54:11 AM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	5
Method Summary	6
Lab Chronicle	7
QC Sample Results	8
QC Association Summary	10
Definitions/Glossary	11
Certification Summary	12
Chain of Custody	13
Receipt Checklists	14

Sample Summary

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

TestAmerica Job ID: 440-203766-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-203766-1	MW-5-A	Water	02/20/18 10:30	02/20/18 14:00
440-203766-2	MW-5-B	Water	02/20/18 10:30	02/20/18 14:00
440-203766-3	PZ-2-A	Water	02/20/18 09:40	02/20/18 14:00
440-203766-4	PZ-2-B	Water	02/20/18 09:40	02/20/18 14:00

1

2

3

4

5

6

7

8

9

10

11

12

13

Case Narrative

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

TestAmerica Job ID: 440-203766-1

Job ID: 440-203766-1

Laboratory: TestAmerica Irvine

Narrative

**Job Narrative
440-203766-1**

Comments

No additional comments.

Receipt

The samples were received on 2/20/2018 2:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

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.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Client Sample Results

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

TestAmerica Job ID: 440-203766-1

Client Sample ID: MW-5-A

Date Collected: 02/20/18 10:30
 Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	5.0		1.0	0.50	mg/L			02/28/18 19:58	5

Client Sample ID: MW-5-B

Date Collected: 02/20/18 10:30
 Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	5.5		1.0	0.50	mg/L			02/28/18 20:09	5

Client Sample ID: PZ-2-A

Date Collected: 02/20/18 09:40
 Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.7		0.50	0.25	mg/L		02/27/18 11:10	02/27/18 19:35	1

Client Sample ID: PZ-2-B

Date Collected: 02/20/18 09:40
 Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.8		0.50	0.25	mg/L		02/27/18 11:10	02/27/18 19:47	1

Method Summary

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

TestAmerica Job ID: 440-203766-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV

Protocol References:

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

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 Retest

TestAmerica Job ID: 440-203766-1

Client Sample ID: MW-5-A

Date Collected: 02/20/18 10:30

Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-1

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	350.1		5	0.8 mL	8.0 mL	461012	02/28/18 19:58	AN	TAL IRV

Client Sample ID: MW-5-B

Date Collected: 02/20/18 10:30

Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	461012	02/28/18 20:09	AN	TAL IRV

Client Sample ID: PZ-2-A

Date Collected: 02/20/18 09:40

Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-3

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	460176	02/27/18 11:10	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			460348	02/27/18 19:35	VS	TAL IRV

Client Sample ID: PZ-2-B

Date Collected: 02/20/18 09:40

Date Received: 02/20/18 14:00

Lab Sample ID: 440-203766-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			25 mL	25 mL	460176	02/27/18 11:10	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			460348	02/27/18 19:47	VS	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 Retest

TestAmerica Job ID: 440-203766-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-460176/1-A
 Matrix: Water
 Analysis Batch: 460348

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 460176

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		02/27/18 11:10	02/27/18 19:30	1

Lab Sample ID: LCS 440-460176/2-A
 Matrix: Water
 Analysis Batch: 460348

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 460176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.84		mg/L		98	80 - 120

Lab Sample ID: 440-203766-3 MS
 Matrix: Water
 Analysis Batch: 460348

Client Sample ID: PZ-2-A
 Prep Type: Total Recoverable
 Prep Batch: 460176

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	3.7		10.0	14.8		mg/L		111	75 - 125

Lab Sample ID: 440-203766-3 MSD
 Matrix: Water
 Analysis Batch: 460348

Client Sample ID: PZ-2-A
 Prep Type: Total Recoverable
 Prep Batch: 460176

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	3.7		10.0	14.6		mg/L		109	75 - 125	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-461012/40
 Matrix: Water
 Analysis Batch: 461012

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			02/28/18 18:24	1

Lab Sample ID: LCS 440-461012/41
 Matrix: Water
 Analysis Batch: 461012

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.22		mg/L		104	90 - 110

Lab Sample ID: MRL 440-461012/9
 Matrix: Water
 Analysis Batch: 461012

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	0.145	J	mg/L		73	50 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-203766-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 440-204005-D-12 MS

Matrix: Water

Analysis Batch: 461012

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	5.13		mg/L		103	90 - 110

Lab Sample ID: 440-204005-D-12 MSD

Matrix: Water

Analysis Batch: 461012

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		5.00	5.51		mg/L		110	90 - 110	7	15

QC Association Summary

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

TestAmerica Job ID: 440-203766-1

Metals

Prep Batch: 460176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-203766-3	PZ-2-A	Total Recoverable	Water	3005A	
440-203766-4	PZ-2-B	Total Recoverable	Water	3005A	
MB 440-460176/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-460176/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-203766-3 MS	PZ-2-A	Total Recoverable	Water	3005A	
440-203766-3 MSD	PZ-2-A	Total Recoverable	Water	3005A	

Analysis Batch: 460348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-203766-3	PZ-2-A	Total Recoverable	Water	6010B	460176
440-203766-4	PZ-2-B	Total Recoverable	Water	6010B	460176
MB 440-460176/1-A	Method Blank	Total Recoverable	Water	6010B	460176
LCS 440-460176/2-A	Lab Control Sample	Total Recoverable	Water	6010B	460176
440-203766-3 MS	PZ-2-A	Total Recoverable	Water	6010B	460176
440-203766-3 MSD	PZ-2-A	Total Recoverable	Water	6010B	460176

General Chemistry

Analysis Batch: 461012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-203766-1	MW-5-A	Total/NA	Water	350.1	
440-203766-2	MW-5-B	Total/NA	Water	350.1	
MB 440-461012/40	Method Blank	Total/NA	Water	350.1	
LCS 440-461012/41	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-461012/9	Lab Control Sample	Total/NA	Water	350.1	
440-204005-D-12 MS	Matrix Spike	Total/NA	Water	350.1	
440-204005-D-12 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Definitions/Glossary

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

TestAmerica Job ID: 440-203766-1

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 440-203766-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18 *
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18
Nevada	State Program	9	CA015312018-1	07-31-18
New Mexico	State Program	6	N/A	01-29-19
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

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

Chain of Custody Record 205790

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

Regulatory Program: DW NPDES RCRA Other:

Client Contact: **WELCHANS** Project Manager: **KYLE WELCHANS** Date: **2/20/18** Carrier: **TEST AMERICA**

Company Name: **GEOLOGIC ASSOCIATES** Tel/Fax: **949.261.1022 / 949.261.1022**

Address: **1415 West Bernardo Court Suite 200**

City/State/Zip: **SAN DIEGO CA 92127**

Phone: **858.451.1336**

Fax:

Project Name: **SUNSTONE CANYON RETEST**

Site: **SUNSTONE CANYON LANDFILL**

P.O.#: **44007851**

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 350.2-Annex A 2	EPA 600/8-1-101 Revision
MW-5-A	2/20/18	1030	GW		1	X			
MW-5-B	2/20/18	1030			1	X			
PZ-2-A	2/20/18	0940			1	X			
PZ-2-B	2/20/18	0940			1	X			

Sample Specific Notes:
 METALS NOT FIELD FILTERED
 METALS NOT FIELD FILTERED

Barcode: 440-203766 Chain of Custody

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

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

Non-Hazardous Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Custody Seals Intact Yes No

Relinquished by: **NICHOLAS PEASON** Company: **GLA** Date/Time: **2/20/18 1250**

Relinquished by: **WELCHANS** Company: **TA-IRV** Date/Time: **2/20/18 1250**

Relinquished by: **WELCHANS** Company: **TA-IRV** Date/Time: **2/20/18 1400**

Relinquished by: **WELCHANS** Company: **TA-IRV** Date/Time: **2/20/18 1400**

1.3/1.8 #66

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-203766-1

Login Number: 203766

List Number: 1

Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: <u>Geo-logic Assoc</u> Address: <u>11115 W. Bonaventure Ct</u> City/State/Zip: <u>San Diego, CA 92121</u> Phone: <u>619-451-1136</u> Fax: <u>619-451-1087</u> Project Name: <u>Republic Services</u> Site: <u>Sunshine Cyn Landfill</u> PO #: <u>4400781</u>		Project Manager: <u>Kyle Williams</u> Tell/Fax: <u>858-521-1126</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>Ted Miller</u> Date: <u>3-14-18</u> Lab Contact: <u>Rebecca</u> Carrier: <u>TDG-EPA 160.1</u>		COC No: _____ of _____ COCs Sampler: <u>125 AS</u> For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: Sample Specific Notes: <u>trials are not field filtered</u>			
Sample Identification	Sample Date	Sample Time	Sample Type (C-comp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Carrier	Date
Extraction trench	3/14/18	1040	G	GW 12	12	X	X	TDG-EPA 160.1	3-14-18
MW-2A	3/14/18	0840	G	GW 12	12	X	X	TDG-EPA 160.1	3-14-18
MW-2B	3/14/18	1055	G	GW 12	12	X	X	TDG-EPA 160.1	3-14-18
MW-10R	3/14/18	1415	G	GW 12	12	X	X	TDG-EPA 160.1	3-14-18
DW-4	3/14/18	1735	G	GW 12	12	X	X	TDG-EPA 160.1	3-14-18
QC AB	3/14/18			LAB 4	4	X	X	TDG-EPA 160.1	3-14-18
QC TB	3/14/18			D.T. 4	4	X	X	TDG-EPA 160.1	3-14-18
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____ Possible Hazard Identification: _____ Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <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: _____ <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: _____		Cooler Temp. (°C): Obs'd: _____		Therm ID No.: _____		Date/Time: <u>3-14-18</u>	
Relinquished by: <u>Geo-logic</u>		Company: <u>Geo-logic</u>		Received by: <u>[Signature]</u>		Company: <u>[Signature]</u>		Date/Time: <u>3-14-18</u>	
Relinquished by: <u>[Signature]</u>		Company: _____		Received by: _____		Company: _____		Date/Time: _____	
Relinquished by: _____		Company: _____		Received in Laboratory by: _____		Company: _____		Date/Time: _____	

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

Chain of Custody Record

141853

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

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Kyle Welton Tel/Fax: 888-451-1137 <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below: _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: Josh Mills Lab Contact: Rossina Date: 3.12.18 Carrier: T/A COC No.: 1 of 1 COGS						
Client Contact / Company Name: Geologic / Republic Address: 11115 W. Bayside Ct. City/State/Zip: San Diego, CA 92127 Phone: 888-451-1137 Fax: 888-451-1057 Project Name: Republic Services Site: Sunshine Community PO#: 14007851		Job / SDG No.: Sample Specific Notes: METAL CAP NOT FIELD FILTERED. Vials 2660 (15) ANALYSES NO OTHER VIALS AT APPROX. 1 VIAL WITH DIOL AND ADDITIONAL NAME AND 1,4-DIOXANE.						
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Disposition
CM-9R3	3/12/18	125	G	GW	12	X	X	X
CM-1DR	0900				12	X	X	X
CM-1LR	1310				12	X	X	X
PEFU	1052				12	X	X	X
subdrain (N)	1348				12	X	X	X
Combined Subdrains	1425				12	X	X	X
Duplicate					12	X	X	X
GCMS					4	X	X	X
QC TB					4	X	X	X

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

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

Special Instructions/QC Requirements & Comments:

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

Custody Seal No.: _____
 Relinquished by: [Signature] Date/Time: 3/12/18/1620
 Relinquished by: [Signature] Date/Time: 3/12/18/1620
 Relinquished by: _____ Date/Time: _____

Received by: [Signature] Company: Neo-logic
 Received by: _____ Company: _____
 Received in Laboratory by: _____ Company: _____

Therm ID No.: _____
 Date/Time: 3-12-18/1620

Regulatory Program: DW NPDES RCRA Other:

Client Contact		Project Manager: Kyle Welch		Site Contact: Jess Mills		Date: 3-13-18		COC No: 1 of 1 COCs	
Company Name: Geo-Logic Assoc.		Tel/Fax: 888-451-1136		Lab Contact: Jess Mills		Carrier: TIA		Sampler: BSA	
Address: 11415 Wilkerson Blvd		Analysis Turnaround Time		Perform MS / MSD (Y / N)		Filtered Sample (Y / N)		For Lab Use Only:	
City/State/Zip: San Diego, CA 92121		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below:		Sample Date		Sample Time		Walk-in Client:	
Phone: 858-451-1136		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Sample Type (C=Comp, G=Grab)		Matrix		Lab Sampling:	
Fax: 858-451-1087		Sample Date		Sample Time		Matrix		Job / SDG No.:	
Project Name: Republic Services		Sample Date		Sample Time		Matrix		Sample Specific Notes:	
Site: Sunshine Sp. Landfill		Sample Date		Sample Time		Matrix			
PO # 44007851		Sample Date		Sample Time		Matrix			
Sample Identification		Sample Date		Sample Time		Matrix			
DW-1	3/13/18	0858	G	GW	12				
DW-2		1050	G		12				
DW-3		1345	G		12				
MW-5		0944	G		12				
MW-6		1145	G		12				
MW-9		1350	G		12				
MW-14		1000	G		12				
PZ-2		0815	G	WB	4				
OCAR			G	WB	4				
OCTB			G		4				

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

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

Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:
Relinquished by: [Signature]	Company: Geo-Logic
Relinquished by: [Signature]	Company: Geo-Logic
Relinquished by: [Signature]	Company: Geo-Logic

Therm ID No.: [Blank]
Date/Time: 3-13-18 1445

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: Geo-Logic Assoc Address: 11415 Wilburton Ave City/State/Zip: S.D., CA 91717 Phone: 949-451-1126 Fax: 949-451-1027 Project Name: Public Services Site: 44007851 PO # 44007851		Project Manager: Kyle Welton Tel/Fax: 949-451-1126 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: Tech Mills Lab Contact: _____ Perform MS / MSD (Y / N) Filtered Sample (Y / N)		Date: 3-15-18 Carrier: TA Sampler: AS, PR For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:		COC No: 1 of 1 COCs					
Sample Identification DW-5 MW-1 QCAG QCAB		Sample Date 3/15/18 3/15/18 --- ---		Sample Time 0805 G 0910 --- ---		Sample Type (C=Comp, G=Grab) G G G G		Matrix GW GW G G		# of Cont. 12 12 12 12		Sample Specific Notes: X EPA8230 1-1-Dioxin X T.O.C. - EPA 415.1 X T.D.S. - EPA 410.1 X Nitrate - EPA 300.0 X Nitrite - EPA 410.4 X Ammonia - EPA 410.5 (N) X Total Alkalinity X Hardness - EPA 410.5 (M) X Chloride - EPA 410.5 (M) X Nitrate - EPA 410.5 (M) X Nitrite - EPA 410.5 (M) X Ammonia - EPA 410.5 (M) X Total Alkalinity X Hardness - EPA 410.5 (M)	
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.													
Special Instructions/QC Requirements & Comments: <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months													
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:		Date/Time:			
Relinquished by: [Signature]		Company: [Signature]		Received by: [Signature]		Company: [Signature]		Date/Time: 3-15-18 1005		Date/Time:			
Relinquished by:		Company:		Received by:		Company:		Date/Time:		Date/Time:			

Geo-Logic

ASSOCIATES

Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM WATER LEVEL SURVEY RECORD SHEET

Site Sunshine Cym. 4/E

Project No.: 5018.1024

Date 3-12-18

Field Personnel BS, AS

Page 1 of 2

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			14.36	
MW-2A			33.71	
MW-2B			18.67	
MW-5			19.47	
MW-6			16.11	
MW-8			15.03	
MW-9			13.45	
MW-13R			16.94	
MW-14			14.07	
DW-1			TOC	
DW-2			25.51	
DW-3			154.38	
DW-4			32.72	
DW-5			14.25	
CM-5R			216.91	
CM-9R3			9.62	
CM-10R			47.46	
CM-11R			13.69	
PZ-1			93.01	
PZ-2			122.34	

REMARKS:

Name:

Bert Salinas

Signature:

Bert Salinas

Geo-Logic

ASSOCIATES

Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM WATER LEVEL SURVEY RECORD SHEET

Site Sunshine Cyn. C/F

Project No.: S018.1024

Date 3-12-18

Field Personnel BS, AS

Page 2 of 2

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
PZ-3			221.53	
PZ-4			111.77	
EW-2			13.88	
EW-3			16.06	
EW-4			18.30	
OM-3				very heavy mudol

REMARKS:

Name: Bert Salinas

Signature: Bert Salinas

Geo-Logic

ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Cyn.

Project No.: 3018.1024

Station I.D.: Extraction Trench

Sampling Date: 3-14-18

Collected By: BS

Sampling Time: 1040

Horiba Model S/N: R855494H

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>yellowish</u>	<u>yes</u>	<u>6.40</u>	<u>4.5f</u>	<u>10.0</u>	<u>4.50</u>	<u>20.25</u>	<u>69</u>

Surface water conditions (including stream flow rate, stream depth): sampled collected @ inlet side to the filter elements.

QCB taken

Additional Info/Comments: cloudy, cool

Name: B. Salinas

Signature: Bert Salinas

Geo-Logic

ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Gap

Project No.: 5018-1024

Station I.D.: combined subdrains

Sampling Date: 3-12-18

Collected By: RS

Sampling Time: 1425

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>brownish</u>	<u>yes</u>	<u>6.25</u>	<u>3.46</u>	<u>164</u>	<u>3.26</u>	<u>24.81</u>	<u>166</u>

Surface water conditions (including stream flow rate, stream depth): collected samples @ Inlet side to the filter.

odor neutralizer is spraying next to sampling station

Additional Info/Comments: cloudy, cool

Name: B. Salinas

Signature: Bert Salinas

Geo-Logic

ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Can Project No.: 5018.1024

Station I.D.: subdrain (N) Sampling Date: 3-12-18

Collected By: PZS Sampling Time: 1348

Horiba Model S/N: RJ35494H Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Clear	Yes	6.50 6.50	3.19	80.7	2.65	25.36	194

Surface water conditions (including stream flow rate, stream depth): The samples were taken @ the filters before the GPE control. The GPE's are being bypassed by Republic - Spoke to Daryl from Republic. The filters are located on the left hand side of the containment.

*Odor neutralizer spraying next to sampling location.

Additional Info/Comments: Cloudy, cool

Name: PZ. Salinas Signature: [Signature]

**GROUNDWATER MONITORING PROGRAM
 WELL DATA SHEET**

Well I.D.: 4-6
 Collected By: BS
 Casing Diameter (inches): _____
 Starting Water Level: _____
 Total Depth (feet): _____
 Water column (feet): _____
 Screen Length (feet): _____
 Purge Volume (gallons): _____
 Horiba Model S/N: _____

SITE: Sunshine
 Sampling Date: 3-15-18
 Purge start Time: _____
 Purge Stop time: _____
 Sampling Time: _____
 Ending Water Level (feet): _____
 Total Purged (gallons): _____
 PID/FID Reading: _____
 Duplicate Sample: YES NO

GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY μ s/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE $^{\circ}$ C	O.R.P. mV

Purge Sampling Rates: The GSI meter is dry, and pump is Inop.

Well condition: OK - looks like the 1 1/2" HDPE was recently cut, the pump wire is frayed.

Additional Info/Comments: Bert Julius

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Well I.D.: LY-7

Collected By: BJS

Casing Diameter (inches): _____

Starting Water Level: _____

Total Depth (feet): _____

Water column (feet): _____

Screen Length (feet): _____

Purge Volume (gallons): _____

Horiba Model S/N: _____

Sampling Date: 3-15-18

Purge start Time: _____

Purge Stop time: _____

Sampling Time: _____

Ending Water Level (feet): _____

Total Purged (gallons): _____

PID/FID Reading: _____

Duplicate Sample: YES NO

SITE: Sunshine

GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY μ s/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE $^{\circ}$ C	O.R.P. mV
/							

Purge Sampling Rates: The pump is bad @ the lysimeter not able to sample it. Anal it looks like it was flooded most recently due to the last

Well condition: rainy events.

Additional Info/Comments: BJS Analysis

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>Sunshine Cyn</u>	Project No.:	<u>S018.1024</u>
Well I.D.:	<u>PZ-2</u>	Sampling Date:	<u>3.13.18</u>
Collected By:	<u>AS</u>	Purge start Time:	<u>0732</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>0804</u>
Starting Water Level:	<u>122.38</u>	Sampling (Well Recovery) Time:	<u>0815</u>
Total Depth (feet):	<u>160.90</u>	Ending Water Level (feet):	<u>128.28</u>
Water column (feet):	<u> </u>	Total Purged (gallons):	<u>2.0 +</u>
Screen Length (feet):	<u> </u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<input checked="" type="radio"/> Micro Purge <input type="radio"/> Low Flow		
Horiba Model S/N:	<u>V-52/WXG-P8CR5</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0740	0.50	124.51	8.92	5.88	44.4	1.66	24.02	-130
0748	1.00	126.10	8.97	5.88	1.7	1.19	23.98	-125
0752	1.25	126.67	8.98	5.89	2.3	1.16	23.97	-125
0756	1.50	127.22	8.99	5.88	1.8	1.14	23.98	-125
0800	1.75	127.80	8.99	5.89	1.0	1.10	23.94	-125
0804	2.00	128.28	8.99	5.89	1.2	1.04	23.96	-125

Purge Sampling Rates: 80 PSI R:30 / D:22

Well condition: O.K. - Had to carry all equipment across concrete channel

Additional Info/Comments: Cloudy, Cool

Name: A. Shaw

Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: PZ-2 Date: 3.13.18

Access:

Accessibility: Good: _____ Fair: _____ Poor:

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

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

Remarks: Carried sampling equipment + Bottles across concrete channel

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): N/A

Remarks: _____

Field Certification: [Signature] Field Tech 3.13.18
Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn</u>	Project No.: <u>3018-1024</u>
Well I.D.: <u>CM-9R3</u>	Sampling Date: <u>3.12.18</u>
Collected By: <u>AS</u>	Purge start Time: <u>(A) 0955 1055</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1115</u>
Starting Water Level: <u>9.62</u>	Sampling (Well Recovery) Time: <u>1125</u>
Total Depth (feet): <u>29.00</u>	Ending Water Level (feet): <u>11.80</u>
Water column (feet): <u>19.39</u>	Total Purged (gallons): <u>2.06</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: <u>(YES)</u> NO
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>U-52 / (226P2825)</u>	<u>* Duplicate collected</u>

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1100	0.50	10.18	6.45	5.26	197	3.33	19.30	8
1105	1.00	10.32	6.38	5.24	68.6	2.05	19.03	22
1107	1.25	10.50	6.36	5.22	46.1	1.56	19.00	26
1110	1.50	10.63	6.34	5.23	34.9	1.47	19.00	27
1112	1.75	10.69	6.34	5.23	35.4	1.39	18.98	30
1115	2.00	10.75	6.30	5.23	33.9	1.38	18.99	32

Purge Sampling Rates: 25 PSI R: 30 / D: 10

Well condition: O.K. - Cloudy water w/ no odor.

Additional Info/Comments: Mostly Sunny, Mild * Pump Depth: 27.4 ft.

Name: A. Shah Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-9R3 Date: 3.12.18

Access:
Accessibility: Good: Fair: Poor:
Vicinity of well clear of weeds and/or debris: Yes: No:
Presence of depressions or standing water around well: Yes: No:
Remarks: Very muddy from past rains.

Concrete Pad:
Integrity: N/A Good: Inadequate:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad not visible.

Protective Outer Casing: Material: Metal
Condition of Protective Casing: Good: Damaged:
Condition of Locking Cap: Good: Damaged:
Condition of Lock: Good: Damaged:
Condition of Weepholes: Good: Damaged:
Remarks: Locking cap is broken - 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: C.M. Signed Field Tech Title 3.12.18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn</u>	Project No.: <u>5018.1024</u>
Well I.D.: <u>CM-10R</u>	Sampling Date: <u>3.12.18</u>
Collected By: <u>AS</u>	Purge start Time: <u>0829</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>0850</u>
Starting Water Level: <u>47.46</u>	Sampling (Well Recovery) Time: <u>0900</u>
Total Depth (feet): <u>110.90</u>	Ending Water Level (feet): <u>47.69</u>
Water column (feet): <u>63.44</u>	Total Purged (gallons): <u>2.54</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>V-52/LUGP28GR5</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0838	1.00	47.69	6.92	3.13	2.3	7.61	22.07	-119
0842	1.50	"	6.93	3.12	1.0	7.00	22.07	-113
0844	1.75	"	6.92	3.09	1.1	7.45	22.12	-109
0846	2.00	"	6.92	3.10	1.1	6.74	22.12	-106
0848	2.25	"	6.93	3.10	1.2	6.72	22.14	-105
0850	2.50	"	6.92	3.13	1.0	6.69	22.14	-102

Purge Sampling Rates: 50 PSI R:40 / D:15

Well condition: OK. - Water is clear w/ slight odor.

Additional Info/Comments: Mostly Sunny, Cool A.M.
* Pump Depth: 100 ft.

Name: A. Shaw Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-10R Date: 3.12.18

Access:

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

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. M
Signed

Field Tech
Title

3.12.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Soushine Cyn Project No.: 5018.1024
 Well I.D.: CM-11R Sampling Date: 3.12.18
 Collected By: AS Purge start Time: 1224
 Casing Diameter (inches): 4 Purge Stop time: 1256
 Starting Water Level: 13.69 Sampling (Well Recovery) Time: 1310
 Total Depth (feet): 31.00 Ending Water Level (feet): 14.83
 Water column (feet): 17.31 Total Purged (gallons): 1.5 +
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: V-52 (WGGP2825)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1231	0.25	14.02	5.72	4.85	0.2	2.52	18.87	152
1235	0.50	14.16	5.43	4.83	0.3	1.40	18.64	191
1241	0.75	14.35	5.26	4.79	0.7	0.97	18.59	231
1246	1.00	14.52	5.20	4.79	0.9	0.85	18.49	247
1251	1.25	14.68	5.19	4.79	1.1	0.83	18.50	251
1256	1.50	14.83	5.18	4.78	1.0	0.81	18.48	253

Purge Sampling Rates: 30 PSL R: 25 / A: 5

Well condition: O.K. Water is visually clear w/ no odor.

Additional Info/Comments: Partly cloudy, mild * Pump depth: 29.8 ft.

Name: A. Shaw Signature: AC

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-11R Date: 3.12.18

Access:

Accessibility: Good: Fair: Poor:

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

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

Remarks: Requires backing vehicle 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: Metel

Condition of Protective Casing: Good: Damaged:

Condition of Locking Cap: Good: Damaged:

Condition of Lock: Good: Damaged:

Condition of Weepholes: Good: Damaged:

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: Damaged:

Condition of Riser Cap: Good: Damaged:

Measurment reference point: Yes: No:

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: Damaged: Missing:

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

Remarks: * low yield

Field Certification: AC-JH Field Tech 3.12.18
Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Gas Project No.: 5018.1024
 Well I.D.: DW-1 Sampling Date: 3-13-18
 Collected By: BS Purge start Time: /
 Casing Diameter (inches): 4 Purge Stop time: /
 Starting Water Level: TOC Sampling (Well Recovery) Time: 0858
 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: R855494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
—	6.45	—	8.52	4.72	0.3	3.84	16.78	-4

Purge Sampling Rates: collected samples @ discharge tube
water has a strong H2S odor
 Well condition: lots of mud all around the well.
 Additional Info/Comments: overcast, cool
@ CAB taken here.
 Name: P. Salinas Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: DW-1 Date: 3-13-18

Access:

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

Remarks: lots of mud on well around, due to
long rains

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:

Riser is corroded

Well Riser:

Material: _____

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

Remarks:

Dedicated Pump:

Type: Diap rise

Condition: Good: Damaged: _____ Missing: _____

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

Remarks:

Field Certification:

[Signature] Signed _____ Title: CW Manager Date: 3-13-18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn. Project No.: SC18.1024
 Well I.D.: DW-2 Sampling Date: 3-13-18
 Collected By: BS Purge start Time: 1018
 Casing Diameter (inches): 4 Purge Stop time: 1041
 Starting Water Level: 25.48 Sampling (Well Recovery) Time: 1050
 Total Depth (feet): 71.00 Ending Water Level (feet): 26.47
 Water column (feet): 45.52 Total Purged (gallons): 3
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8J5494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1025	3/4		7.13	2.82	G	1.38	19.13	54
1028	1 1/4		7.12	2.82	F	1.21	19.11	46
1031	1 3/4		7.12	2.83	F	1.19	19.08	45
1034	2 1/4		7.11	2.82	F	1.18	19.08	45
1038	2 1/2		7.12	2.82	F	1.17	19.03	44
1041	3		7.12	2.82	F	1.15	19.09	45

Purge Sampling Rates: P52 45, R:35 / D:17
clear water

Well condition: OK

Additional Info/Comments: Raining

Name: B. Salinas

Signature: B. Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine cym Well ID: DW-2 Date: 3-13-18

Access:

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

Concrete Pad:

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

Protective Outer Casing:

Material: Metal

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

Well Riser:

Material: PVC

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

Dedicated Pump:

Type: Bleedley

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

Field Certification:

Signed: [Signature] Title: Env Manager Date: 3-13-18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>Sundline Cyn.</u>	Project No.:	<u>2018.1024</u>
Well I.D.:	<u>DWB</u>	Sampling Date:	<u>3-13-18</u>
Collected By:	<u>PS</u>	Purge start Time:	<u>1316</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>1336</u>
Starting Water Level:	<u>154.34</u>	Sampling (Well Recovery) Time:	<u>1345</u>
Total Depth (feet):	<u>256.60</u>	Ending Water Level (feet):	<u>156.71</u>
Water column (feet):	<u>102.26</u>	Total Purged (gallons):	<u>2 1/4</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input checked="" type="radio"/> NO <input type="radio"/>
Sample Method:	<u>Micro Purge</u> <u>Low Flow</u>		
Horiba Model S/N:	<u>R8754944</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1321	1/2	155.22	7.11	2.24	←	5.02	21.11	287
1323	3/4	155.68	7.09	2.26	←	2.12	20.90	95
1326	1	156.12	7.04	2.26	←	1.57	20.87	94
1330	1 1/2	156.63	7.03	2.26	←	1.53	20.87	93
1334	2	157.06	7.00	2.26	←	1.47	20.87	92
1336	2 1/4	157.44	7.00	2.26	←	1.39	20.87	91

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

Well condition: OK

Additional Info/Comments: overcast, cool

Name: R. Salinas Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: DW-3 Date: 3-13-18

Access:

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

Concrete Pad:

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

Protective Outer Casing:

Material: Metal

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

Well Riser:

Material: PVC

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

Dedicated Pump:

Type: Bladder

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

Field Certification:

Burt Selig GW Manager 3-13-18
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sonshine Cyn Project No.: SD18.1024
 Well I.D.: DW-4 Sampling Date: 3.14.18
 Collected By: AS Purge start Time: 1203
 Casing Diameter (inches): 4 Purge Stop time: 1225
 Starting Water Level: 32.69 Sampling (Well Recovery) Time: 1235
 Total Depth (feet): 134.80 Ending Water Level (feet): 35.58
 Water column (feet): 102.11 Total Purged (gallons): 2.5+
 Screen Length (feet): - Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52 (WGCW8CR5)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1208	0.50	33.52	8.00	3.64	0.0	1.86	21.36	-286
1212	1.00	34.17	7.78	3.60	0.2	1.02	21.35	-249
1216	1.50	34.70	7.75	3.62	0.2	0.85	21.36	-244
1218	1.75	34.82	7.75	3.61	0.7	0.83	21.40	-246
1220	2.00	34.96	7.74	3.61	0.3	0.81	21.39	-245
1223	2.25	35.25	7.74	3.62	0.8	0.80	21.39	-245
1225	2.50	35.58	7.74	3.61	1.0	0.79	21.40	-243

Purge Sampling Rates: 75 PSI R: 30 A: 16
Water is blackish color w/ slight odor.

Well condition: OK - Requires hiking sampling equipment + bottles down slope to well.

Additional Info/Comments: Mostly cloudy, cool, light winds

Name: A. Shaw Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-4 Date: 3.14.18

Access:
Accessibility: Good: Fair: Poor:
Vicinity of well clear of weeds and/or debris: Yes: No:
Presence of depressions or standing water around well: Yes: No:
Remarks: Requires hiking equipment + Bottles down slope to access - Well is mid slope.

Concrete Pad:
Integrity: N/A Good: Inadequate:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad not visible - Buried.

Protective Outer Casing: Material: Metal
Condition of Protective Casing: Good: Damaged:
Condition of Locking Cap: Good: Damaged:
Condition of Lock: Good: Damaged:
Condition of Weepholes: Good: Damaged:
Remarks:

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

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

Field Certification: [Signature] Signed Field Tech Title 3.14.18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018-1024
 Well I.D.: MW-1 Sampling Date: 3.15.18
 Collected By: AS Purge start Time: 0841
 Casing Diameter (inches): 4 Purge Stop time: 0857
 Starting Water Level: 14.39 Sampling (Well Recovery) Time: 0910
 Total Depth (feet): 29.60 Ending Water Level (feet): 14.42
 Water column (feet): 15.21 Total Purged (gallons): 2.0+
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-521466P8GRST

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0845	0.50	14.42	6.90	4.75	53.1	3.98	20.77	-136
0849	1.00	"	6.90	4.74	46.1	3.22	21.24	-140
0851	1.25	"	6.90	4.75	33.3	2.99	21.25	-141
0853	1.50	"	6.90	4.73	12.9	2.93	21.25	-142
0855	1.75	"	6.90	4.75	13.2	2.88	21.26	-143
0857	2.00	"	6.90	4.73	12.8	2.86	21.27	-143

Purge Sampling Rates: 20 PSL R: 30 / A: 11
Water has yellowish color w/ slight odor.
 Well condition O.K.
 Additional Info/Comments: Sunny, Cool, Breezy A.M.

Name: A. Shaw Signature: AC M

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-1 Date: 3.15.18

Access:

Accessibility: Good: Fair: Poor:
Vicinity of well clear of weeds and/or debris: Yes: No:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad not visible.

Concrete Pad:

Integrity: N/A Good: Inadequate:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad not visible.

Protective Outer Casing:

Material: Metal
Condition of Protective Casing: Good: Damaged:
Condition of Locking Cap: Good: Damaged:
Condition of Lock: Good: Damaged:
Condition of Weepholes: Good: Damaged:
Remarks:

Well Riser:

Material: PVC
Condition of Riser: Good: Damaged:
Condition of Riser Cap: Good: Damaged:
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. M Field Tech
Signed Title

3.15.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: SD18-1024
 Well I.D.: NW-5 Sampling Date: 3.15.18
 Collected By: AS Purge start Time: 0725
 Casing Diameter (inches): 4 Purge Stop time: 0755
 Starting Water Level: 14.27 Sampling (Well Recovery) Time: 0805
 Total Depth (feet): 101.00 Ending Water Level (feet): 18.09
 Water column (feet): _____ Total Purged (gallons): 2.5+
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52 (WGA08025)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0731	0.50	15.19	8.57	1.71	45.9	1.77	19.47	-184
0737	1.00	15.96	8.63	1.70	11.5	1.31	19.81	-203
0743	1.50	16.55	8.63	1.70	13.9	1.26	19.80	-212
0746	1.75	16.98	8.64	1.69	0.4	1.30	19.99	-219
0749	2.00	17.34	8.64	1.68	1.1	1.33	20.00	-222
0752	2.25	17.70	8.64	1.71	0.4	1.37	20.00	-224
0755	2.50	18.09	8.64	1.70	0.0	1.39	19.96	-225

Purge Sampling Rates: 65 PSI R:30 / A:20
Water has slight yellow tint w/ odor.

Well condition O.K.

* QCAR taken here

Additional Info/Comments: Sunny, Cool, Breezy A.M.

Name: A. Shahu Signature: AC. Shahu

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cgh Well ID: DW-5 Date: 3.15.18

Access:

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

Concrete Pad:

Integrity: NIA Good: Inadequate:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad not visible - Broken concrete / rubble around well monument.

Protective Outer Casing:

Material: Metal
Condition of Protective Casing: Good: Damaged:
Condition of Locking Cap: Good: Damaged:
Condition of Lock: Good: Damaged:
Condition of Weepholes: Good: Damaged:
Remarks:

Well Riser:

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

Dedicated Pump:

Type: Bladders
Condition: Good: Damaged: Missing:
Pumping Rate (gpm): NIA Current (Hz): NIA
Remarks:

Field Certification:

CAC. M
Signed

Field Tech
Title

3.15.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: SD18.1024
 Well I.D.: MW-2A Sampling Date: 3.14.18
 Collected By: AS Purge start Time: 0758
 Casing Diameter (inches): 4 Purge Stop time: 0830
 Starting Water Level: 33.75 Sampling (Well Recovery) Time: 0840
 Total Depth (feet): 41.30 Ending Water Level (feet): 35.09
 Water column (feet): 7.55 Total Purged (gallons): 1.5 +
 Screen Length (feet): - Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/W66P8G.RS

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0805	0.25	34.19	6.70	3.39	45.4	1.37	20.29	-73
0810	0.50	34.28	6.74	3.36	36.3	1.16	20.61	-79
0815	0.75	34.59	6.77	3.35	0.7	0.95	20.86	-82
0820	1.00	34.76	6.77	3.35	0.5	0.93	20.91	-82
0825	1.25	34.92	6.78	3.35	0.6	0.91	20.90	-83
0830	1.50	35.09	6.78	3.35	0.8	0.88	20.92	-83

Purge Sampling Rates: 25 PSI R:20 / A:6

Water is clear w/ no odor - Took some time to fill bottles due to low yield

Well condition: OK - Requires hiking sampling equipment + bottles down slope to access.

Additional Info/Comments: Mostly Cloudy, Cool Am.

* Pump Inlet: 39 ft.

Name: A. Shaw

Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-2A Date: 3.14.18

Access:

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

Remarks: Well is mid-slope - Requires hiking equipment + Bottles down-slope to sample.

Concrete Pad:

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

Remarks: Concrete pad not visible - Buried.

Protective Outer Casing:

Material: Metal

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

Remarks: _____

Well Riser:

Material: PVC

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

Remarks: _____

Dedicated Pump:

Type: Bladder

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

Remarks: _____

Field Certification:

C. M. Signed _____ Title Field Tech Date 3.14.18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 2018.1024
 Well I.D.: MW-2B Sampling Date: 3.14.18
 Collected By: AS Purge start Time: 1021
 Casing Diameter (inches): 4 Purge Stop time: 1045
 Starting Water Level: 18.64 Sampling (Well Recovery) Time: 1055
 Total Depth (feet): 71.10 Ending Water Level (feet): 21.45
 Water column (feet): 52.46 Total Purged (gallons): 2.25+
 Screen Length (feet): - Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: V-521266P8GR51

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
1027	0.50	20.10	7.64	3.36	24.0	1.98	21.31	-200
1033	1.00	20.59	7.60	3.35	11.5	0.97	21.70	-174
1036	1.50	20.93	7.59	3.34	1.8	0.84	21.69	-170
1039	1.75	21.10	7.58	3.33	0.0	0.79	21.66	-167
1042	2.00	21.28	7.58	3.33	0.0	0.77	21.68	-165
1045	2.25	21.45	7.59	3.34	0.0	0.73	21.69	-164

Purge Sampling Rates: 40 PSI R: 35 / A: 13
Water is clear w/ strong odor.

Well condition OK. - Requires hiking equipment + bottles down slope to access well.

Additional Info/Comments: Mostly cloudy, cool * Pump Inlet: 68 ft.

Name: A. Shaw Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-2B Date: 3.14.18

Access:

Accessibility: Good: _____ Fair: _____ Poor:

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

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

Remarks: Well is mid-slope - Requires hiking equipment + Bottles down slope.

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

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

Remarks: Concrete pad not visible - Buried.

Protective Outer Casing:

Material: Metal

Condition of Protective Casing: Good: Damaged: _____

Condition of Locking Cap: Good: Damaged: _____

Condition of Lock: Good: Damaged: _____

Condition of Weepholes: Good: Damaged: _____

Remarks:

Well Riser:

Material: PVC

Condition of Riser: Good: Damaged: _____

Condition of Riser Cap: Good: Damaged: _____

Measurement reference point: Yes: No: _____

Remarks:

Dedicated Pump:

Type: Bladder

Condition: Good: Damaged: _____ Missing: _____

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

Remarks:

Field Certification:

AC Signed Field Tech Title

3.14.18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn. Project No.: SOLF.1024
 Well I.D.: MW5 Sampling Date: 3-13-18
 Collected By: BS Purge start Time: 0914
 Casing Diameter (inches): 2 Purge Stop time: 0936
 Starting Water Level: 19.42 ~~20.28~~ Sampling (Well Recovery) Time: 0944
 Total Depth (feet): 26.20 Ending Water Level (feet): 19.66
 Water column (feet): 6.98 Total Purged (gallons): 3
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R550494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0920	3/4	19.58	6.30	4.63	1.6	1.98	20.26	74
0922	1	19.66	6.29	4.61	1.1	1.70	20.46	72
0925	1 1/2	19.76	6.30	4.62	1.4	1.52	20.69	72
0929	2	19.84	6.30	4.60	1.7	1.50	20.77	73
0932	2 1/2	19.92	6.30	4.61	1.5	1.46	20.75	73
0936	3	20.04	6.30	4.61	1.3	1.42	20.74	73

Purge Sampling Rates: BS 25, R: 30 / D: 15
clear water with a yellowish tint
 Well condition: OK - very muddy access
 Additional Info/Comments: overcast, cold

Name: B. Salinas Signature: Bud Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: MW-5 Date: 3-13-18

Access:

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

Concrete Pad:

Integrity: Good: Inadequate:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad is not visible

Protective Outer Casing:

Material: Megon
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:

Field Certification:

Signed: Bob Miller Title: GW Manager Date: 3-13-18

**GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET**

Site Name.:	<u>Sunshine Cyn</u>	Project No.:	<u>5018.1024</u>
Well I.D.:	<u>MW-6</u>	Sampling Date:	<u>3.13.18</u>
Collected By:	<u>AS</u>	Purge start Time:	<u>1057</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>1135</u>
Starting Water Level:	<u>16.16</u>	Sampling Time:	<u>1145</u>
Total Depth (feet):	<u>23.50</u>	Ending Water Level (feet):	<u>17.00</u>
Water column (feet):	<u> </u>	Total Purged (gallons):	<u>1.5 +</u>
Screen Length (feet):	<u> </u>	PID/FID Reading:	<u>N/A</u>
Purge Volume (gallons):	<u>Micro Purge</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Horiba Model S/N:	<u>U-52/666P2G1251</u>		

1105
1111
1117
1123
1129
1135

GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
0.25	16.57	7.40	3.68	5.2	2.04	22.54	-208
0.50	16.70	7.39	3.69	5.7	1.69	22.97	-252
0.75	16.78	7.38	3.69	8.6	1.56	23.11	-269
1.00	16.84	7.37	3.69	8.9	1.48	23.14	-274
1.25	16.91	7.37	3.70	8.7	1.47	23.15	-277
1.50	17.00	7.37	3.70	9.6	1.41	23.18	-279

Purge Sampling Rates: 20 PSI R:30/A:5
Water is cloudy w/ strong odor (has slight yellow color)

Well condition: OK - Hiked equipment downslope & over to well.

Additional Info/Comments: Rains

A. Shaw / AC

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-6 Date: 3-13-18

Access:

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

Remarks: Requires hike/carry equipment + batteries down - slope and over to wells.

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:

OCM
Signed

Field Tech
Title

3/13/18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cgn Project No.: SD18.1024
 Well I.D.: MW-9 Sampling Date: 8.13.18
 Collected By: AS Purge start Time: 1310
 Casing Diameter (inches): 4 Purge Stop time: 1338
 Starting Water Level: 13.41 Sampling (Well Recovery) Time: 1350
 Total Depth (feet): 26.70 Ending Water Level (feet): 13.44
 Water column (feet): _____ Total Purged (gallons): 2.0+
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/WACP8CR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1320	0.50	13.44	6.88	6.04	1.6	1.04	22.86	-137
1326	1.00	"	6.88	6.07	2.4	0.66	22.94	-144
1329	1.25	"	6.88	6.07	2.1	0.65	22.93	-144
1332	1.50	"	6.88	6.07	1.7	0.61	22.92	-145
1335	1.75	"	6.88	6.07	1.6	0.59	22.88	-145
1338	2.00	"	6.88	6.07	1.4	0.58	22.89	-146

Purge Sampling Rates: 25 PSI R:20 / D:5
Water has yellow tint w/ no odor.

Well condition: OK.

Additional Info/Comments: Cloudy, scattered showers

Name: A. Shaw Signature: AC 15.03

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-9 Date: 3.13.18

Access:

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

Remarks: Had to carry 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:

OCM Field Tech

Signed

Title

3.13.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: SO18-1024
 Well I.D.: MW-13R Sampling Date: 3.14.18
 Collected By: AS Purge start Time: 1336
 Casing Diameter (inches): 4 Purge Stop time: 1401
 Starting Water Level: 16.98 Sampling (Well Recovery) Time: 1415-1415
 Total Depth (feet): 27.80 Ending Water Level (feet): 17.56
 Water column (feet): 10.82 Total Purged (gallons): 1.5+
 Screen Length (feet): - Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/WGCP8GR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1345	0.50	17.29	7.56	3.11	0.0	1.33	22.41	-364
1349	0.75	17.35	7.51	3.10	0.0	2.08	22.77	-379
1353	1.00	17.41	7.51	3.06	0.0	1.02	23.00	-376
1357	1.25	17.49	7.51	3.06	0.0	1.01	23.01	-375
1401	1.50	17.56	7.51	3.06	0.0	1.00	23.06	-375

Purge Sampling Rates: 30 PSL R:20 A:5
Water has blackish color w/ very strong odor

Well condition: O.K.

Additional Info/Comments: Mostly Cloudy, Cool, light Winds
* Pump Inlet: 26.4 Ft

Name: A. Shaw Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-13R Date: 3.14.18

Access:

Accessibility: Good: Fair: Poor:
 Vicinity of well clear of weeds and/or debris: Yes: No:
 Presence of depressions or standing water around well: Yes: No:
 Remarks: Well located at corner of entrance - Had to carry equipment + Batteries over to well.

Concrete Pad:

Integrity: Good: Inadequate:
 Presence of depressions or standing water around well: Yes: No:
 Remarks: 1

Protective Outer Casing:

Material: Metal
 Condition of Protective Casing: Good: Damaged:
 Condition of Locking Cap: Good: Damaged:
 Condition of Lock: Good: Damaged:
 Condition of Weepholes: Good: Damaged:
 Remarks: Monument is heavily corroded

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. [Signature]
Signed

Field Tech
Title

3.14.18
Date

**GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET**

Site Name.:	<u>Sunshine Cyn</u>	Project No.:	<u>SD18.1024</u>
Well I.D.:	<u>MW-14</u>	Sampling Date:	<u>3.13.18</u>
Collected By:	<u>AS</u>	Purge start Time:	<u>0932</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>0950</u>
Starting Water Level:	<u>14.20</u>	Sampling Time:	<u>1000</u>
Total Depth (feet):	<u>28.10</u>	Ending Water Level (feet):	<u>15.07</u>
Water column (feet):	<u>13.90</u>	Total Purged (gallons):	<u>2.25+</u>
Screen Length (feet):	<u>-</u>	PID/FID Reading:	<u>N/A</u>
Purge Volume (gallons):	<u>Micro Purge</u>	Duplicate Sample:	YES <input checked="" type="radio"/> NO <input type="radio"/>
Horiba Model S/N:	<u>U52/KAGP8GRS1</u>		

0940
0942
0944
0946
0948
0950

GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	ORP mV
1.00	14.63	7.21	4.94	0.6	1.90	22.41	-47
1.25	14.74	7.12	4.77	4.4	1.27	22.50	-32
1.50	14.85	7.11	4.75	0.0	1.20	22.51	-29
1.75	14.91	7.11	4.74	0.0	1.14	22.53	-28
2.00	14.98	7.10	4.73	0.0	1.14	22.54	-28
2.25	15.07	7.10	4.73	0.0	1.14	22.55	-28

Purge Sampling Rates: 20 PSI R: 20 / D: 10
Water is clear w/ no odor.

Well condition: O.K. - Hiked / Carry equipment downslope to well.

Additional Info/Comments: Cloudy, Cool

A. Shaw / ac. sh

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-14 Date: 3.13.18

Access:

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

Remarks: Requires hiking / 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: Bladder

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

Field Certification:

CAC
Signed

Field Tech
Title

3.13.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: SO18, 1024
 Well I.D.: R2-4 Sampling Date: 3-12-18
 Collected By: BS Purge start Time: 1018
 Casing Diameter (inches): 2 Purge Stop time: 1043
 Starting Water Level: 111.77 Sampling (Well Recovery) Time: 1052
 Total Depth (feet): 125.15 Ending Water Level (feet): 114.86
 Water column (feet): 13.38 Total Purged (gallons): 2.25
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R855494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
1023	1/4	112.23	6.46	1.59	16.7	1.75	23.31	90
1027	3/4	112.79	6.54	1.60	11.6	1.67	23.45	87
1031	1 1/4	113.44	6.72	1.62	6.8	1.37	23.62	85
1034	1 1/2	113.76	6.87	1.64	2.9	1.07	23.72	87
1037	1 3/4	114.48	6.89	1.64	1.8	1.04	23.73	86
1040	2	114.88	6.89	1.64	1.5	1.01	23.74	84
1043	2 1/4	115.37	6.90	1.64	1.3	1.00	23.76	84

Purge Sampling Rates: PSZ 80, R:40 | D: 15.
Clear water with no odor

Well condition: OK
QATS taken

Additional Info/Comments: Cloudy, cool

Name: B. Salinas

Signature: B. Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Gen. Well ID: PZ-4 Date: 3-12-18

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

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

Protective Outer Casing: Material: Flush mount
 Condition of Protective Casing: Good: Damaged:
 Condition of Locking Cap: Good: N/A Damaged:
 Condition of Lock: Good: N/A Damaged:
 Condition of Weepholes: Good: N/A Damaged:
 Remarks: _____

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

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

Field Certification: [Signature] GW Manager 3/12/18
 Signed Title Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Gym PROJECT NAME / NUMBER SO18-1024

Instrument Make/Model # <u>Haniba U-52</u> <u>SN WGGP885</u>						
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>3.14.18</u> <u>0700</u>						
Pre. Cal	<u>3.96</u>	<u>4.47</u>	<u>0.5</u>	<u>12.78</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>9.76</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>OC. A</u>
Physical Condition of Unit		<u>—</u> → <u>Good</u>				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cym PROJECT NAME / NUMBER SO18-1024

Instrument Make/Model #						
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/K-g)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
3/14/18 0155						
Pre. Cal	4.12	4.53	0.6	12.82		
Calibration	4.00	4.50	8	9.63		
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	Sgt J. [Signature]					Signature or initials
Physical Condition of Unit		Good				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sundrive Cys. PROJECT NAME / NUMBER 2018.1024

Instrument Make/Model #						
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>2-13-18</u> <u>0653</u>			(0)			
Pre. Cal	<u>3.91</u>	<u>4.54</u>	<u>0.4</u>	<u>13.41</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0</u>	<u>9.60</u>		
Calibration Successful? (Y/N)	<u>YES</u>		<u>→</u>		enter YES or NO	
Satisfies Protocol?	<u>YES</u>		<u>→</u>		Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>Spent</u>	<u>John</u>	<u>Lin</u>		Signature or initials	
Physical Condition of Unit		<u>Good</u>				

FIELD CALIBRATION DOCUMENTATION FORM

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

Instrument Make/Model # <u>Hanna U-52</u>		PROJECT NAME / NUMBER _____				
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>3.12.18</u> <u>0830</u>	<u>0230</u>					
Pre. Cal	<u>4.14</u>	<u>4.55</u>	<u>0.0</u>	<u>10.16</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>10.35</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>	<u>_____</u>	<u>_____</u>	<u>_____</u>	Signature or initials	<u>OC. J</u>
Physical Condition of Unit		<u>→ Good</u>				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cgn PROJECT NAME / NUMBER SO18.1024

Instrument Make/Model # <u>Hor: ba v-52</u> <u>SN C06A288RS</u>		PROJECT NAME / NUMBER <u>SO18.1024</u>				
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>3.15.18</u> <u>0700</u>	<u>4.15</u>	<u>4.53</u>	<u>1.6</u>	<u>6.85</u>		
Pre. Cal						
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>10.40</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>OC.A</u>
Physical Condition of Unit		<u>_____</u>	<u>_____</u>	<u>Good</u>		

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sensitive 1/6 PROJECT NAME / NUMBER SAIF, 1024

Instrument Make/Model #		PROJECT NAME / NUMBER			
Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Comments
3/12/18 0736					
Pre. Cal	7.94	4.62	0.7	13.28	
Calibration	4.01	4.49	0	9.61	
Calibration Successful? (Y/N)	YES				enter YES or NO
Satisfies Protocol?	YES				Did calibration meet criteria in the sampling protocol? (Y or N)
Calibration by	[Signature]				Signature or initials
Physical Condition of Unit		Good			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER SD18.1024

Instrument Make/Model # <u>Horiba U-52</u>		S/N <u>U66P86RS</u>				Guidance Remarks	Comments
Date/Time <u>3.13.18</u> <u>DAD</u>	pH	Electrical Conductivity (μ Mhos/cm)	Turbidity (NTU)	DO (mg/L or %)			
Pre. Cal	<u>3.94</u>	<u>481</u>	<u>0.5</u>	<u>12.49</u>			
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>9.94</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>	<u>_____</u>	<u>_____</u>	<u>_____</u>	Signature or initials	<u>OC-A</u>	
Physical Condition of Unit		<u>→ Good</u>					

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: 440-205642-1

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:

3/23/2018 5:21:51 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	5
Method Summary	25
Lab Chronicle	26
QC Sample Results	30
QC Association Summary	48
Definitions/Glossary	53
Certification Summary	54
Chain of Custody	55
Receipt Checklists	56

Sample Summary

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

TestAmerica Job ID: 440-205642-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-205642-1	CM-9R3	Water	03/12/18 11:25	03/12/18 20:00
440-205642-2	CM-10R	Water	03/12/18 09:00	03/12/18 20:00
440-205642-3	CM-11R	Water	03/12/18 13:10	03/12/18 20:00
440-205642-4	PZ-4	Water	03/12/18 10:52	03/12/18 20:00
440-205642-5	Subdrain (N)	Water	03/12/18 13:48	03/12/18 20:00
440-205642-6	Combined Subdrains	Water	03/12/18 14:25	03/12/18 20:00
440-205642-7	Duplicate	Water	03/12/18 00:01	03/12/18 20:00
440-205642-8	QCAB	Water	03/12/18 00:01	03/12/18 20:00
440-205642-9	QCTB	Water	03/12/18 00:01	03/12/18 20:00



Case Narrative

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

TestAmerica Job ID: 440-205642-1

Job ID: 440-205642-1

Laboratory: TestAmerica Irvine

Narrative

**Job Narrative
440-205642-1**

Comments

No additional comments.

Receipt

The samples were received on 3/12/2018 8:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.9° C, 2.6° C and 2.8° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-463655 recovered above the upper control limit for Methacrylonitrile. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

GC/MS Semi VOA

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

HPLC/IC

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

Metals

Method(s) 6010B: The post digestion spike % recovery of few analytes for associated with batch 440-464476 was outside of control limits.

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

General Chemistry

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

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-463676. 3520C_8270-SIM 1,4 Dioxane/1,4 Dioxane.

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: 440-205642-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-205642-1

Date Collected: 03/12/18 11:25

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 03:04	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Acrolein	ND		50	2.5	ug/L			03/14/18 13:15	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 13:15	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 03:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 03:04	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 03:04	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 03:04	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 03:04	1
Acetone	ND		20	10	ug/L			03/15/18 03:04	1
Acetonitrile	ND		20	10	ug/L			03/15/18 03:04	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 03:04	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 03:04	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 03:04	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 03:04	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 03:04	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 03:04	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 03:04	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 03:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 03:04	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 03:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 03:04	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 03:04	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 03:04	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-205642-1

Date Collected: 03/12/18 11:25

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 03:04	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 03:04	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Propionitrile	ND		20	10	ug/L			03/15/18 03:04	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 03:04	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 03:04	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 03:04	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 03:04	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 03:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 03:04	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 03:04	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 03:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 03:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.7	T J	ug/L		5.82			03/15/18 03:04	1
Unknown	10	T J	ug/L		7.29			03/15/18 03:04	1
Unknown	26	T J	ug/L		17.25			03/15/18 03:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		03/14/18 13:15	1
4-Bromofluorobenzene (Surr)	103		80 - 120		03/14/18 13:15	1
Toluene-d8 (Surr)	105		80 - 128		03/15/18 03:04	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/15/18 03:04	1
Dibromofluoromethane (Surr)	98		76 - 132		03/14/18 13:15	1
Dibromofluoromethane (Surr)	99		76 - 132		03/15/18 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		0.97	0.24	ug/L		03/15/18 13:32	03/17/18 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	67		30 - 120	03/15/18 13:32	03/17/18 20:13	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.5	mg/L			03/15/18 19:07	10

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		03/16/18 12:45	03/19/18 13:47	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-205642-1

Date Collected: 03/12/18 11:25

Matrix: Water

Date Received: 03/12/18 20:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	4800		100	50	mg/L			03/17/18 09:10	1
Ammonia (as N)	4.6		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	7.1		0.10	0.050	mg/L			03/14/18 18:21	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	180		4.0	4.0	mg/L			03/15/18 15:05	1

Client Sample ID: CM-10R

Lab Sample ID: 440-205642-2

Date Collected: 03/12/18 09:00

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 03:31	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Acrolein	ND		50	2.5	ug/L			03/14/18 14:37	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 14:37	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 03:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 03:31	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 03:31	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 03:31	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 03:31	1
Acetone	ND		20	10	ug/L			03/15/18 03:31	1
Acetonitrile	ND		20	10	ug/L			03/15/18 03:31	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 03:31	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 03:31	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 03:31	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 03:31	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 03:31	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 03:31	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-10R

Lab Sample ID: 440-205642-2

Date Collected: 03/12/18 09:00

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 03:31	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 03:31	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 03:31	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 03:31	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 03:31	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 03:31	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 03:31	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 03:31	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 03:31	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Propionitrile	ND		20	10	ug/L			03/15/18 03:31	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 03:31	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 03:31	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 03:31	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 03:31	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 03:31	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 03:31	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 03:31	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 03:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 03:31	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	TJ	ug/L		7.30			03/15/18 03:31	1
Unknown	6.4	TJ	ug/L		15.20			03/15/18 03:31	1
Unknown	14	TJ	ug/L		17.56			03/15/18 03:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		03/14/18 14:37	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/14/18 14:37	1
Toluene-d8 (Surr)	102		80 - 128		03/15/18 03:31	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/15/18 03:31	1
Dibromofluoromethane (Surr)	99		76 - 132		03/14/18 14:37	1
Dibromofluoromethane (Surr)	98		76 - 132		03/15/18 03:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		03/15/18 13:32	03/17/18 20:36	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-10R

Date Collected: 03/12/18 09:00

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	73		30 - 120	03/15/18 13:32	03/17/18 20:36	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.2		2.5	1.3	mg/L			03/15/18 19:21	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		03/16/18 12:45	03/19/18 13:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	2700		20	10	mg/L			03/17/18 09:10	1
Ammonia (as N)	10		2.5	0.50	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	2.8		0.10	0.050	mg/L			03/14/18 18:34	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	270		4.0	4.0	mg/L			03/15/18 15:14	1

Client Sample ID: CM-11R

Date Collected: 03/12/18 13:10

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-3

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			03/15/18 03:57	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Acrolein	ND		50	2.5	ug/L			03/14/18 15:05	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 15:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 03:57	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 03:57	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 03:57	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 03:57	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 03:57	1
Acetone	ND		20	10	ug/L			03/15/18 03:57	1
Acetonitrile	ND		20	10	ug/L			03/15/18 03:57	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 03:57	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 03:57	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 03:57	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-11R

Lab Sample ID: 440-205642-3

Date Collected: 03/12/18 13:10

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 03:57	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 03:57	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 03:57	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 03:57	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 03:57	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 03:57	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 03:57	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 03:57	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 03:57	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 03:57	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 03:57	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 03:57	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 03:57	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Propionitrile	ND		20	10	ug/L			03/15/18 03:57	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 03:57	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 03:57	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 03:57	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 03:57	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 03:57	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 03:57	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 03:57	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 03:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 03:57	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.0	TJ	ug/L		5.82			03/15/18 03:57	1
Unknown	10	TJ	ug/L		7.30			03/15/18 03:57	1
Unknown	5.1	TJ	ug/L		15.46			03/15/18 03:57	1
Unknown	15	TJ	ug/L		17.58			03/15/18 03:57	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-11R

Lab Sample ID: 440-205642-3

Date Collected: 03/12/18 13:10

Matrix: Water

Date Received: 03/12/18 20:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		03/14/18 15:05	1
4-Bromofluorobenzene (Surr)	101		80 - 120		03/14/18 15:05	1
Toluene-d8 (Surr)	103		80 - 128		03/15/18 03:57	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/15/18 03:57	1
Dibromofluoromethane (Surr)	102		76 - 132		03/14/18 15:05	1
Dibromofluoromethane (Surr)	99		76 - 132		03/15/18 03:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/15/18 13:32	03/17/18 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		30 - 120	03/15/18 13:32	03/17/18 20:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.5	mg/L			03/15/18 19:35	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	12		0.50	0.25	mg/L		03/16/18 12:45	03/19/18 13:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	4200		50	25	mg/L			03/17/18 09:10	1
Ammonia (as N)	1.6		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	5.0		0.10	0.050	mg/L			03/14/18 14:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	13		4.0	4.0	mg/L			03/15/18 15:20	1

Client Sample ID: PZ-4

Lab Sample ID: 440-205642-4

Date Collected: 03/12/18 10:52

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 04:23	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Acrolein	ND		50	2.5	ug/L			03/14/18 15:32	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 15:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 04:23	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 04:23	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: PZ-4

Lab Sample ID: 440-205642-4

Date Collected: 03/12/18 10:52

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 04:23	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 04:23	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 04:23	1
Acetone	ND		20	10	ug/L			03/15/18 04:23	1
Acetonitrile	ND		20	10	ug/L			03/15/18 04:23	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 04:23	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 04:23	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 04:23	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 04:23	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 04:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 04:23	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 04:23	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 04:23	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 04:23	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 04:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 04:23	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 04:23	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 04:23	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 04:23	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 04:23	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Propionitrile	ND		20	10	ug/L			03/15/18 04:23	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 04:23	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 04:23	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 04:23	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 04:23	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:23	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: PZ-4

Lab Sample ID: 440-205642-4

Date Collected: 03/12/18 10:52

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 04:23	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 04:23	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 04:23	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 04:23	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 04:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 04:23	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.9	T J	ug/L		5.82			03/15/18 04:23	1
Unknown	11	T J	ug/L		7.30			03/15/18 04:23	1
Unknown	3.9	T J	ug/L		15.45			03/15/18 04:23	1
Unknown	21	T J	ug/L		16.54			03/15/18 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		03/14/18 15:32	1
4-Bromofluorobenzene (Surr)	101		80 - 120		03/14/18 15:32	1
Toluene-d8 (Surr)	104		80 - 128		03/15/18 04:23	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/15/18 04:23	1
Dibromofluoromethane (Surr)	102		76 - 132		03/14/18 15:32	1
Dibromofluoromethane (Surr)	99		76 - 132		03/15/18 04:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/15/18 13:32	03/17/18 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	65		30 - 120	03/15/18 13:32	03/17/18 21:20	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.3		1.0	0.50	mg/L			03/15/18 19:49	2

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		03/16/18 12:45	03/19/18 13:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	13	J	20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	1100		10	5.0	mg/L			03/17/18 09:10	1
Ammonia (as N)	2.5		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	1.2		0.10	0.050	mg/L			03/14/18 15:50	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		4.0	4.0	mg/L			03/15/18 15:29	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-205642-5

Date Collected: 03/12/18 13:48

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 04:50	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Acrolein	ND		50	2.5	ug/L			03/14/18 16:00	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 16:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 04:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 04:50	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 04:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 04:50	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 04:50	1
Acetone	ND		20	10	ug/L			03/15/18 04:50	1
Acetonitrile	ND		20	10	ug/L			03/15/18 04:50	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 04:50	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 04:50	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 04:50	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 04:50	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 04:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 04:50	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
cis-1,2-Dichloroethene	0.51		0.50	0.25	ug/L			03/15/18 04:50	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 04:50	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 04:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 04:50	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 04:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 04:50	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 04:50	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 04:50	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-205642-5

Date Collected: 03/12/18 13:48

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 04:50	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 04:50	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Propionitrile	ND		20	10	ug/L			03/15/18 04:50	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 04:50	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 04:50	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 04:50	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 04:50	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 04:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 04:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 04:50	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 04:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 04:50	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.1	T J	ug/L		5.82			03/15/18 04:50	1
Unknown	10	T J	ug/L		7.30			03/15/18 04:50	1
Unknown	2.6	T J	ug/L		14.60			03/15/18 04:50	1
Unknown	4.2	T J	ug/L		15.60			03/15/18 04:50	1
Unknown	13	T J	ug/L		16.49			03/15/18 04:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		03/14/18 16:00	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/14/18 16:00	1
Toluene-d8 (Surr)	102		80 - 128		03/15/18 04:50	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/15/18 04:50	1
Dibromofluoromethane (Surr)	102		76 - 132		03/14/18 16:00	1
Dibromofluoromethane (Surr)	99		76 - 132		03/15/18 04:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.0		0.98	0.24	ug/L		03/15/18 13:32	03/17/18 21:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	65		30 - 120	03/15/18 13:32	03/17/18 21:42	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56		25	13	mg/L			03/15/18 05:11	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	9.4		0.50	0.25	mg/L		03/16/18 12:45	03/19/18 13:56	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Subdrain (N)

Date Collected: 03/12/18 13:48

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-5

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	17	J	20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	2700		20	10	mg/L			03/17/18 09:10	1
Ammonia (as N)	1.4		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	9.6		0.10	0.050	mg/L			03/14/18 16:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	240		4.0	4.0	mg/L			03/15/18 15:37	1

Client Sample ID: Combined Subdrains

Date Collected: 03/12/18 14:25

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-6

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			03/15/18 11:49	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Acrolein	ND		50	2.5	ug/L			03/14/18 16:28	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 16:28	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 11:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 11:49	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 11:49	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 11:49	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 11:49	1
Acetone	ND		20	10	ug/L			03/15/18 11:49	1
Acetonitrile	ND		20	10	ug/L			03/15/18 11:49	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 11:49	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 11:49	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 11:49	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 11:49	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 11:49	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 11:49	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-205642-6

Date Collected: 03/12/18 14:25

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.93		0.50	0.25	ug/L			03/15/18 11:49	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 11:49	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 11:49	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 11:49	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 11:49	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 11:49	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 11:49	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 11:49	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 11:49	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 11:49	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Propionitrile	ND		20	10	ug/L			03/15/18 11:49	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
t-Butanol	17		10	5.0	ug/L			03/15/18 11:49	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 11:49	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 11:49	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 11:49	1
Trichloroethene	0.28 J		0.50	0.25	ug/L			03/15/18 11:49	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 11:49	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 11:49	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 11:49	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 11:49	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 11:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 11:49	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.9	TJ	ug/L		5.82			03/15/18 11:49	1
Unknown	9.7	TJ	ug/L		7.30			03/15/18 11:49	1
Unknown	4.1	TJ	ug/L		15.40			03/15/18 11:49	1
Unknown	12	TJ	ug/L		17.56			03/15/18 11:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	113		80 - 128		03/14/18 16:28	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/14/18 16:28	1
Toluene-d8 (Surr)	103		80 - 128		03/15/18 11:49	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/15/18 11:49	1
Dibromofluoromethane (Surr)	108		76 - 132		03/14/18 16:28	1
Dibromofluoromethane (Surr)	95		76 - 132		03/15/18 11:49	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-205642-6

Date Collected: 03/12/18 14:25

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.8		0.98	0.24	ug/L		03/15/18 13:32	03/17/18 22:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		30 - 120				03/15/18 13:32	03/17/18 22:03	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55		25	13	mg/L			03/15/18 05:30	50

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		03/16/18 12:45	03/19/18 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	15	J	20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	2600		20	10	mg/L			03/17/18 09:10	1
Ammonia (as N)	0.79		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	8.7		0.10	0.050	mg/L			03/14/18 16:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	260		4.0	4.0	mg/L			03/15/18 15:46	1

Client Sample ID: Duplicate

Lab Sample ID: 440-205642-7

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 12:16	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Acrolein	ND		50	2.5	ug/L			03/14/18 16:55	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 16:55	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 12:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 12:16	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 12:16	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 12:16	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 12:16	1
Acetone	ND		20	10	ug/L			03/15/18 12:16	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Duplicate

Lab Sample ID: 440-205642-7

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	ND		20	10	ug/L			03/15/18 12:16	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 12:16	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 12:16	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 12:16	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 12:16	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 12:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 12:16	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 12:16	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 12:16	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 12:16	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 12:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 12:16	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 12:16	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 12:16	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 12:16	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 12:16	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Propionitrile	ND		20	10	ug/L			03/15/18 12:16	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 12:16	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 12:16	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 12:16	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 12:16	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 12:16	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 12:16	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 12:16	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 12:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 12:16	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	TJ	ug/L		7.30			03/15/18 12:16	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: Duplicate

Lab Sample ID: 440-205642-7

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.3	TJ	ug/L		15.06			03/15/18 12:16	1
Unknown	21	TJ	ug/L		17.40			03/15/18 12:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128					03/14/18 16:55	1
4-Bromofluorobenzene (Surr)	92		80 - 120					03/14/18 16:55	1
Toluene-d8 (Surr)	104		80 - 128					03/15/18 12:16	1
4-Bromofluorobenzene (Surr)	93		80 - 120					03/15/18 12:16	1
Dibromofluoromethane (Surr)	112		76 - 132					03/14/18 16:55	1
Dibromofluoromethane (Surr)	95		76 - 132					03/15/18 12:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		03/15/18 13:32	03/17/18 22:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	72		30 - 120				03/15/18 13:32	03/17/18 22:26	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.5	mg/L			03/15/18 20:03	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	13		0.50	0.25	mg/L		03/16/18 12:45	03/19/18 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 13:24	1
Total Dissolved Solids	4700		50	25	mg/L			03/17/18 09:10	1
Ammonia (as N)	4.6		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	7.2		0.10	0.050	mg/L			03/14/18 17:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	67		4.0	4.0	mg/L			03/15/18 15:53	1

Client Sample ID: QCAB

Lab Sample ID: 440-205642-8

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 12:42	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Acrolein	ND		50	2.5	ug/L			03/14/18 17:23	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 17:23	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:42	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: QCAB

Lab Sample ID: 440-205642-8

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 12:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 12:42	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 12:42	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 12:42	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 12:42	1
Acetone	ND		20	10	ug/L			03/15/18 12:42	1
Acetonitrile	ND		20	10	ug/L			03/15/18 12:42	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 12:42	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 12:42	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 12:42	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 12:42	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 12:42	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 12:42	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
cis-1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 12:42	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 12:42	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 12:42	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 12:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 12:42	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 12:42	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 12:42	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 12:42	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 12:42	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Propionitrile	ND		20	10	ug/L			03/15/18 12:42	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 12:42	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 12:42	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: QCAB

Lab Sample ID: 440-205642-8

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 12:42	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 12:42	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 12:42	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 12:42	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 12:42	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 12:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 12:42	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.8	TJ	ug/L		5.82			03/15/18 12:42	1
Unknown	9.7	TJ	ug/L		7.30			03/15/18 12:42	1
Unknown	37	TJ	ug/L		17.41			03/15/18 12:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		03/14/18 17:23	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/14/18 17:23	1
Toluene-d8 (Surr)	104		80 - 128		03/15/18 12:42	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/15/18 12:42	1
Dibromofluoromethane (Surr)	105		76 - 132		03/14/18 17:23	1
Dibromofluoromethane (Surr)	96		76 - 132		03/15/18 12:42	1

Client Sample ID: QCTB

Lab Sample ID: 440-205642-9

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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			03/15/18 13:08	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Acrolein	ND		50	2.5	ug/L			03/14/18 17:50	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 17:50	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 13:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 13:08	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 13:08	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: QCTB
Date Collected: 03/12/18 00:01
Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-9
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			03/15/18 13:08	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 13:08	1
Acetone	ND		20	10	ug/L			03/15/18 13:08	1
Acetonitrile	ND		20	10	ug/L			03/15/18 13:08	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 13:08	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 13:08	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 13:08	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 13:08	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 13:08	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 13:08	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 13:08	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 13:08	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 13:08	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 13:08	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 13:08	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 13:08	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 13:08	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 13:08	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 13:08	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Propionitrile	ND		20	10	ug/L			03/15/18 13:08	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 13:08	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 13:08	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 13:08	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 13:08	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 13:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 13:08	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 13:08	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 13:08	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: QCTB
Date Collected: 03/12/18 00:01
Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 13:08	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.9	T J	ug/L		7.30			03/15/18 13:08	1
Unknown	41	T J	ug/L		17.35			03/15/18 13:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		03/14/18 17:50	1
4-Bromofluorobenzene (Surr)	91		80 - 120		03/14/18 17:50	1
Toluene-d8 (Surr)	105		80 - 128		03/15/18 13:08	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/15/18 13:08	1
Dibromofluoromethane (Surr)	102		76 - 132		03/14/18 17:50	1
Dibromofluoromethane (Surr)	97		76 - 132		03/15/18 13:08	1

Method Summary

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

TestAmerica Job ID: 440-205642-1

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: 440-205642-1

Client Sample ID: CM-9R3

Date Collected: 03/12/18 11:25

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-1

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	463585	03/15/18 03:04	K1S	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 13:15	K1S	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464234	03/17/18 20:13	HN	TAL IRV
Total/NA	Analysis	300.0		10			463736	03/15/18 19:07	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 13:47	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:05	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 18:21	YZ	TAL IRV

Client Sample ID: CM-10R

Date Collected: 03/12/18 09:00

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-2

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	463585	03/15/18 03:31	K1S	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 14:37	K1S	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464234	03/17/18 20:36	HN	TAL IRV
Total/NA	Analysis	300.0		5			463736	03/15/18 19:21	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 13:50	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:14	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 18:34	YZ	TAL IRV

Client Sample ID: CM-11R

Date Collected: 03/12/18 13:10

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-3

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	463585	03/15/18 03:57	K1S	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 15:05	K1S	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: CM-11R

Lab Sample ID: 440-205642-3

Date Collected: 03/12/18 13:10

Matrix: Water

Date Received: 03/12/18 20:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C		1			464234	03/17/18 20:58	HN	TAL IRV
Total/NA	Analysis	300.0		10			463736	03/15/18 19:35	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 13:52	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:20	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 14:51	YZ	TAL IRV

Client Sample ID: PZ-4

Lab Sample ID: 440-205642-4

Date Collected: 03/12/18 10:52

Matrix: Water

Date Received: 03/12/18 20:00

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	463585	03/15/18 04:23	K1S	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 15:32	K1S	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464234	03/17/18 21:20	HN	TAL IRV
Total/NA	Analysis	300.0		2			463736	03/15/18 19:49	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 13:54	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:29	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 15:50	YZ	TAL IRV

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-205642-5

Date Collected: 03/12/18 13:48

Matrix: Water

Date Received: 03/12/18 20:00

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	463585	03/15/18 04:50	K1S	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 16:00	K1S	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464234	03/17/18 21:42	HN	TAL IRV
Total/NA	Analysis	300.0		50			463435	03/15/18 05:11	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 13:56	VS	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205642-1

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	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:37	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 16:06	YZ	TAL IRV

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-205642-6

Date Collected: 03/12/18 14:25

Matrix: Water

Date Received: 03/12/18 20:00

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	463655	03/15/18 11:49	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 16:28	K1S	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464234	03/17/18 22:03	HN	TAL IRV
Total/NA	Analysis	300.0		50			463435	03/15/18 05:30	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 13:58	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:46	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 16:23	YZ	TAL IRV

Client Sample ID: Duplicate

Lab Sample ID: 440-205642-7

Date Collected: 03/12/18 00:01

Matrix: Water

Date Received: 03/12/18 20:00

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	463655	03/15/18 12:16	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 16:55	K1S	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	463676	03/15/18 13:32	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464234	03/17/18 22:26	HN	TAL IRV
Total/NA	Analysis	300.0		10			463736	03/15/18 20:03	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464025	03/16/18 12:45	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			464476	03/19/18 14:00	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465353	03/22/18 13:24	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 15:53	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	464196	03/17/18 09:10	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463639	03/14/18 17:03	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205642-1

Client Sample ID: QCAB

Date Collected: 03/12/18 00:01

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-8

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	463655	03/15/18 12:42	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 17:23	K1S	TAL IRV

Client Sample ID: QCTB

Date Collected: 03/12/18 00:01

Date Received: 03/12/18 20:00

Lab Sample ID: 440-205642-9

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	463655	03/15/18 13:08	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463430	03/14/18 17:50	K1S	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: 440-205642-1

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

Lab Sample ID: MB 440-463430/4
Matrix: Water
Analysis Batch: 463430

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			03/14/18 11:56	1
Acrylonitrile	ND		50	1.0	ug/L			03/14/18 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		03/14/18 11:56	1
4-Bromofluorobenzene (Surr)	101		80 - 120		03/14/18 11:56	1
Dibromofluoromethane (Surr)	97		76 - 132		03/14/18 11:56	1

Lab Sample ID: LCS 440-463430/5
Matrix: Water
Analysis Batch: 463430

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	20.4	J	ug/L		82	10 - 145
Acrylonitrile	250	252		ug/L		101	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	111		80 - 128
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

Lab Sample ID: LCSD 440-463430/6
Matrix: Water
Analysis Batch: 463430

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	25.0	20.3	J	ug/L		81	10 - 145	1	30
Acrylonitrile	250	250		ug/L		100	48 - 140	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	109		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132

Lab Sample ID: 440-205642-1 MS
Matrix: Water
Analysis Batch: 463430

Client Sample ID: CM-9R3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	23.6	J	ug/L		95	10 - 147
Acrylonitrile	ND		250	289		ug/L		116	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	107		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	108		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: 440-205642-1 MSD

Matrix: Water

Analysis Batch: 463430

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	22.7	J	ug/L		91	10 - 147	4	40
Acrylonitrile	ND		250	287		ug/L		115	38 - 144	1	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
<i>Toluene-d8 (Surr)</i>	102		80 - 128								
<i>4-Bromofluorobenzene (Surr)</i>	95		80 - 120								
<i>Dibromofluoromethane (Surr)</i>	101		76 - 132								

Lab Sample ID: MB 440-463585/4

Matrix: Water

Analysis Batch: 463585

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			03/14/18 19:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/14/18 19:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/14/18 19:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/14/18 19:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/14/18 19:35	1
2-Hexanone	ND		5.0	2.5	ug/L			03/14/18 19:35	1
Acetone	ND		20	10	ug/L			03/14/18 19:35	1
Acetonitrile	ND		20	10	ug/L			03/14/18 19:35	1
Acrolein	ND		5.0	2.5	ug/L			03/14/18 19:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/14/18 19:35	1
Benzene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Allyl chloride	ND		1.0	0.50	ug/L			03/14/18 19:35	1
Bromoform	ND		1.0	0.40	ug/L			03/14/18 19:35	1
Bromomethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/14/18 19:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Chloroethane	ND		1.0	0.40	ug/L			03/14/18 19:35	1
Chloroform	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Chloromethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/14/18 19:35	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: MB 440-463585/4
Matrix: Water
Analysis Batch: 463585

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Dibromomethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/14/18 19:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/14/18 19:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Iodomethane	ND		2.0	1.0	ug/L			03/14/18 19:35	1
Isobutyl alcohol	ND		25	13	ug/L			03/14/18 19:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/14/18 19:35	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/14/18 19:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/14/18 19:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/14/18 19:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Naphthalene	ND		1.0	0.40	ug/L			03/14/18 19:35	1
o-Xylene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Propionitrile	ND		20	10	ug/L			03/14/18 19:35	1
Styrene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
t-Butanol	ND		10	5.0	ug/L			03/14/18 19:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/14/18 19:35	1
Toluene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/14/18 19:35	1
Trichloroethene	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/14/18 19:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/14/18 19:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/14/18 19:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/14/18 19:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/14/18 19:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/14/18 19:35	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L					03/14/18 19:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/14/18 19:35	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/14/18 19:35	1
Dibromofluoromethane (Surr)	94		76 - 132		03/14/18 19:35	1

Lab Sample ID: LCS 440-463585/5
Matrix: Water
Analysis Batch: 463585

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	23.3		ug/L		93	63 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: LCS 440-463585/5

Matrix: Water

Analysis Batch: 463585

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	26.0		ug/L		104	60 - 141
1,1,1-Trichloroethane	25.0	23.6		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.7		ug/L		91	63 - 130
1,1,2-Trichloroethane	25.0	23.9		ug/L		96	70 - 130
1,1-Dichloroethane	25.0	22.3		ug/L		89	64 - 130
1,1-Dichloroethene	25.0	21.6		ug/L		86	70 - 130
1,1-Dichloropropene	25.0	23.5		ug/L		94	70 - 130
1,2,4-Trichlorobenzene	25.0	27.1		ug/L		108	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	22.5		ug/L		90	52 - 140
1,2-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
1,2-Dichloroethane	25.0	22.3		ug/L		89	57 - 138
1,2-Dichloropropane	25.0	22.5		ug/L		90	67 - 130
1,3-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,3-Dichloropropane	25.0	22.9		ug/L		92	70 - 130
1,4-Dichlorobenzene	25.0	26.1		ug/L		105	70 - 130
2,2-Dichloropropane	25.0	23.4		ug/L		94	68 - 141
2-Hexanone	25.0	24.8		ug/L		99	10 - 150
Acetone	25.0	23.0		ug/L		92	10 - 150
Acrolein	25.0	19.8		ug/L		79	10 - 145
Acrylonitrile	250	221		ug/L		88	48 - 140
Benzene	25.0	23.2		ug/L		93	68 - 130
Bromoform	25.0	25.2		ug/L		101	60 - 148
Bromomethane	25.0	21.4		ug/L		86	64 - 139
Carbon disulfide	25.0	21.3		ug/L		85	52 - 136
Carbon tetrachloride	25.0	24.7		ug/L		99	60 - 150
Chlorobenzene	25.0	23.5		ug/L		94	70 - 130
Bromochloromethane	25.0	24.4		ug/L		97	70 - 130
Chloroethane	25.0	21.7		ug/L		87	64 - 135
Chloroform	25.0	22.4		ug/L		90	70 - 130
Chloromethane	25.0	19.7		ug/L		79	47 - 140
cis-1,2-Dichloroethene	25.0	22.6		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	23.6		ug/L		94	70 - 133
Dibromochloromethane	25.0	25.4		ug/L		101	69 - 145
Dibromomethane	25.0	23.3		ug/L		93	70 - 130
Bromodichloromethane	25.0	22.4		ug/L		90	70 - 132
Dichlorodifluoromethane	25.0	16.8		ug/L		67	29 - 150
Ethylbenzene	25.0	25.1		ug/L		100	70 - 130
m,p-Xylene	25.0	25.7		ug/L		103	70 - 130
Methylene Chloride	25.0	19.7		ug/L		79	52 - 130
Methyl tert-butyl ether	25.0	22.2		ug/L		89	63 - 131
Naphthalene	25.0	26.7		ug/L		107	60 - 140
o-Xylene	25.0	25.6		ug/L		102	70 - 130
Styrene	25.0	25.5		ug/L		102	70 - 134
t-Butanol	250	266		ug/L		106	70 - 130
Tetrachloroethene	25.0	25.9		ug/L		103	70 - 130
Toluene	25.0	24.8		ug/L		99	70 - 130
trans-1,2-Dichloroethene	25.0	22.9		ug/L		91	70 - 130
trans-1,3-Dichloropropene	25.0	22.9		ug/L		92	70 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: LCS 440-463585/5
Matrix: Water
Analysis Batch: 463585

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	24.6		ug/L		98	70 - 130
Trichlorofluoromethane	25.0	23.2		ug/L		93	60 - 150
Vinyl acetate	25.0	23.2		ug/L		93	48 - 140
Vinyl chloride	25.0	21.4		ug/L		86	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.8		ug/L		95	70 - 130
2-Butanone (MEK)	25.0	22.8		ug/L		91	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	24.8		ug/L		99	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: 440-205542-A-7 MS
Matrix: Water
Analysis Batch: 463585

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	24.1		ug/L		96	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.2		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	22.8		ug/L		91	63 - 130
1,1,2-Trichloroethane	0.43	J	25.0	23.8		ug/L		93	70 - 130
1,1-Dichloroethane	4.4		25.0	26.7		ug/L		89	65 - 130
1,1-Dichloroethene	91	F1	25.0	112		ug/L		84	70 - 130
1,1-Dichloropropene	ND		25.0	24.3		ug/L		97	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.0		ug/L		108	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	22.3		ug/L		89	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130
1,2-Dichloroethane	0.33	J	25.0	22.8		ug/L		90	56 - 146
1,2-Dichloropropane	ND		25.0	22.8		ug/L		91	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	22.0		ug/L		88	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	24.8		ug/L		99	69 - 138
2-Hexanone	ND		25.0	24.8		ug/L		99	10 - 150
Acetone	ND		25.0	24.2		ug/L		97	10 - 150
Acrolein	ND		25.0	21.1		ug/L		84	10 - 147
Acrylonitrile	ND		25.0	23.3		ug/L		93	38 - 144
Benzene	0.34	J	25.0	23.4		ug/L		92	66 - 130
Bromoform	ND		25.0	24.2		ug/L		97	59 - 150
Bromomethane	ND		25.0	22.6		ug/L		90	62 - 131
Carbon disulfide	ND		25.0	21.7		ug/L		87	49 - 140
Carbon tetrachloride	ND		25.0	25.4		ug/L		102	60 - 150
Chlorobenzene	ND		25.0	22.7		ug/L		91	70 - 130
Bromochloromethane	ND		25.0	24.6		ug/L		98	70 - 130
Chloroethane	ND		25.0	22.5		ug/L		90	68 - 130
Chloroform	0.75		25.0	23.3		ug/L		90	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: 440-205542-A-7 MS

Matrix: Water

Analysis Batch: 463585

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	ND		25.0	20.3		ug/L		81	39 - 144
cis-1,2-Dichloroethene	0.77		25.0	24.0		ug/L		93	70 - 130
cis-1,3-Dichloropropene	ND		25.0	22.9		ug/L		92	70 - 133
Dibromochloromethane	ND		25.0	24.4		ug/L		97	70 - 148
Dibromomethane	ND		25.0	23.5		ug/L		94	70 - 130
Bromodichloromethane	ND		25.0	24.1		ug/L		96	70 - 138
Dichlorodifluoromethane	ND		25.0	18.9		ug/L		75	25 - 142
Ethylbenzene	ND		25.0	23.8		ug/L		95	70 - 130
m,p-Xylene	ND		25.0	25.1		ug/L		101	70 - 133
Methylene Chloride	ND		25.0	19.3		ug/L		77	52 - 130
Methyl tert-butyl ether	ND		25.0	22.9		ug/L		92	70 - 130
Naphthalene	ND		25.0	26.1		ug/L		104	60 - 140
o-Xylene	ND		25.0	24.4		ug/L		98	70 - 133
Styrene	ND		25.0	21.6		ug/L		86	29 - 150
t-Butanol	ND		250	312		ug/L		125	70 - 130
Tetrachloroethene	6.0		25.0	31.3		ug/L		101	70 - 137
Toluene	ND		25.0	24.0		ug/L		96	70 - 130
trans-1,2-Dichloroethene	0.35	J	25.0	23.6		ug/L		93	70 - 130
trans-1,3-Dichloropropene	ND		25.0	22.3		ug/L		89	70 - 138
Trichloroethene	93		25.0	115		ug/L		89	70 - 130
Trichlorofluoromethane	2.0		25.0	26.4		ug/L		98	60 - 150
Vinyl acetate	ND		25.0	23.5		ug/L		94	23 - 150
Vinyl chloride	ND		25.0	22.2		ug/L		89	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	22.8		ug/L		91	70 - 131
2-Butanone (MEK)	ND		25.0	23.6		ug/L		94	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.1		ug/L		97	52 - 150

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: 440-205542-A-7 MSD

Matrix: Water

Analysis Batch: 463585

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	24.4		ug/L		98	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.0		ug/L		108	60 - 149	7	20
1,1,1-Trichloroethane	ND		25.0	23.9		ug/L		96	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	23.2		ug/L		93	63 - 130	2	30
1,1,2-Trichloroethane	0.43	J	25.0	25.1		ug/L		99	70 - 130	5	25
1,1-Dichloroethane	4.4		25.0	26.5		ug/L		88	65 - 130	1	20
1,1-Dichloroethene	91	F1	25.0	107	F1	ug/L		62	70 - 130	5	20
1,1-Dichloropropene	ND		25.0	23.7		ug/L		95	64 - 130	3	20
1,2,4-Trichlorobenzene	ND		25.0	27.0		ug/L		108	60 - 140	0	20
1,2-Dibromo-3-Chloropropane	ND		25.0	22.9		ug/L		92	48 - 140	3	30
1,2-Dichlorobenzene	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: 440-205642-1

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

Lab Sample ID: 440-205542-A-7 MSD
Matrix: Water
Analysis Batch: 463585

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	0.33	J	25.0	22.8		ug/L		90	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	22.9		ug/L		92	69 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	23.5		ug/L		94	70 - 130	6	25
1,4-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	24.1		ug/L		96	69 - 138	3	25
2-Hexanone	ND		25.0	25.4		ug/L		102	10 - 150	2	35
Acetone	ND		25.0	26.1		ug/L		104	10 - 150	8	35
Acrolein	ND		25.0	20.4		ug/L		81	10 - 147	3	40
Acrylonitrile	ND		25.0	229		ug/L		92	38 - 144	2	40
Benzene	0.34	J	25.0	23.7		ug/L		94	66 - 130	1	20
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150	8	25
Bromomethane	ND		25.0	22.2		ug/L		89	62 - 131	2	25
Carbon disulfide	ND		25.0	21.7		ug/L		87	49 - 140	0	20
Carbon tetrachloride	ND		25.0	25.5		ug/L		102	60 - 150	0	25
Chlorobenzene	ND		25.0	23.6		ug/L		94	70 - 130	4	20
Bromochloromethane	ND		25.0	24.6		ug/L		98	70 - 130	0	25
Chloroethane	ND		25.0	22.0		ug/L		88	68 - 130	2	25
Chloroform	0.75		25.0	22.9		ug/L		89	70 - 130	2	20
Chloromethane	ND		25.0	20.1		ug/L		81	39 - 144	1	25
cis-1,2-Dichloroethene	0.77		25.0	23.8		ug/L		92	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	24.0		ug/L		96	70 - 133	5	20
Dibromochloromethane	ND		25.0	25.9		ug/L		103	70 - 148	6	25
Dibromomethane	ND		25.0	23.4		ug/L		94	70 - 130	1	25
Bromodichloromethane	ND		25.0	23.4		ug/L		94	70 - 138	3	20
Dichlorodifluoromethane	ND		25.0	17.9		ug/L		72	25 - 142	5	30
Ethylbenzene	ND		25.0	25.0		ug/L		100	70 - 130	5	20
m,p-Xylene	ND		25.0	26.7		ug/L		107	70 - 133	6	25
Methylene Chloride	ND		25.0	19.5		ug/L		78	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	22.5		ug/L		90	70 - 130	2	25
Naphthalene	ND		25.0	26.1		ug/L		104	60 - 140	0	30
o-Xylene	ND		25.0	26.0		ug/L		104	70 - 133	6	20
Styrene	ND		25.0	23.1		ug/L		92	29 - 150	7	35
t-Butanol	ND		25.0	314		ug/L		126	70 - 130	1	25
Tetrachloroethene	6.0		25.0	32.5		ug/L		106	70 - 137	4	20
Toluene	ND		25.0	25.3		ug/L		101	70 - 130	5	20
trans-1,2-Dichloroethene	0.35	J	25.0	23.1		ug/L		91	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	23.2		ug/L		93	70 - 138	4	25
Trichloroethene	93		25.0	110		ug/L		70	70 - 130	4	20
Trichlorofluoromethane	2.0		25.0	25.6		ug/L		94	60 - 150	3	25
Vinyl acetate	ND		25.0	23.5		ug/L		94	23 - 150	0	30
Vinyl chloride	ND		25.0	22.5		ug/L		90	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	24.4		ug/L		97	70 - 131	7	25
2-Butanone (MEK)	ND		25.0	24.0		ug/L		96	48 - 140	2	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	25.1		ug/L		101	52 - 150	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: 440-205542-A-7 MSD
Matrix: Water
Analysis Batch: 463585

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132

Lab Sample ID: MB 440-463655/4
Matrix: Water
Analysis Batch: 463655

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			03/15/18 08:37	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/15/18 08:37	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/15/18 08:37	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/15/18 08:37	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/15/18 08:37	1
2-Hexanone	ND		5.0	2.5	ug/L			03/15/18 08:37	1
Acetone	ND		20	10	ug/L			03/15/18 08:37	1
Acetonitrile	ND		20	10	ug/L			03/15/18 08:37	1
Acrolein	ND		5.0	2.5	ug/L			03/15/18 08:37	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/15/18 08:37	1
Benzene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Allyl chloride	ND		1.0	0.50	ug/L			03/15/18 08:37	1
Bromoform	ND		1.0	0.40	ug/L			03/15/18 08:37	1
Bromomethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/18 08:37	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Chloroethane	ND		1.0	0.40	ug/L			03/15/18 08:37	1
Chloroform	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Chloromethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Dibromomethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/15/18 08:37	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: MB 440-463655/4
Matrix: Water
Analysis Batch: 463655

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 08:37	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Iodomethane	ND		2.0	1.0	ug/L			03/15/18 08:37	1
Isobutyl alcohol	ND		25	13	ug/L			03/15/18 08:37	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/15/18 08:37	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/15/18 08:37	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/15/18 08:37	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/15/18 08:37	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Naphthalene	ND		1.0	0.40	ug/L			03/15/18 08:37	1
o-Xylene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Propionitrile	ND		20	10	ug/L			03/15/18 08:37	1
Styrene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
t-Butanol	ND		10	5.0	ug/L			03/15/18 08:37	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/15/18 08:37	1
Toluene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/15/18 08:37	1
Trichloroethene	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/15/18 08:37	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/15/18 08:37	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/15/18 08:37	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/15/18 08:37	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/15/18 08:37	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/15/18 08:37	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L					03/15/18 08:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/15/18 08:37	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/15/18 08:37	1
Dibromofluoromethane (Surr)	96		76 - 132		03/15/18 08:37	1

Lab Sample ID: LCS 440-463655/5
Matrix: Water
Analysis Batch: 463655

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	25.1		ug/L		101	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.3		ug/L		109	60 - 141
1,1,1-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1,1,2-Tetrachloroethane	25.0	23.8		ug/L		95	63 - 130
1,1,2-Trichloroethane	25.0	25.2		ug/L		101	70 - 130
1,1-Dichloroethane	25.0	22.2		ug/L		89	64 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: LCS 440-463655/5

Matrix: Water

Analysis Batch: 463655

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloropropene	25.0	24.0		ug/L		96	70 - 130
1,2,4-Trichlorobenzene	25.0	27.6		ug/L		110	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.6		ug/L		98	52 - 140
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	22.9		ug/L		91	57 - 138
1,2-Dichloropropane	25.0	22.7		ug/L		91	67 - 130
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
1,3-Dichloropropane	25.0	23.5		ug/L		94	70 - 130
1,4-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
2,2-Dichloropropane	25.0	24.2		ug/L		97	68 - 141
2-Hexanone	25.0	28.0		ug/L		112	10 - 150
Acetone	25.0	25.0		ug/L		100	10 - 150
Acrolein	25.0	22.7		ug/L		91	10 - 145
Acrylonitrile	25.0	24.2		ug/L		97	48 - 140
Benzene	25.0	23.3		ug/L		93	68 - 130
Bromoform	25.0	26.5		ug/L		106	60 - 148
Bromomethane	25.0	22.4		ug/L		90	64 - 139
Carbon disulfide	25.0	22.4		ug/L		90	52 - 136
Carbon tetrachloride	25.0	25.2		ug/L		101	60 - 150
Chlorobenzene	25.0	24.0		ug/L		96	70 - 130
Bromochloromethane	25.0	24.5		ug/L		98	70 - 130
Chloroethane	25.0	22.3		ug/L		89	64 - 135
Chloroform	25.0	22.5		ug/L		90	70 - 130
Chloromethane	25.0	19.3		ug/L		77	47 - 140
cis-1,2-Dichloroethene	25.0	22.9		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	24.1		ug/L		96	70 - 133
Dibromochloromethane	25.0	26.3		ug/L		105	69 - 145
Dibromomethane	25.0	23.6		ug/L		94	70 - 130
Bromodichloromethane	25.0	23.0		ug/L		92	70 - 132
Dichlorodifluoromethane	25.0	17.8		ug/L		71	29 - 150
Ethylbenzene	25.0	25.3		ug/L		101	70 - 130
m,p-Xylene	25.0	26.5		ug/L		106	70 - 130
Methylene Chloride	25.0	20.1		ug/L		80	52 - 130
Methyl tert-butyl ether	25.0	22.6		ug/L		90	63 - 131
Naphthalene	25.0	27.6		ug/L		110	60 - 140
o-Xylene	25.0	25.9		ug/L		104	70 - 130
Styrene	25.0	25.9		ug/L		104	70 - 134
t-Butanol	25.0	27.1		ug/L		108	70 - 130
Tetrachloroethene	25.0	27.1		ug/L		108	70 - 130
Toluene	25.0	25.2		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	23.4		ug/L		94	70 - 132
Trichloroethene	25.0	25.2		ug/L		101	70 - 130
Trichlorofluoromethane	25.0	24.1		ug/L		96	60 - 150
Vinyl acetate	25.0	24.2		ug/L		97	48 - 140
Vinyl chloride	25.0	20.6		ug/L		82	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: LCS 440-463655/5
Matrix: Water
Analysis Batch: 463655

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Butanone (MEK)	25.0	24.3		ug/L		97	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	26.8		ug/L		107	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

Lab Sample ID: 440-205621-B-1 MS
Matrix: Water
Analysis Batch: 463655

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	25.3		ug/L		101	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	26.8		ug/L		107	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	23.7		ug/L		95	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.0		ug/L		100	70 - 130
1,1-Dichloroethane	28		25.0	51.8		ug/L		95	65 - 130
1,1-Dichloroethene	180		25.0	194	4	ug/L		46	70 - 130
1,1-Dichloropropene	ND		25.0	25.2		ug/L		101	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	29.6		ug/L		118	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	23.7		ug/L		95	48 - 140
1,2-Dichlorobenzene	ND		25.0	27.6		ug/L		111	70 - 130
1,2-Dichloroethane	ND		25.0	24.5		ug/L		98	56 - 146
1,2-Dichloropropane	ND		25.0	24.2		ug/L		97	69 - 130
1,3-Dichlorobenzene	ND		25.0	27.7		ug/L		111	70 - 130
1,3-Dichloropropane	ND		25.0	23.7		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		25.0	27.3		ug/L		109	70 - 130
2,2-Dichloropropane	ND		25.0	26.7		ug/L		107	69 - 138
2-Hexanone	ND		25.0	26.1		ug/L		104	10 - 150
Acetone	ND		25.0	24.0		ug/L		96	10 - 150
Acrolein	ND		25.0	23.5		ug/L		94	10 - 147
Acrylonitrile	ND		250	251		ug/L		100	38 - 144
Benzene	ND		25.0	25.0		ug/L		100	66 - 130
Bromoform	ND		25.0	25.6		ug/L		103	59 - 150
Bromomethane	ND		25.0	23.8		ug/L		95	62 - 131
Carbon disulfide	ND		25.0	23.3		ug/L		93	49 - 140
Carbon tetrachloride	ND		25.0	27.1		ug/L		108	60 - 150
Chlorobenzene	ND		25.0	23.6		ug/L		95	70 - 130
Bromochloromethane	ND		25.0	26.9		ug/L		108	70 - 130
Chloroethane	ND		25.0	23.8		ug/L		95	68 - 130
Chloroform	0.48	J	25.0	24.6		ug/L		97	70 - 130
Chloromethane	ND		25.0	21.6		ug/L		87	39 - 144
cis-1,2-Dichloroethene	4.7		25.0	29.6		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		25.0	24.1		ug/L		96	70 - 133
Dibromochloromethane	ND		25.0	26.0		ug/L		104	70 - 148
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: 440-205621-B-1 MS
Matrix: Water
Analysis Batch: 463655

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
Bromodichloromethane	ND		25.0	24.7		ug/L		99	70 - 138
Dichlorodifluoromethane	ND		25.0	20.3		ug/L		81	25 - 142
Ethylbenzene	ND		25.0	25.2		ug/L		101	70 - 130
m,p-Xylene	ND		25.0	26.6		ug/L		106	70 - 133
Methylene Chloride	ND		25.0	20.8		ug/L		83	52 - 130
Methyl tert-butyl ether	0.48	J	25.0	24.8		ug/L		97	70 - 130
Naphthalene	ND		25.0	28.1		ug/L		113	60 - 140
o-Xylene	ND		25.0	26.0		ug/L		104	70 - 133
Styrene	ND		25.0	25.6		ug/L		102	29 - 150
t-Butanol	ND	F1	250	373	F1	ug/L		149	70 - 130
Tetrachloroethene	23		25.0	48.3		ug/L		102	70 - 137
Toluene	ND		25.0	25.5		ug/L		102	70 - 130
trans-1,2-Dichloroethene	0.30	J	25.0	25.5		ug/L		101	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.0		ug/L		96	70 - 138
Trichloroethene	13		25.0	40.1		ug/L		109	70 - 130
Trichlorofluoromethane	0.75		25.0	26.4		ug/L		103	60 - 150
Vinyl acetate	ND		25.0	26.0		ug/L		104	23 - 150
Vinyl chloride	ND		25.0	22.7		ug/L		91	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	24.3		ug/L		97	70 - 131
2-Butanone (MEK)	ND		25.0	23.9		ug/L		96	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	25.6		ug/L		102	52 - 150
		MS MS							
Surrogate		%Recovery	Qualifier	Limits					
<i>Toluene-d8 (Surr)</i>		100		80 - 128					
<i>4-Bromofluorobenzene (Surr)</i>		92		80 - 120					
<i>Dibromofluoromethane (Surr)</i>		100		76 - 132					

Lab Sample ID: 440-205621-B-1 MSD
Matrix: Water
Analysis Batch: 463655

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	2	30
1,1,1,2-Tetrachloroethane	ND		25.0	29.1		ug/L		116	60 - 149	8	20
1,1,1-Trichloroethane	ND		25.0	25.4		ug/L		102	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	63 - 130	4	30
1,1,2-Trichloroethane	ND		25.0	25.9		ug/L		103	70 - 130	3	25
1,1-Dichloroethane	28		25.0	51.0		ug/L		92	65 - 130	2	20
1,1-Dichloroethene	180		25.0	191	4	ug/L		34	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	25.2		ug/L		101	64 - 130	0	20
1,2,4-Trichlorobenzene	ND		25.0	29.7		ug/L		119	60 - 140	0	20
1,2-Dibromo-3-Chloropropane	ND		25.0	25.2		ug/L		101	48 - 140	6	30
1,2-Dichlorobenzene	ND		25.0	28.3		ug/L		113	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	24.6		ug/L		98	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	24.2		ug/L		97	69 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	27.2		ug/L		109	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	25.2		ug/L		101	70 - 130	6	25
1,4-Dichlorobenzene	ND		25.0	28.0		ug/L		112	70 - 130	2	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: 440-205621-B-1 MSD
Matrix: Water
Analysis Batch: 463655

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
2,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 138	3	25
2-Hexanone	ND		25.0	28.6		ug/L		115	10 - 150	9	35
Acetone	ND		25.0	26.6		ug/L		106	10 - 150	10	35
Acrolein	ND		25.0	22.9		ug/L		91	10 - 147	3	40
Acrylonitrile	ND		250	253		ug/L		101	38 - 144	1	40
Benzene	ND		25.0	25.1		ug/L		100	66 - 130	0	20
Bromoform	ND		25.0	27.9		ug/L		112	59 - 150	8	25
Bromomethane	ND		25.0	24.0		ug/L		96	62 - 131	1	25
Carbon disulfide	ND		25.0	23.0		ug/L		92	49 - 140	2	20
Carbon tetrachloride	ND		25.0	27.0		ug/L		108	60 - 150	0	25
Chlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	7	20
Bromochloromethane	ND		25.0	26.5		ug/L		106	70 - 130	2	25
Chloroethane	ND		25.0	23.5		ug/L		94	68 - 130	1	25
Chloroform	0.48	J	25.0	24.8		ug/L		97	70 - 130	1	20
Chloromethane	ND		25.0	21.8		ug/L		87	39 - 144	1	25
cis-1,2-Dichloroethene	4.7		25.0	29.4		ug/L		99	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	25.3		ug/L		101	70 - 133	5	20
Dibromochloromethane	ND		25.0	27.7		ug/L		111	70 - 148	6	25
Dibromomethane	ND		25.0	25.4		ug/L		101	70 - 130	0	25
Bromodichloromethane	ND		25.0	24.9		ug/L		100	70 - 138	1	20
Dichlorodifluoromethane	ND		25.0	21.0		ug/L		84	25 - 142	3	30
Ethylbenzene	ND		25.0	26.7		ug/L		107	70 - 130	6	20
m,p-Xylene	ND		25.0	28.6		ug/L		114	70 - 133	7	25
Methylene Chloride	ND		25.0	22.0		ug/L		88	52 - 130	6	20
Methyl tert-butyl ether	0.48	J	25.0	25.0		ug/L		98	70 - 130	1	25
Naphthalene	ND		25.0	29.2		ug/L		117	60 - 140	4	30
o-Xylene	ND		25.0	27.7		ug/L		111	70 - 133	7	20
Styrene	ND		25.0	27.2		ug/L		109	29 - 150	6	35
t-Butanol	ND	F1	250	373	F1	ug/L		149	70 - 130	0	25
Tetrachloroethene	23		25.0	49.8		ug/L		108	70 - 137	3	20
Toluene	ND		25.0	26.8		ug/L		107	70 - 130	5	20
trans-1,2-Dichloroethene	0.30	J	25.0	25.4		ug/L		101	70 - 130	0	20
trans-1,3-Dichloropropene	ND		25.0	25.1		ug/L		100	70 - 138	4	25
Trichloroethene	13		25.0	39.5		ug/L		107	70 - 130	1	20
Trichlorofluoromethane	0.75		25.0	26.5		ug/L		103	60 - 150	0	25
Vinyl acetate	ND		25.0	26.2		ug/L		105	23 - 150	1	30
Vinyl chloride	ND		25.0	23.3		ug/L		93	50 - 137	3	30
1,2-Dibromoethane (EDB)	ND		25.0	25.8		ug/L		103	70 - 131	6	25
2-Butanone (MEK)	ND		25.0	26.0		ug/L		104	48 - 140	8	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.9		ug/L		112	52 - 150	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: MB 440-463676/1-A
Matrix: Water
Analysis Batch: 464234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463676

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		03/15/18 07:09	03/17/18 19:06	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	76		30 - 120				03/15/18 07:09	03/17/18 19:06	1

Lab Sample ID: LCS 440-463676/2-A
Matrix: Water
Analysis Batch: 464234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463676

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
1,4-Dioxane	1.93	1.28		ug/L		66	35 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits				%Rec.		
1,4-Dioxane-d8 (Surr)	66		30 - 120						

Lab Sample ID: LCSD 440-463676/3-A
Matrix: Water
Analysis Batch: 464234

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 463676

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	1.95	1.42		ug/L		73	35 - 120	11	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits				%Rec.	RPD	Limit
1,4-Dioxane-d8 (Surr)	73		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-463435/6
Matrix: Water
Analysis Batch: 463435

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/14/18 13:11	1

Lab Sample ID: LCS 440-463435/5
Matrix: Water
Analysis Batch: 463435

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Chloride	5.00	4.73		mg/L		95	90 - 110		

Lab Sample ID: 440-205742-C-1 MS
Matrix: Water
Analysis Batch: 463435

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chloride	320	E	25.0	360	E 4	mg/L		143	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-205742-C-1 MSD
Matrix: Water
Analysis Batch: 463435

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	320	E	25.0	357	E 4	mg/L		131	80 - 120	1	20

Lab Sample ID: MB 440-463736/6
Matrix: Water
Analysis Batch: 463736

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/15/18 12:09	1

Lab Sample ID: LCS 440-463736/5
Matrix: Water
Analysis Batch: 463736

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	4.58		mg/L		92	90 - 110

Lab Sample ID: 440-205564-F-3 MS
Matrix: Water
Analysis Batch: 463736

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	42		50.0	89.8		mg/L		96	80 - 120

Lab Sample ID: 440-205564-F-3 MSD
Matrix: Water
Analysis Batch: 463736

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	42		50.0	90.6		mg/L		97	80 - 120	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-464025/1-A
Matrix: Water
Analysis Batch: 464476

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 464025

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		03/16/18 12:45	03/19/18 12:50	1

Lab Sample ID: LCS 440-464025/2-A
Matrix: Water
Analysis Batch: 464476

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 464025

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.07		mg/L		91	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

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

Lab Sample ID: 440-205188-Q-2-B MS
Matrix: Water
Analysis Batch: 464476

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 464025
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Potassium	42		10.0	49.7	4	mg/L		72	75 - 125

Lab Sample ID: 440-205188-Q-2-C MSD
Matrix: Water
Analysis Batch: 464476

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 464025
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Potassium	42		10.0	51.1	4	mg/L		86	75 - 125	3	20

Method: 410.4 - COD

Lab Sample ID: MB 440-465353/3
Matrix: Water
Analysis Batch: 465353

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			03/22/18 13:23	1

Lab Sample ID: LCS 440-465353/4
Matrix: Water
Analysis Batch: 465353

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	201		mg/L		101	90 - 110

Lab Sample ID: 440-205642-1 MS
Matrix: Water
Analysis Batch: 465353

Client Sample ID: CM-9R3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	ND		200	194		mg/L		97	70 - 120

Lab Sample ID: 440-205642-1 MSD
Matrix: Water
Analysis Batch: 465353

Client Sample ID: CM-9R3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chemical Oxygen Demand	ND		200	192		mg/L		96	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-463908/19
Matrix: Water
Analysis Batch: 463908

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			03/15/18 13:30	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 440-463908/18
Matrix: Water
Analysis Batch: 463908

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	98.9	97.1		mg/L		98	80 - 120

Lab Sample ID: 440-205642-7 DU
Matrix: Water
Analysis Batch: 463908

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	67		66.9		mg/L		0.4	20

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

Lab Sample ID: MB 440-464196/1
Matrix: Water
Analysis Batch: 464196

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			03/17/18 09:10	1

Lab Sample ID: LCS 440-464196/2
Matrix: Water
Analysis Batch: 464196

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	970		mg/L		97	90 - 110

Lab Sample ID: 440-205564-Q-11 DU
Matrix: Water
Analysis Batch: 464196

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	83		83.0		mg/L		0	5

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-464353/2-A
Matrix: Water
Analysis Batch: 464370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1

Lab Sample ID: LCS 440-464353/1-A
Matrix: Water
Analysis Batch: 464370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.36		mg/L		95	85 - 115

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205642-1

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: 440-205642-2 MS
Matrix: Water
Analysis Batch: 464370

Client Sample ID: CM-10R
Prep Type: Total/NA
Prep Batch: 464353
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	10		12.5	22.0		mg/L		94	75 - 125

Lab Sample ID: 440-205642-2 MSD
Matrix: Water
Analysis Batch: 464370

Client Sample ID: CM-10R
Prep Type: Total/NA
Prep Batch: 464353
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ammonia (as N)	10		12.5	21.2		mg/L		88	75 - 125	4	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-463639/8
Matrix: Water
Analysis Batch: 463639

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			03/14/18 14:38	1

Lab Sample ID: LCS 440-463639/7
Matrix: Water
Analysis Batch: 463639

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon	10.0	9.99		mg/L		100	90 - 110

Lab Sample ID: MRL 440-463639/4
Matrix: Water
Analysis Batch: 463639

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon	0.100	0.103		mg/L		103	50 - 150

Lab Sample ID: 440-205642-3 MS
Matrix: Water
Analysis Batch: 463639

Client Sample ID: CM-11R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon	5.0		10.0	15.7		mg/L		108	80 - 120

Lab Sample ID: 440-205642-3 MSD
Matrix: Water
Analysis Batch: 463639

Client Sample ID: CM-11R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Organic Carbon	5.0		10.0	14.6		mg/L		96	80 - 120	7	20

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205642-1

GC/MS VOA

Analysis Batch: 463430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	8260B	
440-205642-2	CM-10R	Total/NA	Water	8260B	
440-205642-3	CM-11R	Total/NA	Water	8260B	
440-205642-4	PZ-4	Total/NA	Water	8260B	
440-205642-5	Subdrain (N)	Total/NA	Water	8260B	
440-205642-6	Combined Subdrains	Total/NA	Water	8260B	
440-205642-7	Duplicate	Total/NA	Water	8260B	
440-205642-8	QCAB	Total/NA	Water	8260B	
440-205642-9	QCTB	Total/NA	Water	8260B	
MB 440-463430/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463430/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-463430/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-205642-1 MS	CM-9R3	Total/NA	Water	8260B	
440-205642-1 MSD	CM-9R3	Total/NA	Water	8260B	

Analysis Batch: 463585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	8260B	
440-205642-2	CM-10R	Total/NA	Water	8260B	
440-205642-3	CM-11R	Total/NA	Water	8260B	
440-205642-4	PZ-4	Total/NA	Water	8260B	
440-205642-5	Subdrain (N)	Total/NA	Water	8260B	
MB 440-463585/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463585/5	Lab Control Sample	Total/NA	Water	8260B	
440-205542-A-7 MS	Matrix Spike	Total/NA	Water	8260B	
440-205542-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 463655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-6	Combined Subdrains	Total/NA	Water	8260B	
440-205642-7	Duplicate	Total/NA	Water	8260B	
440-205642-8	QCAB	Total/NA	Water	8260B	
440-205642-9	QCTB	Total/NA	Water	8260B	
MB 440-463655/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463655/5	Lab Control Sample	Total/NA	Water	8260B	
440-205621-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-205621-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 463676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	3520C	
440-205642-2	CM-10R	Total/NA	Water	3520C	
440-205642-3	CM-11R	Total/NA	Water	3520C	
440-205642-4	PZ-4	Total/NA	Water	3520C	
440-205642-5	Subdrain (N)	Total/NA	Water	3520C	
440-205642-6	Combined Subdrains	Total/NA	Water	3520C	
440-205642-7	Duplicate	Total/NA	Water	3520C	
MB 440-463676/1-A	Method Blank	Total/NA	Water	3520C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205642-1

GC/MS Semi VOA (Continued)

Prep Batch: 463676 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-463676/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-463676/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 464234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	8270C	463676
440-205642-2	CM-10R	Total/NA	Water	8270C	463676
440-205642-3	CM-11R	Total/NA	Water	8270C	463676
440-205642-4	PZ-4	Total/NA	Water	8270C	463676
440-205642-5	Subdrain (N)	Total/NA	Water	8270C	463676
440-205642-6	Combined Subdrains	Total/NA	Water	8270C	463676
440-205642-7	Duplicate	Total/NA	Water	8270C	463676
MB 440-463676/1-A	Method Blank	Total/NA	Water	8270C	463676
LCS 440-463676/2-A	Lab Control Sample	Total/NA	Water	8270C	463676
LCSD 440-463676/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	463676

HPLC/IC

Analysis Batch: 463435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-5	Subdrain (N)	Total/NA	Water	300.0	
440-205642-6	Combined Subdrains	Total/NA	Water	300.0	
MB 440-463435/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463435/5	Lab Control Sample	Total/NA	Water	300.0	
440-205742-C-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-205742-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 463736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	300.0	
440-205642-2	CM-10R	Total/NA	Water	300.0	
440-205642-3	CM-11R	Total/NA	Water	300.0	
440-205642-4	PZ-4	Total/NA	Water	300.0	
440-205642-7	Duplicate	Total/NA	Water	300.0	
MB 440-463736/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463736/5	Lab Control Sample	Total/NA	Water	300.0	
440-205564-F-3 MS	Matrix Spike	Total/NA	Water	300.0	
440-205564-F-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 464025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total Recoverable	Water	3005A	
440-205642-2	CM-10R	Total Recoverable	Water	3005A	
440-205642-3	CM-11R	Total Recoverable	Water	3005A	
440-205642-4	PZ-4	Total Recoverable	Water	3005A	
440-205642-5	Subdrain (N)	Total Recoverable	Water	3005A	
440-205642-6	Combined Subdrains	Total Recoverable	Water	3005A	
440-205642-7	Duplicate	Total Recoverable	Water	3005A	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205642-1

Metals (Continued)

Prep Batch: 464025 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-464025/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-464025/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-205188-Q-2-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-205188-Q-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 464476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total Recoverable	Water	6010B	464025
440-205642-2	CM-10R	Total Recoverable	Water	6010B	464025
440-205642-3	CM-11R	Total Recoverable	Water	6010B	464025
440-205642-4	PZ-4	Total Recoverable	Water	6010B	464025
440-205642-5	Subdrain (N)	Total Recoverable	Water	6010B	464025
440-205642-6	Combined Subdrains	Total Recoverable	Water	6010B	464025
440-205642-7	Duplicate	Total Recoverable	Water	6010B	464025
MB 440-464025/1-A	Method Blank	Total Recoverable	Water	6010B	464025
LCS 440-464025/2-A	Lab Control Sample	Total Recoverable	Water	6010B	464025
440-205188-Q-2-B MS	Matrix Spike	Total Recoverable	Water	6010B	464025
440-205188-Q-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	464025

General Chemistry

Analysis Batch: 463639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	SM 5310C	
440-205642-2	CM-10R	Total/NA	Water	SM 5310C	
440-205642-3	CM-11R	Total/NA	Water	SM 5310C	
440-205642-4	PZ-4	Total/NA	Water	SM 5310C	
440-205642-5	Subdrain (N)	Total/NA	Water	SM 5310C	
440-205642-6	Combined Subdrains	Total/NA	Water	SM 5310C	
440-205642-7	Duplicate	Total/NA	Water	SM 5310C	
MB 440-463639/8	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-463639/7	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-463639/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-205642-3 MS	CM-11R	Total/NA	Water	SM 5310C	
440-205642-3 MSD	CM-11R	Total/NA	Water	SM 5310C	

Analysis Batch: 463908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	SM 2320B	
440-205642-2	CM-10R	Total/NA	Water	SM 2320B	
440-205642-3	CM-11R	Total/NA	Water	SM 2320B	
440-205642-4	PZ-4	Total/NA	Water	SM 2320B	
440-205642-5	Subdrain (N)	Total/NA	Water	SM 2320B	
440-205642-6	Combined Subdrains	Total/NA	Water	SM 2320B	
440-205642-7	Duplicate	Total/NA	Water	SM 2320B	
MB 440-463908/19	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-463908/18	Lab Control Sample	Total/NA	Water	SM 2320B	
440-205642-7 DU	Duplicate	Total/NA	Water	SM 2320B	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205642-1

General Chemistry (Continued)

Analysis Batch: 464196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	SM 2540C	
440-205642-2	CM-10R	Total/NA	Water	SM 2540C	
440-205642-3	CM-11R	Total/NA	Water	SM 2540C	
440-205642-4	PZ-4	Total/NA	Water	SM 2540C	
440-205642-5	Subdrain (N)	Total/NA	Water	SM 2540C	
440-205642-6	Combined Subdrains	Total/NA	Water	SM 2540C	
440-205642-7	Duplicate	Total/NA	Water	SM 2540C	
MB 440-464196/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-464196/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-205564-Q-11 DU	Duplicate	Total/NA	Water	SM 2540C	

Prep Batch: 464353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	SM 4500 NH3 B	
440-205642-2	CM-10R	Total/NA	Water	SM 4500 NH3 B	
440-205642-3	CM-11R	Total/NA	Water	SM 4500 NH3 B	
440-205642-4	PZ-4	Total/NA	Water	SM 4500 NH3 B	
440-205642-5	Subdrain (N)	Total/NA	Water	SM 4500 NH3 B	
440-205642-6	Combined Subdrains	Total/NA	Water	SM 4500 NH3 B	
440-205642-7	Duplicate	Total/NA	Water	SM 4500 NH3 B	
MB 440-464353/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-464353/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-205642-2 MS	CM-10R	Total/NA	Water	SM 4500 NH3 B	
440-205642-2 MSD	CM-10R	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 464370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-2	CM-10R	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-3	CM-11R	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-4	PZ-4	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-5	Subdrain (N)	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-6	Combined Subdrains	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-7	Duplicate	Total/NA	Water	SM 4500 NH3 D	464353
MB 440-464353/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	464353
LCS 440-464353/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-2 MS	CM-10R	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-2 MSD	CM-10R	Total/NA	Water	SM 4500 NH3 D	464353

Analysis Batch: 465353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1	CM-9R3	Total/NA	Water	410.4	
440-205642-2	CM-10R	Total/NA	Water	410.4	
440-205642-3	CM-11R	Total/NA	Water	410.4	
440-205642-4	PZ-4	Total/NA	Water	410.4	
440-205642-5	Subdrain (N)	Total/NA	Water	410.4	
440-205642-6	Combined Subdrains	Total/NA	Water	410.4	
440-205642-7	Duplicate	Total/NA	Water	410.4	
MB 440-465353/3	Method Blank	Total/NA	Water	410.4	
LCS 440-465353/4	Lab Control Sample	Total/NA	Water	410.4	
440-205642-1 MS	CM-9R3	Total/NA	Water	410.4	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205642-1

General Chemistry (Continued)

Analysis Batch: 465353 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205642-1 MSD	CM-9R3	Total/NA	Water	410.4	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Definitions/Glossary

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

TestAmerica Job ID: 440-205642-1

Qualifiers

GC/MS VOA

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

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 440-205642-1

Laboratory: TestAmerica Irvine


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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18 *
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18
Nevada	State Program	9	CA015312018-1	07-31-18
New Mexico	State Program	6	N/A	01-29-19
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

Regulatory Program: DW NPDES RCRA Other: _____

Client Contact		Project Manager: Kyle Welton		Site Contact: Josh Mills		Date: 3-12-18		COC No.:	
Company Name: Geologic/Republic		Tel/Fax: 858-451-1137		Lab Contact: Ross W. A		Carrier: T/A		Sampler: AS, RS	
Address: 11415 Camino Bernardo Ct.		Analysis Turnaround Time		Performs MS/MSD (Y/N)		Filtered Sample (Y/N)		For Lab Use Only:	
City/State/Zip: San Diego, CA 92127		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS						Walk-in Client:	
Phone: 858-451-1137		TAT if different from Below						Lab Sampling:	
Fax: 858-451-1057		<input type="checkbox"/> 2 weeks						Job / SDG No.:	
Project Name: Republic Services		<input type="checkbox"/> 1 week						Metal are not field filtered.	
Site: Sunshine Cyn Landfill II		<input type="checkbox"/> 2 days						Sample Specific Notes:	
PO # 44007881		<input type="checkbox"/> 1 day						VOC'S S760 includes NO. CE. 25.5	
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.				
CM-9R3	3/12/18	125	CA	CAW	12	X	X	X	X
CM-1DR		0900			12	X	X	X	X
CM-1LR		1310			12	X	X	X	X
PZ-4		1052			12	X	X	X	X
substrain (N)		1348			12	X	X	X	X
Combined subtrains		1425			12	X	X	X	X
Duplicate									
GC AB									
QC TB									
									
440-205642 Chain of Custody									
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other									
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.									
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown									
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C)-Obs'd:		Corrd.:		Therm ID No.:	
Relinquished by: [Signature]		Company: Geo-logic		Received by: [Signature]		Company: TAIRV		Date/Time: 3-12-18 1620	
Relinquished by: [Signature]		Company: [Signature]		Received by: [Signature]		Company: [Signature]		Date/Time:	
Relinquished by: [Signature]		Company: [Signature]		Received in Laboratory by: [Signature]		Company: TAIRV		Date/Time: 3/12/18 20:00	

2 3/13

IR-87-2.6/2.6
1.1/1.5

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-205642-1

Login Number: 205642

List Number: 1

Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-205737-1

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:

3/27/2018 10:42:27 AM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	5
Method Summary	27
Lab Chronicle	28
QC Sample Results	32
QC Association Summary	49
Definitions/Glossary	54
Certification Summary	55
Chain of Custody	56
Receipt Checklists	57

Sample Summary

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

TestAmerica Job ID: 440-205737-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-205737-1	DW-1	Water	03/13/18 08:58	03/13/18 18:30
440-205737-2	DW-2	Water	03/13/18 10:50	03/13/18 18:30
440-205737-3	DW-3	Water	03/13/18 13:45	03/13/18 18:30
440-205737-4	MW-5	Water	03/13/18 09:44	03/13/18 18:30
440-205737-5	MW-6	Water	03/13/18 11:45	03/13/18 18:30
440-205737-6	MW-9	Water	03/13/18 13:50	03/13/18 18:30
440-205737-7	MW-14	Water	03/13/18 10:00	03/13/18 18:30
440-205737-8	PZ-2	Water	03/13/18 08:15	03/13/18 18:30
440-205737-9	QCAB	Water	03/13/18 00:01	03/13/18 18:30
440-205737-10	QCTB	Water	03/13/18 00:01	03/13/18 18:30



Case Narrative

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

TestAmerica Job ID: 440-205737-1

Job ID: 440-205737-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-205737-1

Comments

No additional comments.

Receipt

The samples were received on 3/13/2018 6:30 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, 2.2° C and 3.1° C.

GC/MS VOA

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

GC/MS Semi VOA

Method(s) 8270C: The following sample required a dilution due to the nature of the sample matrix: MW-9 (440-205737-6). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-9 (440-205737-6). Elevated reporting limits (RLs) are provided.

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

HPLC/IC

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

Metals

Method(s) 6010B: The method blank for preparation batch 440-464267 and analytical batch 440-464462 contained Potassium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6010B: The method blank for preparation batch 440-464267 and analytical batch 440-464622 contained Potassium above the method detection limit, but less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

General Chemistry

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_8270-1,4 Dioxane preparation/analysis: MW-6 (440-205737-5).

Method(s) 3520C/8270 SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-464372.

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: 440-205737-1

Client Sample ID: DW-1
Date Collected: 03/13/18 08:58
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-1
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			03/19/18 09:20	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Acrolein	ND		50	2.5	ug/L			03/15/18 13:16	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 13:16	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 09:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 09:20	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 09:20	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 09:20	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 09:20	1
Acetone	ND		20	10	ug/L			03/19/18 09:20	1
Acetonitrile	ND		20	10	ug/L			03/19/18 09:20	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 09:20	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 09:20	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 09:20	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 09:20	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 09:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 09:20	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 09:20	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 09:20	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 09:20	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 09:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 09:20	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 09:20	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 09:20	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-1
Date Collected: 03/13/18 08:58
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 09:20	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 09:20	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Propionitrile	ND		20	10	ug/L			03/19/18 09:20	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 09:20	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 09:20	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 09:20	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 09:20	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 09:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 09:20	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 09:20	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 09:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 09:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					03/19/18 09:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 13:16	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/15/18 13:16	1
Toluene-d8 (Surr)	107		80 - 128		03/19/18 09:20	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/19/18 09:20	1
Dibromofluoromethane (Surr)	100		76 - 132		03/15/18 13:16	1
Dibromofluoromethane (Surr)	110		76 - 132		03/19/18 09:20	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		03/19/18 08:36	03/20/18 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	81		30 - 120	03/19/18 08:36	03/20/18 20:09	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			03/17/18 01:32	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	2.6	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 12:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 14:47	1
Total Dissolved Solids	3200		50	25	mg/L			03/20/18 09:24	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-1
Date Collected: 03/13/18 08:58
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-1
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.3		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	3.4		0.10	0.050	mg/L			03/14/18 12:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	520		4.0	4.0	mg/L			03/14/18 09:36	1

Client Sample ID: DW-2
Date Collected: 03/13/18 10:50
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-2
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			03/19/18 10:49	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Acrolein	ND		50	2.5	ug/L			03/15/18 13:41	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 13:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 10:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 10:49	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 10:49	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 10:49	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 10:49	1
Acetone	ND		20	10	ug/L			03/19/18 10:49	1
Acetonitrile	ND		20	10	ug/L			03/19/18 10:49	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 10:49	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 10:49	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 10:49	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 10:49	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 10:49	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 10:49	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 10:49	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-2

Lab Sample ID: 440-205737-2

Date Collected: 03/13/18 10:50

Matrix: Water

Date Received: 03/13/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 10:49	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 10:49	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 10:49	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 10:49	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 10:49	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 10:49	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 10:49	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 10:49	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 10:49	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Propionitrile	ND		20	10	ug/L			03/19/18 10:49	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 10:49	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 10:49	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 10:49	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 10:49	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 10:49	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 10:49	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 10:49	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 10:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 10:49	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.6	T J	ug/L		4.67			03/19/18 10:49	1
Unknown	9.7	T J	ug/L		6.09			03/19/18 10:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 13:41	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/15/18 13:41	1
Toluene-d8 (Surr)	101		80 - 128		03/19/18 10:49	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/19/18 10:49	1
Dibromofluoromethane (Surr)	97		76 - 132		03/15/18 13:41	1
Dibromofluoromethane (Surr)	116		76 - 132		03/19/18 10:49	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			03/20/18 22:58	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.5	T J	ug/L		7.21			03/20/18 22:58	1
Unknown	7.1	T J	ug/L		16.53			03/20/18 22:58	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-2
Date Collected: 03/13/18 10:50
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		03/20/18 22:58	1
4-Bromofluorobenzene (Surr)	107		80 - 120		03/20/18 22:58	1
Dibromofluoromethane (Surr)	104		76 - 132		03/20/18 22:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.24	ug/L		03/19/18 08:36	03/20/18 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	73		30 - 120	03/19/18 08:36	03/20/18 20:31	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		2.5	1.3	mg/L			03/17/18 01:47	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.3	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 14:47	1
Total Dissolved Solids	2000		20	10	mg/L			03/20/18 09:24	1
Ammonia (as N)	3.5		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	1.7		0.10	0.050	mg/L			03/14/18 12:52	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		4.0	4.0	mg/L			03/14/18 09:58	1

Client Sample ID: DW-3
Date Collected: 03/13/18 13:45
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-3
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			03/19/18 11:18	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Acrolein	ND		50	2.5	ug/L			03/15/18 14:07	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 14:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 11:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 11:18	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 11:18	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-3
Date Collected: 03/13/18 13:45
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 11:18	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 11:18	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 11:18	1
Acetone	ND		20	10	ug/L			03/19/18 11:18	1
Acetonitrile	ND		20	10	ug/L			03/19/18 11:18	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 11:18	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 11:18	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 11:18	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 11:18	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 11:18	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 11:18	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 11:18	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 11:18	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 11:18	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 11:18	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 11:18	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 11:18	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 11:18	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 11:18	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 11:18	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Propionitrile	ND		20	10	ug/L			03/19/18 11:18	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 11:18	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 11:18	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 11:18	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 11:18	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 11:18	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 11:18	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-3
Date Collected: 03/13/18 13:45
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-3
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			03/19/18 11:18	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 11:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 11:18	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.7	T J	ug/L		6.09			03/19/18 11:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 14:07	1
4-Bromofluorobenzene (Surr)	103		80 - 120		03/15/18 14:07	1
Toluene-d8 (Surr)	100		80 - 128		03/19/18 11:18	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/19/18 11:18	1
Dibromofluoromethane (Surr)	97		76 - 132		03/15/18 14:07	1
Dibromofluoromethane (Surr)	117		76 - 132		03/19/18 11:18	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		03/19/18 08:36	03/20/18 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	76		30 - 120	03/19/18 08:36	03/20/18 20:52	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		2.5	1.3	mg/L			03/17/18 02:01	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	8.7	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 14:48	1
Total Dissolved Solids	1900		20	10	mg/L			03/20/18 09:24	1
Ammonia (as N)	1.3		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	0.63		0.10	0.050	mg/L			03/14/18 13:03	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	160		4.0	4.0	mg/L			03/14/18 10:05	1

Client Sample ID: MW-5
Date Collected: 03/13/18 09:44
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-4
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			03/19/18 11:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Acrolein	ND		50	2.5	ug/L			03/15/18 14:33	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 14:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-5
Date Collected: 03/13/18 09:44
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-4
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			03/19/18 11:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 11:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 11:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 11:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 11:47	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 11:47	1
Acetone	ND		20	10	ug/L			03/19/18 11:47	1
Acetonitrile	ND		20	10	ug/L			03/19/18 11:47	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 11:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 11:47	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 11:47	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 11:47	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 11:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 11:47	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 11:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 11:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 11:47	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 11:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 11:47	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 11:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 11:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 11:47	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 11:47	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Propionitrile	ND		20	10	ug/L			03/19/18 11:47	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 11:47	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-5
Date Collected: 03/13/18 09:44
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butanol	ND		10	5.0	ug/L			03/19/18 11:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 11:47	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 11:47	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 11:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 11:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 11:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 11:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 11:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 11:47	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.2	T J	ug/L		4.67			03/19/18 11:47	1
Unknown	9.3	T J	ug/L		6.09			03/19/18 11:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 14:33	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/15/18 14:33	1
Toluene-d8 (Surr)	106		80 - 128		03/19/18 11:47	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/19/18 11:47	1
Dibromofluoromethane (Surr)	100		76 - 132		03/15/18 14:33	1
Dibromofluoromethane (Surr)	113		76 - 132		03/19/18 11:47	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		03/19/18 08:36	03/20/18 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	67		30 - 120	03/19/18 08:36	03/20/18 21:14	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280		100	50	mg/L			03/16/18 05:20	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	27	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	81		20	10	mg/L			03/22/18 14:48	1
Total Dissolved Solids	3700		50	25	mg/L			03/20/18 09:24	1
Ammonia (as N)	7.3		2.5	0.50	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	36		0.50	0.25	mg/L			03/14/18 17:19	5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	680		4.0	4.0	mg/L			03/14/18 10:19	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-6

Lab Sample ID: 440-205737-5

Date Collected: 03/13/18 11:45

Matrix: Water

Date Received: 03/13/18 18:30

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			03/19/18 12:29	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Acrolein	ND		50	2.5	ug/L			03/15/18 14:58	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 14:58	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 12:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 12:29	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 12:29	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 12:29	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 12:29	1
Acetone	ND		20	10	ug/L			03/19/18 12:29	1
Acetonitrile	ND		20	10	ug/L			03/19/18 12:29	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 12:29	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 12:29	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 12:29	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 12:29	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 12:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 12:29	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 12:29	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 12:29	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 12:29	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 12:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 12:29	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 12:29	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 12:29	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-6
Date Collected: 03/13/18 11:45
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 12:29	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 12:29	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Propionitrile	ND		20	10	ug/L			03/19/18 12:29	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 12:29	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 12:29	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 12:29	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 12:29	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 12:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 12:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 12:29	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 12:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 12:29	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	T J	ug/L		6.09			03/19/18 12:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 14:58	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/15/18 14:58	1
Toluene-d8 (Surr)	102		80 - 128		03/19/18 12:29	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/19/18 12:29	1
Dibromofluoromethane (Surr)	100		76 - 132		03/15/18 14:58	1
Dibromofluoromethane (Surr)	120		76 - 132		03/19/18 12:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.1	0.28	ug/L		03/19/18 08:36	03/20/18 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	76		30 - 120	03/19/18 08:36	03/20/18 21:36	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30		5.0	2.5	mg/L			03/17/18 02:16	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.8	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	17	J	20	10	mg/L			03/22/18 14:48	1
Total Dissolved Solids	3100		20	10	mg/L			03/20/18 09:24	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-6

Date Collected: 03/13/18 11:45

Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-5

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.1		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	5.6		0.10	0.050	mg/L			03/14/18 13:20	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	460		4.0	4.0	mg/L			03/14/18 10:30	1

Client Sample ID: MW-9

Date Collected: 03/13/18 13:50

Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-6

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			03/19/18 12:59	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Acrolein	ND		50	2.5	ug/L			03/15/18 15:24	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 15:24	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 12:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 12:59	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 12:59	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 12:59	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 12:59	1
Acetone	14	J	20	10	ug/L			03/19/18 12:59	1
Acetonitrile	ND		20	10	ug/L			03/19/18 12:59	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 12:59	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 12:59	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 12:59	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 12:59	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 12:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 12:59	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
cis-1,2-Dichloroethene	0.66		0.50	0.25	ug/L			03/19/18 12:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 12:59	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-9

Lab Sample ID: 440-205737-6

Date Collected: 03/13/18 13:50

Matrix: Water

Date Received: 03/13/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 12:59	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 12:59	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 12:59	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 12:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 12:59	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 12:59	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 12:59	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 12:59	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 12:59	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Propionitrile	ND		20	10	ug/L			03/19/18 12:59	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
t-Butanol	120		10	5.0	ug/L			03/19/18 12:59	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Tetrahydrofuran	17		10	5.0	ug/L			03/19/18 12:59	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 12:59	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 12:59	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 12:59	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 12:59	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 12:59	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 12:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 12:59	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.5	TJ	ug/L		2.40			03/19/18 12:59	1
Unknown	12	TJ	ug/L		4.67			03/19/18 12:59	1
Unknown	9.8	TJ	ug/L		6.09			03/19/18 12:59	1
Unknown	2.9	TJ	ug/L		8.64			03/19/18 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/15/18 15:24	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/15/18 15:24	1
Toluene-d8 (Surr)	102		80 - 128		03/19/18 12:59	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/19/18 12:59	1
Dibromofluoromethane (Surr)	101		76 - 132		03/15/18 15:24	1
Dibromofluoromethane (Surr)	116		76 - 132		03/19/18 12:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	67		21	5.2	ug/L		03/19/18 08:36	03/22/18 09:05	20

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-9
Date Collected: 03/13/18 13:50
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-6
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	49		30 - 120	03/19/18 08:36	03/22/18 09:05	20

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	700		100	50	mg/L			03/16/18 05:57	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	35	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	420		20	10	mg/L			03/22/18 14:48	1
Total Dissolved Solids	4400		100	50	mg/L			03/20/18 09:24	1
Ammonia (as N)	16		5.0	1.0	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	130		0.50	0.25	mg/L			03/14/18 17:36	5
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	1300		4.0	4.0	mg/L			03/14/18 10:51	1

Client Sample ID: MW-14
Date Collected: 03/13/18 10:00
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-7
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			03/19/18 13:28	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Acrolein	ND		50	2.5	ug/L			03/15/18 15:49	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 15:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 13:28	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 13:28	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 13:28	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 13:28	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 13:28	1
Acetone	ND		20	10	ug/L			03/19/18 13:28	1
Acetonitrile	ND		20	10	ug/L			03/19/18 13:28	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 13:28	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 13:28	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 13:28	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-14

Lab Sample ID: 440-205737-7

Date Collected: 03/13/18 10:00

Matrix: Water

Date Received: 03/13/18 18:30

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			03/19/18 13:28	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 13:28	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 13:28	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 13:28	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 13:28	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 13:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 13:28	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 13:28	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 13:28	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 13:28	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 13:28	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 13:28	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 13:28	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Propionitrile	ND		20	10	ug/L			03/19/18 13:28	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 13:28	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 13:28	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 13:28	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 13:28	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 13:28	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 13:28	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 13:28	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 13:28	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 13:28	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.7	T J	ug/L		6.09			03/19/18 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 15:49	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/15/18 15:49	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-14
Date Collected: 03/13/18 10:00
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-7
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/19/18 13:28	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/19/18 13:28	1
Dibromofluoromethane (Surr)	101		76 - 132		03/15/18 15:49	1
Dibromofluoromethane (Surr)	119		76 - 132		03/19/18 13:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.1	0.26	ug/L		03/19/18 08:36	03/20/18 22:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	72		30 - 120	03/19/18 08:36	03/20/18 22:20	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.37	J	0.50	0.25	mg/L			03/16/18 05:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	8.7	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 14:48	1
Total Dissolved Solids	4000		50	25	mg/L			03/20/18 09:24	1
Ammonia (as N)	0.58		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	7.1		0.10	0.050	mg/L			03/14/18 13:36	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	480		4.0	4.0	mg/L			03/14/18 11:02	1

Client Sample ID: PZ-2
Date Collected: 03/13/18 08:15
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-8
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			03/19/18 13:57	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Acrolein	ND		50	2.5	ug/L			03/15/18 16:15	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 16:15	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 13:57	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 13:57	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 13:57	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: PZ-2

Lab Sample ID: 440-205737-8

Date Collected: 03/13/18 08:15

Matrix: Water

Date Received: 03/13/18 18:30

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			03/19/18 13:57	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 13:57	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 13:57	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 13:57	1
Acetone	ND		20	10	ug/L			03/19/18 13:57	1
Acetonitrile	ND		20	10	ug/L			03/19/18 13:57	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 13:57	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 13:57	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 13:57	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 13:57	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 13:57	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 13:57	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 13:57	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 13:57	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 13:57	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 13:57	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 13:57	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 13:57	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 13:57	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 13:57	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 13:57	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Propionitrile	ND		20	10	ug/L			03/19/18 13:57	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 13:57	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 13:57	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 13:57	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 13:57	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 13:57	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: PZ-2

Lab Sample ID: 440-205737-8

Date Collected: 03/13/18 08:15

Matrix: Water

Date Received: 03/13/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 13:57	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 13:57	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 13:57	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 13:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 13:57	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.8	TJ	ug/L		6.09			03/19/18 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		03/15/18 16:15	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/15/18 16:15	1
Toluene-d8 (Surr)	102		80 - 128		03/19/18 13:57	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/19/18 13:57	1
Dibromofluoromethane (Surr)	102		76 - 132		03/15/18 16:15	1
Dibromofluoromethane (Surr)	120		76 - 132		03/19/18 13:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/19/18 08:36	03/20/18 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	97		30 - 120	03/19/18 08:36	03/20/18 22:42	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/16/18 05:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.8	B	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/22/18 14:48	1
Total Dissolved Solids	4100		100	50	mg/L			03/20/18 09:24	1
Ammonia (as N)	3.5		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1
Total Organic Carbon	2.7		0.10	0.050	mg/L			03/14/18 13:48	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		4.0	4.0	mg/L			03/14/18 11:15	1

Client Sample ID: QCAB

Lab Sample ID: 440-205737-9

Date Collected: 03/13/18 00:01

Matrix: Water

Date Received: 03/13/18 18:30

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			03/19/18 14:26	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Acrolein	ND		50	2.5	ug/L			03/16/18 04:53	1
Acrylonitrile	ND		50	1.0	ug/L			03/16/18 04:53	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: QCAB

Lab Sample ID: 440-205737-9

Date Collected: 03/13/18 00:01

Matrix: Water

Date Received: 03/13/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 14:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 14:26	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 14:26	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 14:26	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 14:26	1
Acetone	ND		20	10	ug/L			03/19/18 14:26	1
Acetonitrile	ND		20	10	ug/L			03/19/18 14:26	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 14:26	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 14:26	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 14:26	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 14:26	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 14:26	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 14:26	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 14:26	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 14:26	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 14:26	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 14:26	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 14:26	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 14:26	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 14:26	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 14:26	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 14:26	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 14:26	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: QCAB

Lab Sample ID: 440-205737-9

Date Collected: 03/13/18 00:01

Matrix: Water

Date Received: 03/13/18 18:30

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			03/19/18 14:26	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 14:26	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 14:26	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 14:26	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 14:26	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 14:26	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 14:26	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 14:26	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 14:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 14:26	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.6	T J	ug/L		6.09			03/19/18 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		03/16/18 04:53	1
4-Bromofluorobenzene (Surr)	107		80 - 120		03/16/18 04:53	1
Toluene-d8 (Surr)	102		80 - 128		03/19/18 14:26	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/19/18 14:26	1
Dibromofluoromethane (Surr)	103		76 - 132		03/16/18 04:53	1
Dibromofluoromethane (Surr)	120		76 - 132		03/19/18 14:26	1

Client Sample ID: QCTB

Lab Sample ID: 440-205737-10

Date Collected: 03/13/18 00:01

Matrix: Water

Date Received: 03/13/18 18:30

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			03/19/18 14:55	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Acrolein	ND		50	2.5	ug/L			03/15/18 17:05	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 17:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 14:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 14:55	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:55	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: QCTB
Date Collected: 03/13/18 00:01
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 14:55	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 14:55	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 14:55	1
Acetone	ND		20	10	ug/L			03/19/18 14:55	1
Acetonitrile	ND		20	10	ug/L			03/19/18 14:55	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 14:55	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 14:55	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 14:55	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 14:55	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 14:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 14:55	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 14:55	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 14:55	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 14:55	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 14:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 14:55	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 14:55	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 14:55	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 14:55	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 14:55	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Propionitrile	ND		20	10	ug/L			03/19/18 14:55	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 14:55	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 14:55	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 14:55	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 14:55	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 14:55	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: QCTB
Date Collected: 03/13/18 00:01
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 14:55	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 14:55	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 14:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 14:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.8	TJ	ug/L		6.09			03/19/18 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/15/18 17:05	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/15/18 17:05	1
Toluene-d8 (Surr)	101		80 - 128		03/19/18 14:55	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/19/18 14:55	1
Dibromofluoromethane (Surr)	102		76 - 132		03/15/18 17:05	1
Dibromofluoromethane (Surr)	122		76 - 132		03/19/18 14:55	1

Method Summary

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

TestAmerica Job ID: 440-205737-1

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: 440-205737-1

Client Sample ID: DW-1
Date Collected: 03/13/18 08:58
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-1
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	463656	03/15/18 13:16	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 09:20	RM	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 20:09	HN	TAL IRV
Total/NA	Analysis	300.0		10			463993	03/17/18 01:32	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464462	03/19/18 12:38	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:47	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 09:36	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463551	03/14/18 12:15	YZ	TAL IRV

Client Sample ID: DW-2
Date Collected: 03/13/18 10:50
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-2
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	RA	1	10 mL	10 mL	464789	03/20/18 22:58	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463656	03/15/18 13:41	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 10:49	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 20:31	HN	TAL IRV
Total/NA	Analysis	300.0		5			463993	03/17/18 01:47	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:22	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:47	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 09:58	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463551	03/14/18 12:52	YZ	TAL IRV

Client Sample ID: DW-3
Date Collected: 03/13/18 13:45
Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-3
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	463656	03/15/18 14:07	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 11:18	RM	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: DW-3

Lab Sample ID: 440-205737-3

Date Collected: 03/13/18 13:45

Matrix: Water

Date Received: 03/13/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			955 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 20:52	HN	TAL IRV
Total/NA	Analysis	300.0		5			463993	03/17/18 02:01	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:24	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 10:05	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463551	03/14/18 13:03	YZ	TAL IRV

Client Sample ID: MW-5

Lab Sample ID: 440-205737-4

Date Collected: 03/13/18 09:44

Matrix: Water

Date Received: 03/13/18 18:30

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	463656	03/15/18 14:33	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 11:47	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 21:14	HN	TAL IRV
Total/NA	Analysis	300.0		200			463738	03/16/18 05:20	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:30	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 10:19	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	463639	03/14/18 17:19	YZ	TAL IRV

Client Sample ID: MW-6

Lab Sample ID: 440-205737-5

Date Collected: 03/13/18 11:45

Matrix: Water

Date Received: 03/13/18 18:30

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	463656	03/15/18 14:58	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 12:29	RM	TAL IRV
Total/NA	Prep	3520C			885 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 21:36	HN	TAL IRV
Total/NA	Analysis	300.0		10			463993	03/17/18 02:16	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-6

Lab Sample ID: 440-205737-5

Date Collected: 03/13/18 11:45

Matrix: Water

Date Received: 03/13/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:32	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 10:30	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463551	03/14/18 13:20	YZ	TAL IRV

Client Sample ID: MW-9

Lab Sample ID: 440-205737-6

Date Collected: 03/13/18 13:50

Matrix: Water

Date Received: 03/13/18 18:30

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	463656	03/15/18 15:24	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 12:59	RM	TAL IRV
Total/NA	Prep	3520C			970 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		20			465234	03/22/18 09:05	HN	TAL IRV
Total/NA	Analysis	300.0		200			463738	03/16/18 05:57	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:35	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 10:51	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			5 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	463639	03/14/18 17:36	YZ	TAL IRV

Client Sample ID: MW-14

Lab Sample ID: 440-205737-7

Date Collected: 03/13/18 10:00

Matrix: Water

Date Received: 03/13/18 18:30

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	463656	03/15/18 15:49	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 13:28	RM	TAL IRV
Total/NA	Prep	3520C			950 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 22:20	HN	TAL IRV
Total/NA	Analysis	300.0		1			463727	03/16/18 05:15	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:37	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 11:02	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205737-1

Client Sample ID: MW-14

Date Collected: 03/13/18 10:00

Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-7

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	SM 2540C		1	20 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463551	03/14/18 13:36	YZ	TAL IRV

Client Sample ID: PZ-2

Date Collected: 03/13/18 08:15

Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-8

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	463656	03/15/18 16:15	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 13:57	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	464372	03/19/18 08:36	JS1	TAL IRV
Total/NA	Analysis	8270C		1			464785	03/20/18 22:42	HN	TAL IRV
Total/NA	Analysis	300.0		1			463727	03/16/18 05:30	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464267	03/18/18 07:16	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			464622	03/19/18 18:39	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465377	03/22/18 14:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463501	03/14/18 11:15	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	464654	03/20/18 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	463413	03/14/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			463445	03/14/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	463551	03/14/18 13:48	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 03/13/18 00:01

Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-9

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	463854	03/16/18 04:53	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 14:26	RM	TAL IRV

Client Sample ID: QCTB

Date Collected: 03/13/18 00:01

Date Received: 03/13/18 18:30

Lab Sample ID: 440-205737-10

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	463656	03/15/18 17:05	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 14:55	RM	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: 440-205737-1

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

Lab Sample ID: MB 440-463656/4
Matrix: Water
Analysis Batch: 463656

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			03/15/18 08:33	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 08:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		03/15/18 08:33	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/15/18 08:33	1
Dibromofluoromethane (Surr)	98		76 - 132		03/15/18 08:33	1

Lab Sample ID: LCS 440-463656/5
Matrix: Water
Analysis Batch: 463656

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	20.0	J	ug/L		80	10 - 145
Acrylonitrile	250	219		ug/L		88	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132

Lab Sample ID: LCSD 440-463656/6
Matrix: Water
Analysis Batch: 463656

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	25.0	20.5	J	ug/L		82	10 - 145	3	30
Acrylonitrile	250	221		ug/L		88	48 - 140	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: 550-99388-A-1 MS
Matrix: Water
Analysis Batch: 463656

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	19.4	J	ug/L		78	10 - 147
Acrylonitrile	ND		250	209		ug/L		83	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: 550-99388-A-1 MSD
Matrix: Water
Analysis Batch: 463656

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	19.7	J	ug/L		79	10 - 147	1	40
Acrylonitrile	ND		250	214		ug/L		86	38 - 144	3	40
Surrogate		MSD %Recovery	MSD Qualifier	Limits							
Toluene-d8 (Surr)		103		80 - 128							
4-Bromofluorobenzene (Surr)		101		80 - 120							
Dibromofluoromethane (Surr)		97		76 - 132							

Lab Sample ID: MB 440-463854/4
Matrix: Water
Analysis Batch: 463854

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acrolein	ND		50	2.5	ug/L			03/15/18 20:25	1	
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 20:25	1	
Surrogate		MB %Recovery	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)		106		80 - 128			03/15/18 20:25	1		
4-Bromofluorobenzene (Surr)		101		80 - 120			03/15/18 20:25	1		
Dibromofluoromethane (Surr)		107		76 - 132			03/15/18 20:25	1		

Lab Sample ID: LCS 440-463854/5
Matrix: Water
Analysis Batch: 463854

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits			
Acrolein	25.0	19.2	J	ug/L		77	10 - 145			
Acrylonitrile	250	247		ug/L		99	48 - 140			
Surrogate		LCS %Recovery	LCS Qualifier	Limits						
Toluene-d8 (Surr)		108		80 - 128						
4-Bromofluorobenzene (Surr)		103		80 - 120						
Dibromofluoromethane (Surr)		104		76 - 132						

Lab Sample ID: 440-205717-C-31 MS
Matrix: Water
Analysis Batch: 463854

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND		125	101	J	ug/L		81	10 - 147		
Acrylonitrile	ND		1250	1250		ug/L		100	38 - 144		
Surrogate		MS %Recovery	MS Qualifier	Limits							
Toluene-d8 (Surr)		101		80 - 128							
4-Bromofluorobenzene (Surr)		102		80 - 120							
Dibromofluoromethane (Surr)		105		76 - 132							

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: 440-205717-C-31 MSD

Matrix: Water

Analysis Batch: 463854

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		125	108	J	ug/L		86	10 - 147	7	40
Acrylonitrile	ND		1250	1250		ug/L		100	38 - 144	0	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
<i>Toluene-d8 (Surr)</i>	104		80 - 128								
<i>4-Bromofluorobenzene (Surr)</i>	107		80 - 120								
<i>Dibromofluoromethane (Surr)</i>	105		76 - 132								

Lab Sample ID: MB 440-464334/4

Matrix: Water

Analysis Batch: 464334

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			03/19/18 08:17	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 08:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 08:17	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 08:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 08:17	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 08:17	1
Acetone	ND		20	10	ug/L			03/19/18 08:17	1
Acetonitrile	ND		20	10	ug/L			03/19/18 08:17	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 08:17	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 08:17	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 08:17	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 08:17	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 08:17	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: MB 440-464334/4
Matrix: Water
Analysis Batch: 464334

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 08:17	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 08:17	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 08:17	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 08:17	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 08:17	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 08:17	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Propionitrile	ND		20	10	ug/L			03/19/18 08:17	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 08:17	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 08:17	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 08:17	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 08:17	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 08:17	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 08:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 08:17	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L					03/19/18 08:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		03/19/18 08:17	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/19/18 08:17	1
Dibromofluoromethane (Surr)	110		76 - 132		03/19/18 08:17	1

Lab Sample ID: LCS 440-464334/5
Matrix: Water
Analysis Batch: 464334

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	23.4		ug/L		94	63 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: LCS 440-464334/5

Matrix: Water

Analysis Batch: 464334

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	27.3		ug/L		109	60 - 141
1,1,1-Trichloroethane	25.0	26.5		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.5		ug/L		90	63 - 130
1,1,2-Trichloroethane	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloroethane	25.0	23.6		ug/L		95	64 - 130
1,1-Dichloroethene	25.0	23.8		ug/L		95	70 - 130
1,1-Dichloropropene	25.0	25.1		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	25.0	24.9		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		92	52 - 140
1,2-Dichlorobenzene	25.0	24.8		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	24.8		ug/L		99	57 - 138
1,2-Dichloropropane	25.0	22.2		ug/L		89	67 - 130
1,3-Dichlorobenzene	25.0	25.2		ug/L		101	70 - 130
1,3-Dichloropropane	25.0	21.5		ug/L		86	70 - 130
1,4-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	27.5		ug/L		110	68 - 141
2-Hexanone	25.0	21.7		ug/L		87	10 - 150
Acetone	25.0	24.5		ug/L		98	10 - 150
Acrolein	25.0	12.9		ug/L		52	10 - 145
Acrylonitrile	250	248		ug/L		99	48 - 140
Benzene	25.0	23.7		ug/L		95	68 - 130
Bromoform	25.0	27.1		ug/L		108	60 - 148
Bromomethane	25.0	23.7		ug/L		95	64 - 139
Carbon disulfide	25.0	21.8		ug/L		87	52 - 136
Carbon tetrachloride	25.0	29.4		ug/L		118	60 - 150
Chlorobenzene	25.0	23.5		ug/L		94	70 - 130
Bromochloromethane	25.0	26.5		ug/L		106	70 - 130
Chloroethane	25.0	22.3		ug/L		89	64 - 135
Chloroform	25.0	24.6		ug/L		98	70 - 130
Chloromethane	25.0	20.2		ug/L		81	47 - 140
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	70 - 133
cis-1,3-Dichloropropene	25.0	22.4		ug/L		90	70 - 133
Dibromochloromethane	25.0	26.5		ug/L		106	69 - 145
Dibromomethane	25.0	23.8		ug/L		95	70 - 130
Bromodichloromethane	25.0	25.5		ug/L		102	70 - 132
Dichlorodifluoromethane	25.0	20.0		ug/L		80	29 - 150
Ethylbenzene	25.0	23.5		ug/L		94	70 - 130
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	21.9		ug/L		88	52 - 130
Methyl tert-butyl ether	25.0	21.5		ug/L		86	63 - 131
Naphthalene	25.0	24.8		ug/L		99	60 - 140
o-Xylene	25.0	23.8		ug/L		95	70 - 130
Styrene	25.0	22.9		ug/L		92	70 - 134
t-Butanol	250	277		ug/L		111	70 - 130
Tetrachloroethene	25.0	26.7		ug/L		107	70 - 130
Toluene	25.0	23.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	22.7		ug/L		91	70 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: LCS 440-464334/5
Matrix: Water
Analysis Batch: 464334

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	27.1		ug/L		109	70 - 130
Trichlorofluoromethane	25.0	26.6		ug/L		106	60 - 150
Vinyl acetate	25.0	22.8		ug/L		91	48 - 140
Vinyl chloride	25.0	23.5		ug/L		94	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.5		ug/L		94	70 - 130
2-Butanone (MEK)	25.0	23.3		ug/L		93	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	22.0		ug/L		88	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	110		76 - 132

Lab Sample ID: 440-205737-1 MS
Matrix: Water
Analysis Batch: 464334

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
1,2,3-Trichloropropane	ND		25.0	25.8		ug/L		103	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	29.1		ug/L		116	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.5		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.1		ug/L		100	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130
1,1-Dichloroethane	ND		25.0	24.0		ug/L		96	65 - 130
1,1-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
1,1-Dichloropropene	ND		25.0	26.0		ug/L		104	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.6		ug/L		102	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	27.4		ug/L		109	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	26.1		ug/L		104	56 - 146
1,2-Dichloropropane	ND		25.0	23.3		ug/L		93	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	ND		25.0	23.9		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	28.8		ug/L		115	69 - 138
2-Hexanone	ND		25.0	28.5		ug/L		114	10 - 150
Acetone	ND		25.0	33.9		ug/L		135	10 - 150
Acrolein	ND		25.0	15.6		ug/L		63	10 - 147
Acrylonitrile	ND		250	299		ug/L		119	38 - 144
Benzene	ND		25.0	24.3		ug/L		97	66 - 130
Bromoform	ND		25.0	30.5		ug/L		122	59 - 150
Bromomethane	ND		25.0	23.2		ug/L		93	62 - 131
Carbon disulfide	ND		25.0	22.4		ug/L		89	49 - 140
Carbon tetrachloride	ND		25.0	30.6		ug/L		122	60 - 150
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	27.5		ug/L		110	70 - 130
Chloroethane	ND		25.0	22.4		ug/L		89	68 - 130
Chloroform	ND		25.0	25.3		ug/L		101	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: 440-205737-1 MS
Matrix: Water
Analysis Batch: 464334

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
Chloromethane	ND		25.0	19.6		ug/L		78	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		25.0	24.0		ug/L		96	70 - 133
Dibromochloromethane	ND		25.0	28.9		ug/L		115	70 - 148
Dibromomethane	ND		25.0	25.7		ug/L		103	70 - 130
Bromodichloromethane	ND		25.0	26.7		ug/L		107	70 - 138
Dichlorodifluoromethane	ND		25.0	20.0		ug/L		80	25 - 142
Ethylbenzene	ND		25.0	24.5		ug/L		98	70 - 130
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133
Methylene Chloride	ND		25.0	22.1		ug/L		89	52 - 130
Methyl tert-butyl ether	ND		25.0	23.8		ug/L		95	70 - 130
Naphthalene	ND		25.0	27.6		ug/L		110	60 - 140
o-Xylene	ND		25.0	25.4		ug/L		101	70 - 133
Styrene	ND		25.0	23.9		ug/L		95	29 - 150
t-Butanol	ND		250	284		ug/L		113	70 - 130
Tetrachloroethene	ND		25.0	28.1		ug/L		112	70 - 137
Toluene	ND		25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.0		ug/L		104	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 138
Trichloroethene	ND		25.0	28.2		ug/L		113	70 - 130
Trichlorofluoromethane	ND		25.0	27.3		ug/L		109	60 - 150
Vinyl acetate	ND		25.0	26.3		ug/L		105	23 - 150
Vinyl chloride	ND		25.0	22.8		ug/L		91	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	26.4		ug/L		106	70 - 131
2-Butanone (MEK)	ND		25.0	28.6		ug/L		114	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.1		ug/L		112	52 - 150

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	110		76 - 132

Lab Sample ID: 440-205737-1 MSD
Matrix: Water
Analysis Batch: 464334

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
1,2,3-Trichloropropane	ND		25.0	25.8		ug/L		103	60 - 130	0	30
1,1,1,2-Tetrachloroethane	ND		25.0	28.2		ug/L		113	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	27.4		ug/L		110	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	63 - 130	0	30
1,1,2-Trichloroethane	ND		25.0	24.3		ug/L		97	70 - 130	4	25
1,1-Dichloroethane	ND		25.0	24.3		ug/L		97	65 - 130	1	20
1,1-Dichloroethene	ND		25.0	24.0		ug/L		96	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	25.4		ug/L		101	64 - 130	3	20
1,2,4-Trichlorobenzene	ND		25.0	26.0		ug/L		104	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	26.7		ug/L		107	48 - 140	2	30
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: 440-205737-1 MSD

Matrix: Water

Analysis Batch: 464334

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
1,2-Dichloroethane	ND		25.0	26.0		ug/L		104	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	23.5		ug/L		94	69 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	0	20
1,3-Dichloropropane	ND		25.0	23.0		ug/L		92	70 - 130	4	25
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	28.6		ug/L		114	69 - 138	1	25
2-Hexanone	ND		25.0	26.7		ug/L		107	10 - 150	7	35
Acetone	ND		25.0	32.8		ug/L		131	10 - 150	3	35
Acrolein	ND		25.0	14.8		ug/L		59	10 - 147	6	40
Acrylonitrile	ND		25.0	286		ug/L		114	38 - 144	4	40
Benzene	ND		25.0	24.2		ug/L		97	66 - 130	0	20
Bromoform	ND		25.0	29.3		ug/L		117	59 - 150	4	25
Bromomethane	ND		25.0	23.4		ug/L		94	62 - 131	1	25
Carbon disulfide	ND		25.0	22.3		ug/L		89	49 - 140	0	20
Carbon tetrachloride	ND		25.0	30.5		ug/L		122	60 - 150	0	25
Chlorobenzene	ND		25.0	24.1		ug/L		96	70 - 130	3	20
Bromochloromethane	ND		25.0	27.7		ug/L		111	70 - 130	1	25
Chloroethane	ND		25.0	22.3		ug/L		89	68 - 130	0	25
Chloroform	ND		25.0	25.0		ug/L		100	70 - 130	1	20
Chloromethane	ND		25.0	19.9		ug/L		80	39 - 144	2	25
cis-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 133	1	20
Dibromochloromethane	ND		25.0	27.9		ug/L		112	70 - 148	3	25
Dibromomethane	ND		25.0	25.1		ug/L		100	70 - 130	2	25
Bromodichloromethane	ND		25.0	26.7		ug/L		107	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	19.5		ug/L		78	25 - 142	3	30
Ethylbenzene	ND		25.0	24.1		ug/L		96	70 - 130	2	20
m,p-Xylene	ND		25.0	24.5		ug/L		98	70 - 133	2	25
Methylene Chloride	ND		25.0	22.4		ug/L		90	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	24.2		ug/L		97	70 - 130	1	25
Naphthalene	ND		25.0	27.9		ug/L		111	60 - 140	1	30
o-Xylene	ND		25.0	24.7		ug/L		99	70 - 133	3	20
Styrene	ND		25.0	23.6		ug/L		95	29 - 150	1	35
t-Butanol	ND		25.0	281		ug/L		112	70 - 130	1	25
Tetrachloroethene	ND		25.0	26.9		ug/L		108	70 - 137	4	20
Toluene	ND		25.0	24.1		ug/L		97	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	26.2		ug/L		105	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	24.5		ug/L		98	70 - 138	2	25
Trichloroethene	ND		25.0	27.9		ug/L		111	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	26.8		ug/L		107	60 - 150	2	25
Vinyl acetate	ND		25.0	25.6		ug/L		102	23 - 150	3	30
Vinyl chloride	ND		25.0	23.0		ug/L		92	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	25.6		ug/L		102	70 - 131	3	25
2-Butanone (MEK)	ND		25.0	27.7		ug/L		111	48 - 140	3	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	26.2		ug/L		105	52 - 150	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: 440-205737-1 MSD
Matrix: Water
Analysis Batch: 464334

Client Sample ID: DW-1
Prep Type: Total/NA

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	110		76 - 132

Lab Sample ID: MB 440-464789/4
Matrix: Water
Analysis Batch: 464789

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylacrylonitrile	ND		10	2.5	ug/L			03/20/18 19:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/20/18 19:12	1
Naphthalene	ND		1.0	0.40	ug/L			03/20/18 19:12	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					03/20/18 19:12	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	108		80 - 128		03/20/18 19:12	1
4-Bromofluorobenzene (Surr)	111		80 - 120		03/20/18 19:12	1
Dibromofluoromethane (Surr)	104		76 - 132		03/20/18 19:12	1

Lab Sample ID: LCS 440-464789/5
Matrix: Water
Analysis Batch: 464789

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Naphthalene	25.0	24.9		ug/L		100	60 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	106		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Lab Sample ID: 440-206124-B-2 MS
Matrix: Water
Analysis Batch: 464789

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
Naphthalene	ND		25.0	20.5		ug/L		82	60 - 140

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: 440-206124-B-2 MSD
Matrix: Water
Analysis Batch: 464789

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	22.8		ug/L		91	60 - 140	11	30
Surrogate	%Recovery	MSD Qualifier	Limits								
Toluene-d8 (Surr)	101		80 - 128								
4-Bromofluorobenzene (Surr)	109		80 - 120								
Dibromofluoromethane (Surr)	104		76 - 132								

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

Lab Sample ID: MB 440-464372/1-A
Matrix: Water
Analysis Batch: 464785

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		03/19/18 08:36	03/20/18 19:03	1
Surrogate	%Recovery	MB Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	78		30 - 120						
							Prepared	Analyzed	Dil Fac
							03/19/18 08:36	03/20/18 19:03	1

Lab Sample ID: LCS 440-464372/2-A
Matrix: Water
Analysis Batch: 464785

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.93	1.59		ug/L		82	35 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	83		30 - 120				

Lab Sample ID: LCSD 440-464372/3-A
Matrix: Water
Analysis Batch: 464785

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 464372

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.95	1.63		ug/L		83	35 - 120	2	35
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	82		30 - 120						

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-463727/14
Matrix: Water
Analysis Batch: 463727

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/15/18 17:58	1

Lab Sample ID: LCS 440-463727/13
Matrix: Water
Analysis Batch: 463727

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: 440-205573-H-16 MS
Matrix: Water
Analysis Batch: 463727

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	43		250	269		mg/L		90	80 - 120

Lab Sample ID: 440-205573-H-16 MSD
Matrix: Water
Analysis Batch: 463727

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	43		250	269		mg/L		90	80 - 120	0	20

Lab Sample ID: MB 440-463738/6
Matrix: Water
Analysis Batch: 463738

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/15/18 12:16	1

Lab Sample ID: LCS 440-463738/5
Matrix: Water
Analysis Batch: 463738

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	4.70		mg/L		94	90 - 110

Lab Sample ID: 440-205986-B-2 MS
Matrix: Water
Analysis Batch: 463738

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	200	E	5.00	203	E 4	mg/L		131	80 - 120

Lab Sample ID: 440-205986-B-2 MSD
Matrix: Water
Analysis Batch: 463738

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	200	E	5.00	203	E 4	mg/L		136	80 - 120	0	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

Lab Sample ID: MB 440-463993/6
Matrix: Water
Analysis Batch: 463993

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/16/18 13:16	1

Lab Sample ID: LCS 440-463993/5
Matrix: Water
Analysis Batch: 463993

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	4.66		mg/L		93	90 - 110

Lab Sample ID: 440-206058-A-16 MS
Matrix: Water
Analysis Batch: 463993

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	320	E	5.00	321	E 4	mg/L		59	80 - 120

Lab Sample ID: 440-206058-A-16 MSD
Matrix: Water
Analysis Batch: 463993

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	320	E	5.00	322	E 4	mg/L		71	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-464267/1-A
Matrix: Water
Analysis Batch: 464462

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.416	J	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 12:26	1

Lab Sample ID: MB 440-464267/1-A
Matrix: Water
Analysis Batch: 464622

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.267	J	0.50	0.25	mg/L		03/18/18 07:16	03/19/18 18:05	1

Lab Sample ID: LCS 440-464267/2-A
Matrix: Water
Analysis Batch: 464462

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.62		mg/L		96	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: LCS 440-464267/2-A
Matrix: Water
Analysis Batch: 464622

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.64		mg/L		96	80 - 120

Lab Sample ID: 440-205737-1 MS
Matrix: Water
Analysis Batch: 464462

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	2.6	B	10.0	12.2		mg/L		96	75 - 125

Lab Sample ID: 440-205737-1 MS
Matrix: Water
Analysis Batch: 464622

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	2.4	B	10.0	11.7		mg/L		93	75 - 125

Lab Sample ID: 440-205737-1 MSD
Matrix: Water
Analysis Batch: 464462

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	2.6	B	10.0	12.5		mg/L		99	75 - 125	2	20

Lab Sample ID: 440-205737-1 MSD
Matrix: Water
Analysis Batch: 464622

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 464267

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	2.4	B	10.0	11.9		mg/L		95	75 - 125	1	20

Method: 410.4 - COD

Lab Sample ID: MB 440-465377/3
Matrix: Water
Analysis Batch: 465377

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			03/22/18 14:45	1

Lab Sample ID: LCS 440-465377/4
Matrix: Water
Analysis Batch: 465377

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

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-205737-8 MS
Matrix: Water
Analysis Batch: 465377

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	192		mg/L		96	70 - 120

Lab Sample ID: 440-205737-8 MSD
Matrix: Water
Analysis Batch: 465377

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	190		mg/L		95	70 - 120	1	15

Lab Sample ID: 440-206573-D-1 DU
Matrix: Water
Analysis Batch: 465377

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	90		87.8		mg/L		2	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-463501/27
Matrix: Water
Analysis Batch: 463501

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			03/14/18 09:25	1

Lab Sample ID: LCS 440-463501/26
Matrix: Water
Analysis Batch: 463501

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	98.9	96.6		mg/L		98	80 - 120

Lab Sample ID: 440-205737-1 DU
Matrix: Water
Analysis Batch: 463501

Client Sample ID: DW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	520		542		mg/L		4	20

Lab Sample ID: 440-205737-8 DU
Matrix: Water
Analysis Batch: 463501

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	360		350		mg/L		2	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

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

Lab Sample ID: MB 440-464654/1
Matrix: Water
Analysis Batch: 464654

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			03/20/18 09:24	1

Lab Sample ID: LCS 440-464654/2
Matrix: Water
Analysis Batch: 464654

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	996		mg/L		100	90 - 110

Lab Sample ID: 440-205737-1 DU
Matrix: Water
Analysis Batch: 464654

Client Sample ID: DW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3200		3190		mg/L		1	5

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-463413/2-A
Matrix: Water
Analysis Batch: 463445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 463413

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		03/14/18 04:00	03/14/18 08:00	1

Lab Sample ID: LCS 440-463413/1-A
Matrix: Water
Analysis Batch: 463445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 463413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.26		mg/L		90	85 - 115

Lab Sample ID: 440-205676-B-3-B MS
Matrix: Water
Analysis Batch: 463445

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 463413

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	1.8		2.50	3.73		mg/L		79	75 - 125

Lab Sample ID: 440-205676-B-3-C MSD
Matrix: Water
Analysis Batch: 463445

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 463413

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	1.8		2.50	3.87		mg/L		84	75 - 125	4	15

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: 440-205634-C-2-B DU
Matrix: Water
Analysis Batch: 463445

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 463413

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Ammonia (as N)	85		84.8		mg/L		0	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-463551/6
Matrix: Water
Analysis Batch: 463551

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			03/14/18 07:55	1

Lab Sample ID: LCS 440-463551/5
Matrix: Water
Analysis Batch: 463551

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	9.95		mg/L		99	90 - 110

Lab Sample ID: MRL 440-463551/4
Matrix: Water
Analysis Batch: 463551

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	0.103		mg/L		103	50 - 150

Lab Sample ID: 580-75662-F-1 MS
Matrix: Water
Analysis Batch: 463551

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	2.4		10.0	12.4		mg/L		99	80 - 120

Lab Sample ID: 580-75662-F-1 MSD
Matrix: Water
Analysis Batch: 463551

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
Total Organic Carbon	2.4		10.0	12.6		mg/L		101	80 - 120	2	20

Lab Sample ID: MB 440-463639/8
Matrix: Water
Analysis Batch: 463639

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			03/14/18 14:38	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205737-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-463639/7
Matrix: Water
Analysis Batch: 463639

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	9.99		mg/L		100	90 - 110

Lab Sample ID: MRL 440-463639/4
Matrix: Water
Analysis Batch: 463639

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	0.103		mg/L		103	50 - 150

Lab Sample ID: 440-205642-G-3 MS
Matrix: Water
Analysis Batch: 463639

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.0		10.0	15.7		mg/L		108	80 - 120

Lab Sample ID: 440-205642-G-3 MSD
Matrix: Water
Analysis Batch: 463639

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.0		10.0	14.6		mg/L		96	80 - 120	7	20

QC Association Summary

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

TestAmerica Job ID: 440-205737-1

GC/MS VOA

Analysis Batch: 463656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	8260B	
440-205737-2	DW-2	Total/NA	Water	8260B	
440-205737-3	DW-3	Total/NA	Water	8260B	
440-205737-4	MW-5	Total/NA	Water	8260B	
440-205737-5	MW-6	Total/NA	Water	8260B	
440-205737-6	MW-9	Total/NA	Water	8260B	
440-205737-7	MW-14	Total/NA	Water	8260B	
440-205737-8	PZ-2	Total/NA	Water	8260B	
440-205737-10	QCTB	Total/NA	Water	8260B	
MB 440-463656/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463656/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-463656/6	Lab Control Sample Dup	Total/NA	Water	8260B	
550-99388-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
550-99388-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 463854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-9	QCAB	Total/NA	Water	8260B	
MB 440-463854/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463854/5	Lab Control Sample	Total/NA	Water	8260B	
440-205717-C-31 MS	Matrix Spike	Total/NA	Water	8260B	
440-205717-C-31 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 464334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	8260B	
440-205737-2	DW-2	Total/NA	Water	8260B	
440-205737-3	DW-3	Total/NA	Water	8260B	
440-205737-4	MW-5	Total/NA	Water	8260B	
440-205737-5	MW-6	Total/NA	Water	8260B	
440-205737-6	MW-9	Total/NA	Water	8260B	
440-205737-7	MW-14	Total/NA	Water	8260B	
440-205737-8	PZ-2	Total/NA	Water	8260B	
440-205737-9	QCAB	Total/NA	Water	8260B	
440-205737-10	QCTB	Total/NA	Water	8260B	
MB 440-464334/4	Method Blank	Total/NA	Water	8260B	
LCS 440-464334/5	Lab Control Sample	Total/NA	Water	8260B	
440-205737-1 MS	DW-1	Total/NA	Water	8260B	
440-205737-1 MSD	DW-1	Total/NA	Water	8260B	

Analysis Batch: 464789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-2 - RA	DW-2	Total/NA	Water	8260B	
MB 440-464789/4	Method Blank	Total/NA	Water	8260B	
LCS 440-464789/5	Lab Control Sample	Total/NA	Water	8260B	
440-206124-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-206124-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

QC Association Summary

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

TestAmerica Job ID: 440-205737-1

GC/MS Semi VOA

Prep Batch: 464372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	3520C	
440-205737-2	DW-2	Total/NA	Water	3520C	
440-205737-3	DW-3	Total/NA	Water	3520C	
440-205737-4	MW-5	Total/NA	Water	3520C	
440-205737-5	MW-6	Total/NA	Water	3520C	
440-205737-6	MW-9	Total/NA	Water	3520C	
440-205737-7	MW-14	Total/NA	Water	3520C	
440-205737-8	PZ-2	Total/NA	Water	3520C	
MB 440-464372/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-464372/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-464372/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 464785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	8270C	464372
440-205737-2	DW-2	Total/NA	Water	8270C	464372
440-205737-3	DW-3	Total/NA	Water	8270C	464372
440-205737-4	MW-5	Total/NA	Water	8270C	464372
440-205737-5	MW-6	Total/NA	Water	8270C	464372
440-205737-7	MW-14	Total/NA	Water	8270C	464372
440-205737-8	PZ-2	Total/NA	Water	8270C	464372
MB 440-464372/1-A	Method Blank	Total/NA	Water	8270C	464372
LCS 440-464372/2-A	Lab Control Sample	Total/NA	Water	8270C	464372
LCSD 440-464372/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	464372

Analysis Batch: 465234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-6	MW-9	Total/NA	Water	8270C	464372

HPLC/IC

Analysis Batch: 463727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-7	MW-14	Total/NA	Water	300.0	
440-205737-8	PZ-2	Total/NA	Water	300.0	
MB 440-463727/14	Method Blank	Total/NA	Water	300.0	
LCS 440-463727/13	Lab Control Sample	Total/NA	Water	300.0	
440-205573-H-16 MS	Matrix Spike	Total/NA	Water	300.0	
440-205573-H-16 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 463738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-4	MW-5	Total/NA	Water	300.0	
440-205737-6	MW-9	Total/NA	Water	300.0	
MB 440-463738/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463738/5	Lab Control Sample	Total/NA	Water	300.0	
440-205986-B-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-205986-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205737-1

HPLC/IC (Continued)

Analysis Batch: 463993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	300.0	
440-205737-2	DW-2	Total/NA	Water	300.0	
440-205737-3	DW-3	Total/NA	Water	300.0	
440-205737-5	MW-6	Total/NA	Water	300.0	
MB 440-463993/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463993/5	Lab Control Sample	Total/NA	Water	300.0	
440-206058-A-16 MS	Matrix Spike	Total/NA	Water	300.0	
440-206058-A-16 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 464267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total Recoverable	Water	3005A	
440-205737-2	DW-2	Total Recoverable	Water	3005A	
440-205737-3	DW-3	Total Recoverable	Water	3005A	
440-205737-4	MW-5	Total Recoverable	Water	3005A	
440-205737-5	MW-6	Total Recoverable	Water	3005A	
440-205737-6	MW-9	Total Recoverable	Water	3005A	
440-205737-7	MW-14	Total Recoverable	Water	3005A	
440-205737-8	PZ-2	Total Recoverable	Water	3005A	
MB 440-464267/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-464267/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-205737-1 MS	DW-1	Total Recoverable	Water	3005A	
440-205737-1 MSD	DW-1	Total Recoverable	Water	3005A	

Analysis Batch: 464462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total Recoverable	Water	6010B	464267
MB 440-464267/1-A	Method Blank	Total Recoverable	Water	6010B	464267
LCS 440-464267/2-A	Lab Control Sample	Total Recoverable	Water	6010B	464267
440-205737-1 MS	DW-1	Total Recoverable	Water	6010B	464267
440-205737-1 MSD	DW-1	Total Recoverable	Water	6010B	464267

Analysis Batch: 464622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-2	DW-2	Total Recoverable	Water	6010B	464267
440-205737-3	DW-3	Total Recoverable	Water	6010B	464267
440-205737-4	MW-5	Total Recoverable	Water	6010B	464267
440-205737-5	MW-6	Total Recoverable	Water	6010B	464267
440-205737-6	MW-9	Total Recoverable	Water	6010B	464267
440-205737-7	MW-14	Total Recoverable	Water	6010B	464267
440-205737-8	PZ-2	Total Recoverable	Water	6010B	464267
MB 440-464267/1-A	Method Blank	Total Recoverable	Water	6010B	464267
LCS 440-464267/2-A	Lab Control Sample	Total Recoverable	Water	6010B	464267
440-205737-1 MS	DW-1	Total Recoverable	Water	6010B	464267
440-205737-1 MSD	DW-1	Total Recoverable	Water	6010B	464267

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205737-1

General Chemistry

Prep Batch: 463413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	SM 4500 NH3 B	
440-205737-2	DW-2	Total/NA	Water	SM 4500 NH3 B	
440-205737-3	DW-3	Total/NA	Water	SM 4500 NH3 B	
440-205737-4	MW-5	Total/NA	Water	SM 4500 NH3 B	
440-205737-5	MW-6	Total/NA	Water	SM 4500 NH3 B	
440-205737-6	MW-9	Total/NA	Water	SM 4500 NH3 B	
440-205737-7	MW-14	Total/NA	Water	SM 4500 NH3 B	
440-205737-8	PZ-2	Total/NA	Water	SM 4500 NH3 B	
MB 440-463413/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-463413/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-205676-B-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-205676-B-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-205634-C-2-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 463445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-2	DW-2	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-3	DW-3	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-4	MW-5	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-5	MW-6	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-6	MW-9	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-7	MW-14	Total/NA	Water	SM 4500 NH3 D	463413
440-205737-8	PZ-2	Total/NA	Water	SM 4500 NH3 D	463413
MB 440-463413/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	463413
LCS 440-463413/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	463413
440-205676-B-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	463413
440-205676-B-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	463413
440-205634-C-2-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	463413

Analysis Batch: 463501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	SM 2320B	
440-205737-2	DW-2	Total/NA	Water	SM 2320B	
440-205737-3	DW-3	Total/NA	Water	SM 2320B	
440-205737-4	MW-5	Total/NA	Water	SM 2320B	
440-205737-5	MW-6	Total/NA	Water	SM 2320B	
440-205737-6	MW-9	Total/NA	Water	SM 2320B	
440-205737-7	MW-14	Total/NA	Water	SM 2320B	
440-205737-8	PZ-2	Total/NA	Water	SM 2320B	
MB 440-463501/27	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-463501/26	Lab Control Sample	Total/NA	Water	SM 2320B	
440-205737-1 DU	DW-1	Total/NA	Water	SM 2320B	
440-205737-8 DU	PZ-2	Total/NA	Water	SM 2320B	

Analysis Batch: 463551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	SM 5310C	
440-205737-2	DW-2	Total/NA	Water	SM 5310C	
440-205737-3	DW-3	Total/NA	Water	SM 5310C	
440-205737-5	MW-6	Total/NA	Water	SM 5310C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205737-1

General Chemistry (Continued)

Analysis Batch: 463551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-7	MW-14	Total/NA	Water	SM 5310C	
440-205737-8	PZ-2	Total/NA	Water	SM 5310C	
MB 440-463551/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-463551/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-463551/4	Lab Control Sample	Total/NA	Water	SM 5310C	
580-75662-F-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
580-75662-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 463639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-4	MW-5	Total/NA	Water	SM 5310C	
440-205737-6	MW-9	Total/NA	Water	SM 5310C	
MB 440-463639/8	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-463639/7	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-463639/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-205642-G-3 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-205642-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 464654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	SM 2540C	
440-205737-2	DW-2	Total/NA	Water	SM 2540C	
440-205737-3	DW-3	Total/NA	Water	SM 2540C	
440-205737-4	MW-5	Total/NA	Water	SM 2540C	
440-205737-5	MW-6	Total/NA	Water	SM 2540C	
440-205737-6	MW-9	Total/NA	Water	SM 2540C	
440-205737-7	MW-14	Total/NA	Water	SM 2540C	
440-205737-8	PZ-2	Total/NA	Water	SM 2540C	
MB 440-464654/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-464654/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-205737-1 DU	DW-1	Total/NA	Water	SM 2540C	

Analysis Batch: 465377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205737-1	DW-1	Total/NA	Water	410.4	
440-205737-2	DW-2	Total/NA	Water	410.4	
440-205737-3	DW-3	Total/NA	Water	410.4	
440-205737-4	MW-5	Total/NA	Water	410.4	
440-205737-5	MW-6	Total/NA	Water	410.4	
440-205737-6	MW-9	Total/NA	Water	410.4	
440-205737-7	MW-14	Total/NA	Water	410.4	
440-205737-8	PZ-2	Total/NA	Water	410.4	
MB 440-465377/3	Method Blank	Total/NA	Water	410.4	
LCS 440-465377/4	Lab Control Sample	Total/NA	Water	410.4	
440-205737-8 MS	PZ-2	Total/NA	Water	410.4	
440-205737-8 MSD	PZ-2	Total/NA	Water	410.4	
440-206573-D-1 DU	Duplicate	Total/NA	Water	410.4	

TestAmerica Irvine

Definitions/Glossary

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

TestAmerica Job ID: 440-205737-1

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.

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.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 440-205737-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18 *
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18
Nevada	State Program	9	CA015312018-1	07-31-18
New Mexico	State Program	6	N/A	01-29-19
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-205737-1

Login Number: 205737

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-205828-1

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:

3/27/2018 2:27:50 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	5
Method Summary	18
Lab Chronicle	19
QC Sample Results	22
QC Association Summary	37
Definitions/Glossary	41
Certification Summary	42
Chain of Custody	43
Receipt Checklists	44

Sample Summary

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

TestAmerica Job ID: 440-205828-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-205828-1	Extraction Trench	Water	03/14/18 10:40	03/14/18 17:10
440-205828-2	MW-2A	Water	03/14/18 08:40	03/14/18 17:10
440-205828-3	MW-2B	Water	03/14/18 10:55	03/14/18 17:10
440-205828-4	MW-13R	Water	03/14/18 14:15	03/14/18 17:10
440-205828-5	DW-4	Water	03/14/18 12:35	03/14/18 17:10
440-205828-6	QCAB	Water	03/14/18 00:01	03/14/18 17:10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Case Narrative

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

TestAmerica Job ID: 440-205828-1

Job ID: 440-205828-1

Laboratory: TestAmerica Irvine

Narrative

**Job Narrative
440-205828-1**

Comments

No additional comments.

Receipt

The samples were received on 3/14/2018 5:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 2.9° C.

Receipt Exceptions

The following sample was listed on the Chain of Custody (COC); however, no sample was received: QCTB (440-205828-7).

GC/MS VOA

Method(s) 8260B: The following sample(s) was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 3 was outside the required criteria when verified by the laboratory, and corrective action was not possible: Extraction Trench (440-205828-1). The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B: The method blank for analytical batch 440-464099 contained Naphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

GC/MS Semi VOA

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

HPLC/IC

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

Metals

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

General Chemistry

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

Organic Prep

Method(s) 3520C: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 8270-1,4 Dioxane preparation/analysis: MW-13R (440-205828-4).

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: 440-205828-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-205828-1

Date Collected: 03/14/18 10:40

Matrix: Water

Date Received: 03/14/18 17:10

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			03/17/18 01:32	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Acrolein	ND		50	2.5	ug/L			03/15/18 17:56	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 17:56	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/17/18 01:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/17/18 01:32	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,4-Dichlorobenzene	2.2		0.50	0.25	ug/L			03/17/18 01:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/17/18 01:32	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/17/18 01:32	1
2-Hexanone	ND		5.0	2.5	ug/L			03/17/18 01:32	1
Acetone	ND		20	10	ug/L			03/17/18 01:32	1
Acetonitrile	ND		20	10	ug/L			03/17/18 01:32	1
Acrolein	ND		5.0	2.5	ug/L			03/17/18 01:32	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/17/18 01:32	1
Benzene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Allyl chloride	ND		1.0	0.50	ug/L			03/17/18 01:32	1
Bromoform	ND		1.0	0.40	ug/L			03/17/18 01:32	1
Bromomethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/17/18 01:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Chloroethane	ND		1.0	0.40	ug/L			03/17/18 01:32	1
Chloroform	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Chloromethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
cis-1,2-Dichloroethene	1.6		0.50	0.25	ug/L			03/17/18 01:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Dibromomethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/17/18 01:32	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 01:32	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Iodomethane	ND		2.0	1.0	ug/L			03/17/18 01:32	1
Isobutyl alcohol	ND		25	13	ug/L			03/17/18 01:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/17/18 01:32	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/17/18 01:32	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 01:32	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-205828-1

Date Collected: 03/14/18 10:40

Matrix: Water

Date Received: 03/14/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/17/18 01:32	1
Methyl tert-butyl ether	1.0		0.50	0.25	ug/L			03/17/18 01:32	1
Naphthalene	ND		1.0	0.40	ug/L			03/17/18 01:32	1
o-Xylene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Propionitrile	ND		20	10	ug/L			03/17/18 01:32	1
Styrene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
t-Butanol	43		10	5.0	ug/L			03/17/18 01:32	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Tetrahydrofuran	8.0 J		10	5.0	ug/L			03/17/18 01:32	1
Toluene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/17/18 01:32	1
Trichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/17/18 01:32	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/17/18 01:32	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/17/18 01:32	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/17/18 01:32	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/17/18 01:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/17/18 01:32	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	T J	ug/L		5.82			03/17/18 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/15/18 17:56	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/15/18 17:56	1
Toluene-d8 (Surr)	103		80 - 128		03/17/18 01:32	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/17/18 01:32	1
Dibromofluoromethane (Surr)	104		76 - 132		03/15/18 17:56	1
Dibromofluoromethane (Surr)	97		76 - 132		03/17/18 01:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	24		1.0	0.25	ug/L		03/20/18 13:52	03/21/18 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		30 - 120	03/20/18 13:52	03/21/18 18:24	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		25	13	mg/L			03/17/18 01:23	50

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		03/19/18 14:31	03/21/18 18:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	110		20	10	mg/L			03/23/18 11:30	1
Total Dissolved Solids	3600		50	25	mg/L			03/20/18 09:23	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: Extraction Trench

Date Collected: 03/14/18 10:40

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-1

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	11		2.5	0.50	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	49		0.50	0.25	mg/L			03/16/18 11:40	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	830		4.0	4.0	mg/L			03/15/18 14:11	1

Client Sample ID: MW-2A

Date Collected: 03/14/18 08:40

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-2

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			03/17/18 01:59	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Acrolein	ND		50	2.5	ug/L			03/15/18 18:21	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 18:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/17/18 01:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/17/18 01:59	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/17/18 01:59	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/17/18 01:59	1
2-Hexanone	ND		5.0	2.5	ug/L			03/17/18 01:59	1
Acetone	ND		20	10	ug/L			03/17/18 01:59	1
Acetonitrile	ND		20	10	ug/L			03/17/18 01:59	1
Acrolein	ND		5.0	2.5	ug/L			03/17/18 01:59	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/17/18 01:59	1
Benzene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Allyl chloride	ND		1.0	0.50	ug/L			03/17/18 01:59	1
Bromoform	ND		1.0	0.40	ug/L			03/17/18 01:59	1
Bromomethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/17/18 01:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Chloroethane	ND		1.0	0.40	ug/L			03/17/18 01:59	1
Chloroform	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Chloromethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 01:59	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-2A

Lab Sample ID: 440-205828-2

Date Collected: 03/14/18 08:40

Matrix: Water

Date Received: 03/14/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Dibromomethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/17/18 01:59	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 01:59	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Iodomethane	ND		2.0	1.0	ug/L			03/17/18 01:59	1
Isobutyl alcohol	ND		25	13	ug/L			03/17/18 01:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/17/18 01:59	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/17/18 01:59	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 01:59	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/17/18 01:59	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Naphthalene	ND		1.0	0.40	ug/L			03/17/18 01:59	1
o-Xylene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Propionitrile	ND		20	10	ug/L			03/17/18 01:59	1
Styrene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
t-Butanol	ND		10	5.0	ug/L			03/17/18 01:59	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/17/18 01:59	1
Toluene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/17/18 01:59	1
Trichloroethene	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/17/18 01:59	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/17/18 01:59	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/17/18 01:59	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/17/18 01:59	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/17/18 01:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/17/18 01:59	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.1	TJ	ug/L		5.82			03/17/18 01:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/15/18 18:21	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/15/18 18:21	1
Toluene-d8 (Surr)	101		80 - 128		03/17/18 01:59	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/17/18 01:59	1
Dibromofluoromethane (Surr)	105		76 - 132		03/15/18 18:21	1
Dibromofluoromethane (Surr)	98		76 - 132		03/17/18 01:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		03/20/18 13:52	03/21/18 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	82		30 - 120	03/20/18 13:52	03/21/18 18:46	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-2A

Date Collected: 03/14/18 08:40

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.5	mg/L			03/17/18 01:41	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.3		0.50	0.25	mg/L		03/19/18 14:31	03/21/18 18:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/23/18 11:30	1
Total Dissolved Solids	2600		20	10	mg/L			03/20/18 09:23	1
Ammonia (as N)	3.4		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	3.1		0.10	0.050	mg/L			03/16/18 10:02	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		4.0	4.0	mg/L			03/15/18 14:20	1

Client Sample ID: MW-2B

Date Collected: 03/14/18 10:55

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-3

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			03/17/18 02:25	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Acrolein	ND		50	2.5	ug/L			03/15/18 18:47	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 18:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/17/18 02:25	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/17/18 02:25	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/17/18 02:25	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/17/18 02:25	1
2-Hexanone	ND		5.0	2.5	ug/L			03/17/18 02:25	1
Acetone	ND		20	10	ug/L			03/17/18 02:25	1
Acetonitrile	ND		20	10	ug/L			03/17/18 02:25	1
Acrolein	ND		5.0	2.5	ug/L			03/17/18 02:25	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/17/18 02:25	1
Benzene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Allyl chloride	ND		1.0	0.50	ug/L			03/17/18 02:25	1
Bromoform	ND		1.0	0.40	ug/L			03/17/18 02:25	1
Bromomethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-2B

Lab Sample ID: 440-205828-3

Date Collected: 03/14/18 10:55

Matrix: Water

Date Received: 03/14/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			03/17/18 02:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Chloroethane	ND		1.0	0.40	ug/L			03/17/18 02:25	1
Chloroform	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Chloromethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Dibromomethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/17/18 02:25	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 02:25	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Iodomethane	ND		2.0	1.0	ug/L			03/17/18 02:25	1
Isobutyl alcohol	ND		25	13	ug/L			03/17/18 02:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/17/18 02:25	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/17/18 02:25	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 02:25	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/17/18 02:25	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Naphthalene	ND		1.0	0.40	ug/L			03/17/18 02:25	1
o-Xylene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Propionitrile	ND		20	10	ug/L			03/17/18 02:25	1
Styrene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
t-Butanol	ND		10	5.0	ug/L			03/17/18 02:25	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/17/18 02:25	1
Toluene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/17/18 02:25	1
Trichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/17/18 02:25	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/17/18 02:25	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/17/18 02:25	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/17/18 02:25	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/17/18 02:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/17/18 02:25	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					03/17/18 02:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		03/15/18 18:47	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/15/18 18:47	1
Toluene-d8 (Surr)	101		80 - 128		03/17/18 02:25	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/17/18 02:25	1
Dibromofluoromethane (Surr)	104		76 - 132		03/15/18 18:47	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-2B

Date Collected: 03/14/18 10:55

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-3

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		76 - 132		03/17/18 02:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		03/20/18 13:52	03/21/18 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	50		30 - 120	03/20/18 13:52	03/21/18 19:09	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.5	mg/L			03/17/18 02:00	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.6		0.50	0.25	mg/L		03/19/18 14:31	03/21/18 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/23/18 11:30	1
Total Dissolved Solids	2700		20	10	mg/L			03/20/18 09:23	1
Ammonia (as N)	3.8		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	2.0		0.10	0.050	mg/L			03/16/18 09:37	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		4.0	4.0	mg/L			03/15/18 14:29	1

Client Sample ID: MW-13R

Date Collected: 03/14/18 14:15

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-4

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			03/17/18 02:51	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Acrolein	ND		50	2.5	ug/L			03/16/18 14:11	1
Acrylonitrile	ND		50	1.0	ug/L			03/16/18 14:11	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/17/18 02:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/17/18 02:51	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:51	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-13R

Lab Sample ID: 440-205828-4

Date Collected: 03/14/18 14:15

Matrix: Water

Date Received: 03/14/18 17:10

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			03/17/18 02:51	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/17/18 02:51	1
2-Hexanone	ND		5.0	2.5	ug/L			03/17/18 02:51	1
Acetone	ND		20	10	ug/L			03/17/18 02:51	1
Acetonitrile	ND		20	10	ug/L			03/17/18 02:51	1
Acrolein	ND		5.0	2.5	ug/L			03/17/18 02:51	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/17/18 02:51	1
Benzene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Allyl chloride	ND		1.0	0.50	ug/L			03/17/18 02:51	1
Bromoform	ND		1.0	0.40	ug/L			03/17/18 02:51	1
Bromomethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Carbon disulfide	1.8		1.0	0.50	ug/L			03/17/18 02:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Chloroethane	ND		1.0	0.40	ug/L			03/17/18 02:51	1
Chloroform	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Chloromethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Dibromomethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/17/18 02:51	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 02:51	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Iodomethane	ND		2.0	1.0	ug/L			03/17/18 02:51	1
Isobutyl alcohol	ND		25	13	ug/L			03/17/18 02:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/17/18 02:51	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/17/18 02:51	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 02:51	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/17/18 02:51	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Naphthalene	ND		1.0	0.40	ug/L			03/17/18 02:51	1
o-Xylene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Propionitrile	ND		20	10	ug/L			03/17/18 02:51	1
Styrene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
t-Butanol	6.0	J ID	10	5.0	ug/L			03/17/18 02:51	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/17/18 02:51	1
Toluene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/17/18 02:51	1
Trichloroethene	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/17/18 02:51	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/17/18 02:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/17/18 02:51	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/17/18 02:51	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-13R

Lab Sample ID: 440-205828-4

Date Collected: 03/14/18 14:15

Matrix: Water

Date Received: 03/14/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/17/18 02:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/17/18 02:51	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	360	T J	ug/L		2.77			03/17/18 02:51	1
Methanethiol	5.2	T J N	ug/L		3.65	74-93-1		03/17/18 02:51	1
Unknown	3.7	T J	ug/L		5.82			03/17/18 02:51	1
Unknown	3.2	T J	ug/L		11.97			03/17/18 02:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		03/16/18 14:11	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/16/18 14:11	1
Toluene-d8 (Surr)	102		80 - 128		03/17/18 02:51	1
4-Bromofluorobenzene (Surr)	90		80 - 120		03/17/18 02:51	1
Dibromofluoromethane (Surr)	104		76 - 132		03/16/18 14:11	1
Dibromofluoromethane (Surr)	97		76 - 132		03/17/18 02:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.4		1.1	0.29	ug/L		03/20/18 13:52	03/21/18 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	65		30 - 120	03/20/18 13:52	03/21/18 19:32	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		25	13	mg/L			03/16/18 01:59	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	25		0.50	0.25	mg/L		03/19/18 14:31	03/21/18 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	280		20	10	mg/L			03/23/18 11:30	1
Total Dissolved Solids	2100		20	10	mg/L			03/20/18 09:23	1
Ammonia (as N)	8.8		2.5	0.50	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	27		0.50	0.25	mg/L			03/16/18 11:55	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	790		4.0	4.0	mg/L			03/15/18 14:44	1

Client Sample ID: DW-4

Lab Sample ID: 440-205828-5

Date Collected: 03/14/18 12:35

Matrix: Water

Date Received: 03/14/18 17:10

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			03/17/18 03:18	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Acrolein	ND		50	2.5	ug/L			03/16/18 14:36	1
Acrylonitrile	ND		50	1.0	ug/L			03/16/18 14:36	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: DW-4
Date Collected: 03/14/18 12:35
Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/17/18 03:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/17/18 03:18	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/17/18 03:18	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/17/18 03:18	1
2-Hexanone	ND		5.0	2.5	ug/L			03/17/18 03:18	1
Acetone	11	J	20	10	ug/L			03/17/18 03:18	1
Acetonitrile	ND		20	10	ug/L			03/17/18 03:18	1
Acrolein	ND		5.0	2.5	ug/L			03/17/18 03:18	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/17/18 03:18	1
Benzene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Allyl chloride	ND		1.0	0.50	ug/L			03/17/18 03:18	1
Bromoform	ND		1.0	0.40	ug/L			03/17/18 03:18	1
Bromomethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Carbon disulfide	0.79	J	1.0	0.50	ug/L			03/17/18 03:18	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Chloroethane	ND		1.0	0.40	ug/L			03/17/18 03:18	1
Chloroform	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Chloromethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Dibromomethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/17/18 03:18	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 03:18	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Iodomethane	ND		2.0	1.0	ug/L			03/17/18 03:18	1
Isobutyl alcohol	ND		25	13	ug/L			03/17/18 03:18	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/17/18 03:18	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/17/18 03:18	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 03:18	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/17/18 03:18	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Naphthalene	ND		1.0	0.40	ug/L			03/17/18 03:18	1
o-Xylene	ND		0.50	0.25	ug/L			03/17/18 03:18	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: DW-4
Date Collected: 03/14/18 12:35
Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-5
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			03/17/18 03:18	1
Styrene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
t-Butanol	ND		10	5.0	ug/L			03/17/18 03:18	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/17/18 03:18	1
Toluene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/17/18 03:18	1
Trichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/17/18 03:18	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/17/18 03:18	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/17/18 03:18	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/17/18 03:18	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/17/18 03:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/17/18 03:18	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.6	T J	ug/L		5.82			03/17/18 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/16/18 14:36	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/16/18 14:36	1
Toluene-d8 (Surr)	100		80 - 128		03/17/18 03:18	1
4-Bromofluorobenzene (Surr)	93		80 - 120		03/17/18 03:18	1
Dibromofluoromethane (Surr)	104		76 - 132		03/16/18 14:36	1
Dibromofluoromethane (Surr)	100		76 - 132		03/17/18 03:18	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		03/20/18 13:52	03/21/18 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
1,4-Dioxane-d8 (Surr)	83		30 - 120		03/20/18 13:52	03/21/18 19:54	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.5	mg/L			03/17/18 17:09	10

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		03/19/18 14:31	03/21/18 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			03/23/18 11:30	1
Total Dissolved Solids	2800		20	10	mg/L			03/21/18 09:31	1
Ammonia (as N)	4.6		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1
Total Organic Carbon	2.0		0.10	0.050	mg/L			03/16/18 11:23	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		4.0	4.0	mg/L			03/15/18 14:53	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: QCAB

Lab Sample ID: 440-205828-6

Date Collected: 03/14/18 00:01

Matrix: Water

Date Received: 03/14/18 17:10

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			03/17/18 03:44	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Acrolein	ND		50	2.5	ug/L			03/16/18 15:02	1
Acrylonitrile	ND		50	1.0	ug/L			03/16/18 15:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/17/18 03:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/17/18 03:44	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/17/18 03:44	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/17/18 03:44	1
2-Hexanone	ND		5.0	2.5	ug/L			03/17/18 03:44	1
Acetone	ND		20	10	ug/L			03/17/18 03:44	1
Acetonitrile	ND		20	10	ug/L			03/17/18 03:44	1
Acrolein	ND		5.0	2.5	ug/L			03/17/18 03:44	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/17/18 03:44	1
Benzene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Allyl chloride	ND		1.0	0.50	ug/L			03/17/18 03:44	1
Bromoform	ND		1.0	0.40	ug/L			03/17/18 03:44	1
Bromomethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/17/18 03:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Chloroethane	ND		1.0	0.40	ug/L			03/17/18 03:44	1
Chloroform	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Chloromethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Dibromomethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/17/18 03:44	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 03:44	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Iodomethane	ND		2.0	1.0	ug/L			03/17/18 03:44	1
Isobutyl alcohol	ND		25	13	ug/L			03/17/18 03:44	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/17/18 03:44	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/17/18 03:44	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/17/18 03:44	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: QCAB

Lab Sample ID: 440-205828-6

Date Collected: 03/14/18 00:01

Matrix: Water

Date Received: 03/14/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/17/18 03:44	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Naphthalene	ND		1.0	0.40	ug/L			03/17/18 03:44	1
o-Xylene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Propionitrile	ND		20	10	ug/L			03/17/18 03:44	1
Styrene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
t-Butanol	ND		10	5.0	ug/L			03/17/18 03:44	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/17/18 03:44	1
Toluene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/17/18 03:44	1
Trichloroethene	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/17/18 03:44	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/17/18 03:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/17/18 03:44	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/17/18 03:44	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/17/18 03:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/17/18 03:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					03/17/18 03:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		03/16/18 15:02	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/16/18 15:02	1
Toluene-d8 (Surr)	101		80 - 128		03/17/18 03:44	1
4-Bromofluorobenzene (Surr)	93		80 - 120		03/17/18 03:44	1
Dibromofluoromethane (Surr)	102		76 - 132		03/16/18 15:02	1
Dibromofluoromethane (Surr)	99		76 - 132		03/17/18 03:44	1

Method Summary

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

TestAmerica Job ID: 440-205828-1

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: 440-205828-1

Client Sample ID: Extraction Trench

Date Collected: 03/14/18 10:40

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-1

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	464099	03/17/18 01:32	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463656	03/15/18 17:56	TCN	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	464744	03/20/18 13:52	JS1	TAL IRV
Total/NA	Analysis	8270C		1			465071	03/21/18 18:24	HN	TAL IRV
Total/NA	Analysis	300.0		50			463998	03/17/18 01:23	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464483	03/19/18 14:31	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465138	03/21/18 18:31	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465598	03/23/18 11:30	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 14:11	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	464653	03/20/18 09:23	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	464173	03/16/18 11:40	YZ	TAL IRV

Client Sample ID: MW-2A

Date Collected: 03/14/18 08:40

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-2

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	464099	03/17/18 01:59	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463656	03/15/18 18:21	TCN	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	464744	03/20/18 13:52	JS1	TAL IRV
Total/NA	Analysis	8270C		1			465071	03/21/18 18:46	HN	TAL IRV
Total/NA	Analysis	300.0		10			463998	03/17/18 01:41	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464483	03/19/18 14:31	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465138	03/21/18 18:47	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465598	03/23/18 11:30	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 14:20	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464653	03/20/18 09:23	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	464173	03/16/18 10:02	YZ	TAL IRV

Client Sample ID: MW-2B

Date Collected: 03/14/18 10:55

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-3

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	464099	03/17/18 02:25	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463656	03/15/18 18:47	TCN	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	464744	03/20/18 13:52	JS1	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205828-1

Client Sample ID: MW-2B

Lab Sample ID: 440-205828-3

Date Collected: 03/14/18 10:55

Matrix: Water

Date Received: 03/14/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C		1			465071	03/21/18 19:09	HN	TAL IRV
Total/NA	Analysis	300.0		10			463998	03/17/18 02:00	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464483	03/19/18 14:31	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465138	03/21/18 18:50	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465598	03/23/18 11:30	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 14:29	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464653	03/20/18 09:23	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	464173	03/16/18 09:37	YZ	TAL IRV

Client Sample ID: MW-13R

Lab Sample ID: 440-205828-4

Date Collected: 03/14/18 14:15

Matrix: Water

Date Received: 03/14/18 17:10

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	464099	03/17/18 02:51	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463925	03/16/18 14:11	RM	TAL IRV
Total/NA	Prep	3520C			870 mL	1.0 mL	464744	03/20/18 13:52	JS1	TAL IRV
Total/NA	Analysis	8270C		1			465071	03/21/18 19:32	HN	TAL IRV
Total/NA	Analysis	300.0		50			463736	03/16/18 01:59	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464483	03/19/18 14:31	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465138	03/21/18 18:52	K1E	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465598	03/23/18 11:30	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 14:44	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464653	03/20/18 09:23	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	464173	03/16/18 11:55	YZ	TAL IRV

Client Sample ID: DW-4

Lab Sample ID: 440-205828-5

Date Collected: 03/14/18 12:35

Matrix: Water

Date Received: 03/14/18 17:10

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	464099	03/17/18 03:18	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463925	03/16/18 14:36	RM	TAL IRV
Total/NA	Prep	3520C			975 mL	1.0 mL	464744	03/20/18 13:52	JS1	TAL IRV
Total/NA	Analysis	8270C		1			465071	03/21/18 19:54	HN	TAL IRV
Total/NA	Analysis	300.0		10			464164	03/17/18 17:09	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	464483	03/19/18 14:31	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465138	03/21/18 18:54	K1E	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205828-1

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	2.5 mL	2.5 mL	465598	03/23/18 11:30	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463908	03/15/18 14:53	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	464958	03/21/18 09:31	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	464353	03/19/18 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			464370	03/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	464173	03/16/18 11:23	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 03/14/18 00:01

Date Received: 03/14/18 17:10

Lab Sample ID: 440-205828-6

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	464099	03/17/18 03:44	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	463925	03/16/18 15:02	RM	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: 440-205828-1

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

Lab Sample ID: MB 440-463656/4
Matrix: Water
Analysis Batch: 463656

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			03/15/18 08:33	1
Acrylonitrile	ND		50	1.0	ug/L			03/15/18 08:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		03/15/18 08:33	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/15/18 08:33	1
Dibromofluoromethane (Surr)	98		76 - 132		03/15/18 08:33	1

Lab Sample ID: LCS 440-463656/5
Matrix: Water
Analysis Batch: 463656

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	20.0	J	ug/L		80	10 - 145
Acrylonitrile	250	219		ug/L		88	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132

Lab Sample ID: LCSD 440-463656/6
Matrix: Water
Analysis Batch: 463656

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	25.0	20.5	J	ug/L		82	10 - 145	3	30
Acrylonitrile	250	221		ug/L		88	48 - 140	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: 550-99388-A-1 MS
Matrix: Water
Analysis Batch: 463656

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	19.4	J	ug/L		78	10 - 147
Acrylonitrile	ND		250	209		ug/L		83	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: 550-99388-A-1 MSD
Matrix: Water
Analysis Batch: 463656

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	19.7	J	ug/L		79	10 - 147	1	40
Acrylonitrile	ND		250	214		ug/L		86	38 - 144	3	40
Surrogate		MSD %Recovery	MSD Qualifier	Limits							
Toluene-d8 (Surr)		103		80 - 128							
4-Bromofluorobenzene (Surr)		101		80 - 120							
Dibromofluoromethane (Surr)		97		76 - 132							

Lab Sample ID: MB 440-463925/4
Matrix: Water
Analysis Batch: 463925

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acrolein	ND		50	2.5	ug/L			03/16/18 08:10	1	
Acrylonitrile	ND		50	1.0	ug/L			03/16/18 08:10	1	
Surrogate		MB %Recovery	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)		106		80 - 128			03/16/18 08:10	1		
4-Bromofluorobenzene (Surr)		98		80 - 120			03/16/18 08:10	1		
Dibromofluoromethane (Surr)		97		76 - 132			03/16/18 08:10	1		

Lab Sample ID: LCS 440-463925/5
Matrix: Water
Analysis Batch: 463925

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits			
Acrolein	25.0	17.7	J	ug/L		71	10 - 145			
Acrylonitrile	250	199		ug/L		79	48 - 140			
Surrogate		LCS %Recovery	LCS Qualifier	Limits						
Toluene-d8 (Surr)		103		80 - 128						
4-Bromofluorobenzene (Surr)		98		80 - 120						
Dibromofluoromethane (Surr)		97		76 - 132						

Lab Sample ID: 440-205762-B-3 MS
Matrix: Water
Analysis Batch: 463925

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND		25.0	15.9	J	ug/L		63	10 - 147		
Acrylonitrile	ND		250	178		ug/L		71	38 - 144		
Surrogate		MS %Recovery	MS Qualifier	Limits							
Toluene-d8 (Surr)		104		80 - 128							
4-Bromofluorobenzene (Surr)		98		80 - 120							
Dibromofluoromethane (Surr)		100		76 - 132							

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: 440-205762-B-3 MSD

Matrix: Water

Analysis Batch: 463925

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	16.4	J	ug/L		66	10 - 147	4	40
Acrylonitrile	ND		250	210		ug/L		84	38 - 144	16	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
<i>Toluene-d8 (Surr)</i>	103		80 - 128								
<i>4-Bromofluorobenzene (Surr)</i>	101		80 - 120								
<i>Dibromofluoromethane (Surr)</i>	99		76 - 132								

Lab Sample ID: MB 440-464099/5

Matrix: Water

Analysis Batch: 464099

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			03/16/18 18:29	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/16/18 18:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/16/18 18:29	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/16/18 18:29	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/16/18 18:29	1
2-Hexanone	ND		5.0	2.5	ug/L			03/16/18 18:29	1
Acetone	ND		20	10	ug/L			03/16/18 18:29	1
Acetonitrile	ND		20	10	ug/L			03/16/18 18:29	1
Acrolein	ND		5.0	2.5	ug/L			03/16/18 18:29	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/16/18 18:29	1
Benzene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Allyl chloride	ND		1.0	0.50	ug/L			03/16/18 18:29	1
Bromoform	ND		1.0	0.40	ug/L			03/16/18 18:29	1
Bromomethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/16/18 18:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Chloroethane	ND		1.0	0.40	ug/L			03/16/18 18:29	1
Chloroform	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Chloromethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/16/18 18:29	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: MB 440-464099/5
Matrix: Water
Analysis Batch: 464099

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Dibromomethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/16/18 18:29	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/16/18 18:29	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Iodomethane	ND		2.0	1.0	ug/L			03/16/18 18:29	1
Isobutyl alcohol	ND		25	13	ug/L			03/16/18 18:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/16/18 18:29	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/16/18 18:29	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/16/18 18:29	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/16/18 18:29	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Naphthalene	0.466	J	1.0	0.40	ug/L			03/16/18 18:29	1
o-Xylene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Propionitrile	ND		20	10	ug/L			03/16/18 18:29	1
Styrene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
t-Butanol	ND		10	5.0	ug/L			03/16/18 18:29	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/16/18 18:29	1
Toluene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/16/18 18:29	1
Trichloroethene	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/16/18 18:29	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/16/18 18:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/16/18 18:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/16/18 18:29	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/16/18 18:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/16/18 18:29	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L					03/16/18 18:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/16/18 18:29	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/16/18 18:29	1
Dibromofluoromethane (Surr)	98		76 - 132		03/16/18 18:29	1

Lab Sample ID: LCS 440-464099/6
Matrix: Water
Analysis Batch: 464099

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	24.2		ug/L		97	63 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: LCS 440-464099/6

Matrix: Water

Analysis Batch: 464099

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	27.5		ug/L		110	60 - 141
1,1,1-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.5		ug/L		94	63 - 130
1,1,2-Trichloroethane	25.0	25.0		ug/L		100	70 - 130
1,1-Dichloroethane	25.0	22.2		ug/L		89	64 - 130
1,1-Dichloroethene	25.0	21.7		ug/L		87	70 - 130
1,1-Dichloropropene	25.0	23.9		ug/L		96	70 - 130
1,2,4-Trichlorobenzene	25.0	27.7		ug/L		111	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	23.3		ug/L		93	52 - 140
1,2-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,2-Dichloroethane	25.0	23.1		ug/L		92	57 - 138
1,2-Dichloropropane	25.0	23.1		ug/L		93	67 - 130
1,3-Dichlorobenzene	25.0	26.6		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	23.3		ug/L		93	70 - 130
1,4-Dichlorobenzene	25.0	26.6		ug/L		106	70 - 130
2,2-Dichloropropane	25.0	24.4		ug/L		97	68 - 141
2-Hexanone	25.0	26.6		ug/L		106	10 - 150
Acetone	25.0	22.6		ug/L		90	10 - 150
Acrolein	25.0	21.1		ug/L		84	10 - 145
Acrylonitrile	25.0	23.3		ug/L		93	48 - 140
Benzene	25.0	23.4		ug/L		94	68 - 130
Bromoform	25.0	26.5		ug/L		106	60 - 148
Bromomethane	25.0	21.6		ug/L		86	64 - 139
Carbon disulfide	25.0	21.4		ug/L		85	52 - 136
Carbon tetrachloride	25.0	25.2		ug/L		101	60 - 150
Chlorobenzene	25.0	24.4		ug/L		98	70 - 130
Bromochloromethane	25.0	24.8		ug/L		99	70 - 130
Chloroethane	25.0	21.7		ug/L		87	64 - 135
Chloroform	25.0	22.8		ug/L		91	70 - 130
Chloromethane	25.0	19.3		ug/L		77	47 - 140
cis-1,2-Dichloroethene	25.0	23.0		ug/L		92	70 - 133
cis-1,3-Dichloropropene	25.0	23.6		ug/L		94	70 - 133
Dibromochloromethane	25.0	26.2		ug/L		105	69 - 145
Dibromomethane	25.0	24.1		ug/L		96	70 - 130
Bromodichloromethane	25.0	23.6		ug/L		95	70 - 132
Dichlorodifluoromethane	25.0	17.4		ug/L		70	29 - 150
Ethylbenzene	25.0	25.5		ug/L		102	70 - 130
m,p-Xylene	25.0	26.3		ug/L		105	70 - 130
Methylene Chloride	25.0	20.5		ug/L		82	52 - 130
Methyl tert-butyl ether	25.0	22.5		ug/L		90	63 - 131
Naphthalene	25.0	27.1		ug/L		108	60 - 140
o-Xylene	25.0	26.3		ug/L		105	70 - 130
Styrene	25.0	26.5		ug/L		106	70 - 134
t-Butanol	25.0	27.2		ug/L		109	70 - 130
Tetrachloroethene	25.0	26.6		ug/L		107	70 - 130
Toluene	25.0	25.1		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	23.0		ug/L		92	70 - 130
trans-1,3-Dichloropropene	25.0	23.3		ug/L		93	70 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: LCS 440-464099/6
Matrix: Water
Analysis Batch: 464099

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	25.3		ug/L		101	70 - 130
Trichlorofluoromethane	25.0	23.4		ug/L		94	60 - 150
Vinyl acetate	25.0	24.1		ug/L		96	48 - 140
Vinyl chloride	25.0	20.5		ug/L		82	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.2		ug/L		97	70 - 130
2-Butanone (MEK)	25.0	22.9		ug/L		92	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	26.3		ug/L		105	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

Lab Sample ID: 440-205872-A-1 MS
Matrix: Water
Analysis Batch: 464099

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	23.1		ug/L		92	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	26.4		ug/L		105	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.0		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	22.6		ug/L		90	63 - 130
1,1,2-Trichloroethane	ND		25.0	23.9		ug/L		96	70 - 130
1,1-Dichloroethane	4.2		25.0	25.8		ug/L		86	65 - 130
1,1-Dichloroethene	65	F1	25.0	82.1	F1	ug/L		67	70 - 130
1,1-Dichloropropene	ND		25.0	23.4		ug/L		93	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.3		ug/L		109	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	22.6		ug/L		90	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130
1,2-Dichloroethane	ND		25.0	23.0		ug/L		92	56 - 146
1,2-Dichloropropane	ND		25.0	22.5		ug/L		90	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
1,3-Dichloropropane	ND		25.0	22.7		ug/L		91	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	24.5		ug/L		98	69 - 138
2-Hexanone	ND		25.0	25.4		ug/L		102	10 - 150
Acetone	12	J	25.0	32.5		ug/L		84	10 - 150
Acrolein	ND		25.0	20.6		ug/L		82	10 - 147
Acrylonitrile	ND		25.0	22.5		ug/L		90	38 - 144
Benzene	ND		25.0	22.9		ug/L		92	66 - 130
Bromoform	ND		25.0	25.5		ug/L		102	59 - 150
Bromomethane	ND		25.0	21.5		ug/L		86	62 - 131
Carbon disulfide	ND		25.0	21.5		ug/L		86	49 - 140
Carbon tetrachloride	ND		25.0	25.0		ug/L		100	60 - 150
Chlorobenzene	ND		25.0	23.6		ug/L		94	70 - 130
Bromochloromethane	ND		25.0	24.3		ug/L		97	70 - 130
Chloroethane	ND		25.0	21.6		ug/L		86	68 - 130
Chloroform	0.36	J	25.0	22.9		ug/L		90	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: 440-205872-A-1 MS

Matrix: Water

Analysis Batch: 464099

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	ND		25.0	18.7		ug/L		75	39 - 144
cis-1,2-Dichloroethene	3.7		25.0	26.4		ug/L		91	70 - 130
cis-1,3-Dichloropropene	ND		25.0	23.4		ug/L		94	70 - 133
Dibromochloromethane	ND		25.0	25.3		ug/L		101	70 - 148
Dibromomethane	ND		25.0	23.5		ug/L		94	70 - 130
Bromodichloromethane	ND		25.0	23.0		ug/L		92	70 - 138
Dichlorodifluoromethane	ND		25.0	17.4		ug/L		69	25 - 142
Ethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130
m,p-Xylene	ND		25.0	26.1		ug/L		104	70 - 133
Methylene Chloride	ND		25.0	19.7		ug/L		79	52 - 130
Methyl tert-butyl ether	ND		25.0	22.5		ug/L		90	70 - 130
Naphthalene	0.47	J B	25.0	25.8		ug/L		101	60 - 140
o-Xylene	ND		25.0	25.6		ug/L		102	70 - 133
Styrene	ND		25.0	23.9		ug/L		96	29 - 150
t-Butanol	ND		250	308		ug/L		123	70 - 130
Tetrachloroethene	12		25.0	38.0		ug/L		103	70 - 137
Toluene	ND		25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	ND		25.0	22.9		ug/L		92	70 - 130
trans-1,3-Dichloropropene	ND		25.0	22.9		ug/L		91	70 - 138
Trichloroethene	37		25.0	59.7		ug/L		91	70 - 130
Trichlorofluoromethane	0.31	J	25.0	24.0		ug/L		95	60 - 150
Vinyl acetate	ND		25.0	23.3		ug/L		93	23 - 150
Vinyl chloride	ND		25.0	20.2		ug/L		81	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	23.8		ug/L		95	70 - 131
2-Butanone (MEK)	ND		25.0	22.9		ug/L		91	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.7		ug/L		99	52 - 150

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

Lab Sample ID: 440-205872-A-1 MSD

Matrix: Water

Analysis Batch: 464099

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		102	60 - 130	10	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	24.1		ug/L		96	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.1		ug/L		97	63 - 130	7	30
1,1,2-Trichloroethane	ND		25.0	25.9		ug/L		104	70 - 130	8	25
1,1-Dichloroethane	4.2		25.0	26.0		ug/L		87	65 - 130	1	20
1,1-Dichloroethene	65	F1	25.0	80.5	F1	ug/L		60	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	23.5		ug/L		94	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		25.0	28.1		ug/L		112	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		25.0	25.2		ug/L		101	48 - 140	11	30
1,2-Dichlorobenzene	ND		25.0	26.6		ug/L		106	70 - 130	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: 440-205872-A-1 MSD
Matrix: Water
Analysis Batch: 464099

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	ND		25.0	23.1		ug/L		93	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	22.9		ug/L		92	69 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	23.7		ug/L		95	70 - 130	4	25
1,4-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	24.3		ug/L		97	69 - 138	1	25
2-Hexanone	ND		25.0	28.2		ug/L		113	10 - 150	10	35
Acetone	12	J	25.0	34.0		ug/L		90	10 - 150	5	35
Acrolein	ND		25.0	22.1		ug/L		88	10 - 147	7	40
Acrylonitrile	ND		25.0	246		ug/L		98	38 - 144	9	40
Benzene	ND		25.0	23.2		ug/L		93	66 - 130	1	20
Bromoform	ND		25.0	27.6		ug/L		111	59 - 150	8	25
Bromomethane	ND		25.0	21.5		ug/L		86	62 - 131	0	25
Carbon disulfide	ND		25.0	21.4		ug/L		85	49 - 140	1	20
Carbon tetrachloride	ND		25.0	25.0		ug/L		100	60 - 150	0	25
Chlorobenzene	ND		25.0	23.8		ug/L		95	70 - 130	1	20
Bromochloromethane	ND		25.0	24.8		ug/L		99	70 - 130	2	25
Chloroethane	ND		25.0	21.8		ug/L		87	68 - 130	1	25
Chloroform	0.36	J	25.0	22.6		ug/L		89	70 - 130	2	20
Chloromethane	ND		25.0	18.9		ug/L		75	39 - 144	1	25
cis-1,2-Dichloroethene	3.7		25.0	26.5		ug/L		91	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	23.7		ug/L		95	70 - 133	1	20
Dibromochloromethane	ND		25.0	26.4		ug/L		105	70 - 148	4	25
Dibromomethane	ND		25.0	24.1		ug/L		96	70 - 130	2	25
Bromodichloromethane	ND		25.0	23.5		ug/L		94	70 - 138	2	20
Dichlorodifluoromethane	ND		25.0	16.7		ug/L		67	25 - 142	4	30
Ethylbenzene	ND		25.0	24.8		ug/L		99	70 - 130	0	20
m,p-Xylene	ND		25.0	26.3		ug/L		105	70 - 133	1	25
Methylene Chloride	ND		25.0	19.5		ug/L		78	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	23.1		ug/L		93	70 - 130	3	25
Naphthalene	0.47	J B	25.0	28.0		ug/L		110	60 - 140	8	30
o-Xylene	ND		25.0	25.9		ug/L		103	70 - 133	1	20
Styrene	ND		25.0	23.5		ug/L		94	29 - 150	2	35
t-Butanol	ND		25.0	302		ug/L		121	70 - 130	2	25
Tetrachloroethene	12		25.0	37.5		ug/L		101	70 - 137	1	20
Toluene	ND		25.0	25.2		ug/L		101	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	23.5		ug/L		94	70 - 138	3	25
Trichloroethene	37		25.0	58.7		ug/L		87	70 - 130	2	20
Trichlorofluoromethane	0.31	J	25.0	24.0		ug/L		95	60 - 150	0	25
Vinyl acetate	ND		25.0	24.4		ug/L		97	23 - 150	5	30
Vinyl chloride	ND		25.0	20.0		ug/L		80	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	25.1		ug/L		100	70 - 131	5	25
2-Butanone (MEK)	ND		25.0	24.6		ug/L		99	48 - 140	7	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.4		ug/L		110	52 - 150	10	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: 440-205872-A-1 MSD
Matrix: Water
Analysis Batch: 464099

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

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

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

Lab Sample ID: MB 440-464744/1-A
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464744

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		0.98	0.24	ug/L		03/20/18 13:52	03/21/18 23:35	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,4-Dioxane-d8 (Surr)	75		30 - 120	03/20/18 13:52	03/21/18 23:35	1

Lab Sample ID: LCS 440-464744/3-A
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464744

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
1,4-Dioxane	1.95	1.41		ug/L		72	35 - 120

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,4-Dioxane-d8 (Surr)	69		30 - 120

Lab Sample ID: 440-205995-A-3-A MS
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 464744

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
1,4-Dioxane	ND		1.95	1.39		ug/L		71	35 - 120

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,4-Dioxane-d8 (Surr)	69		30 - 120

Lab Sample ID: 440-205995-A-3-B MSD
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 464744

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
1,4-Dioxane	ND		1.95	1.33		ug/L		68	35 - 120	4	25

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,4-Dioxane-d8 (Surr)	66		30 - 120

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-463736/6
Matrix: Water
Analysis Batch: 463736

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/15/18 12:09	1

Lab Sample ID: LCS 440-463736/5
Matrix: Water
Analysis Batch: 463736

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	4.58		mg/L		92	90 - 110

Lab Sample ID: 440-206039-L-8 MS
Matrix: Water
Analysis Batch: 463736

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	E	5.00	147	E 4	mg/L		99	80 - 120

Lab Sample ID: 440-206039-L-8 MSD
Matrix: Water
Analysis Batch: 463736

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	E	5.00	146	E 4	mg/L		94	80 - 120	0	20

Lab Sample ID: MB 440-463998/6
Matrix: Water
Analysis Batch: 463998

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/16/18 14:04	1

Lab Sample ID: LCS 440-463998/5
Matrix: Water
Analysis Batch: 463998

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	4.83		mg/L		97	90 - 110

Lab Sample ID: 440-206068-C-2 MS
Matrix: Water
Analysis Batch: 463998

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	230	E	5.00	237	E 4	mg/L		116	80 - 120

Lab Sample ID: 440-206068-C-2 MSD
Matrix: Water
Analysis Batch: 463998

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	230	E	5.00	237	E 4	mg/L		121	80 - 120	0	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

Lab Sample ID: MB 440-464164/6
Matrix: Water
Analysis Batch: 464164

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/17/18 15:54	1

Lab Sample ID: LCS 440-464164/5
Matrix: Water
Analysis Batch: 464164

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	4.65		mg/L		93	90 - 110

Lab Sample ID: 440-206063-A-1 MS
Matrix: Water
Analysis Batch: 464164

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	130		50.0	188		mg/L		114	80 - 120

Lab Sample ID: 440-206063-A-1 MSD
Matrix: Water
Analysis Batch: 464164

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	130		50.0	188		mg/L		114	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-464483/1-A
Matrix: Water
Analysis Batch: 465138

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 464483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		03/19/18 14:31	03/21/18 18:12	1

Lab Sample ID: LCS 440-464483/2-A
Matrix: Water
Analysis Batch: 465138

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 464483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.58		mg/L		96	80 - 120

Lab Sample ID: 440-205788-C-1-B MS
Matrix: Water
Analysis Batch: 465138

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 464483

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	2.4		10.0	11.7		mg/L		92	75 - 125

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

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

Lab Sample ID: 440-205788-C-1-C MSD

Matrix: Water

Analysis Batch: 465138

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 464483

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	2.4		10.0	11.2		mg/L		87	75 - 125	5	20

Method: 410.4 - COD

Lab Sample ID: MB 440-465598/3

Matrix: Water

Analysis Batch: 465598

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			03/23/18 11:29	1

Lab Sample ID: LCS 440-465598/4

Matrix: Water

Analysis Batch: 465598

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: 440-205828-2 MS

Matrix: Water

Analysis Batch: 465598

Client Sample ID: MW-2A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	184		mg/L		92	70 - 120

Lab Sample ID: 440-205828-2 MSD

Matrix: Water

Analysis Batch: 465598

Client Sample ID: MW-2A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	187		mg/L		94	70 - 120	2	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-463908/19

Matrix: Water

Analysis Batch: 463908

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			03/15/18 13:30	1

Lab Sample ID: LCS 440-463908/18

Matrix: Water

Analysis Batch: 463908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	98.9	97.1		mg/L		98	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 440-205810-J-1 DU
Matrix: Water
Analysis Batch: 463908

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		0.4	20

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

Lab Sample ID: MB 440-464653/1
Matrix: Water
Analysis Batch: 464653

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			03/20/18 09:23	1

Lab Sample ID: LCS 440-464653/2
Matrix: Water
Analysis Batch: 464653

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: 440-205828-1 DU
Matrix: Water
Analysis Batch: 464653

Client Sample ID: Extraction Trench
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3600		3660		mg/L		1	5

Lab Sample ID: MB 440-464958/1
Matrix: Water
Analysis Batch: 464958

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			03/21/18 09:31	1

Lab Sample ID: LCS 440-464958/2
Matrix: Water
Analysis Batch: 464958

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: 440-206035-D-1 DU
Matrix: Water
Analysis Batch: 464958

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	250		247		mg/L		0.8	5

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-464353/2-A
Matrix: Water
Analysis Batch: 464370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		03/19/18 06:00	03/19/18 08:00	1

Lab Sample ID: LCS 440-464353/1-A
Matrix: Water
Analysis Batch: 464370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.36		mg/L		95	85 - 115

Lab Sample ID: 440-205642-I-2-B MS
Matrix: Water
Analysis Batch: 464370

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 464353

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	10		12.5	22.0		mg/L		94	75 - 125

Lab Sample ID: 440-205642-I-2-C MSD
Matrix: Water
Analysis Batch: 464370

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 464353

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	10		12.5	21.2		mg/L		88	75 - 125	4	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-464173/6
Matrix: Water
Analysis Batch: 464173

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			03/16/18 09:08	1

Lab Sample ID: LCS 440-464173/5
Matrix: Water
Analysis Batch: 464173

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	9.55		mg/L		96	90 - 110

Lab Sample ID: MRL 440-464173/4
Matrix: Water
Analysis Batch: 464173

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	0.0700	J	mg/L		70	50 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205828-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-205828-3 MS
Matrix: Water
Analysis Batch: 464173

Client Sample ID: MW-2B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	2.0		10.0	12.1		mg/L		102	80 - 120

Lab Sample ID: 440-205828-3 MSD
Matrix: Water
Analysis Batch: 464173

Client Sample ID: MW-2B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	2.0		10.0	12.2		mg/L		103	80 - 120	1	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Association Summary

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

TestAmerica Job ID: 440-205828-1

GC/MS VOA

Analysis Batch: 463656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	8260B	
440-205828-2	MW-2A	Total/NA	Water	8260B	
440-205828-3	MW-2B	Total/NA	Water	8260B	
MB 440-463656/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463656/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-463656/6	Lab Control Sample Dup	Total/NA	Water	8260B	
550-99388-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
550-99388-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 463925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-4	MW-13R	Total/NA	Water	8260B	
440-205828-5	DW-4	Total/NA	Water	8260B	
440-205828-6	QCAB	Total/NA	Water	8260B	
MB 440-463925/4	Method Blank	Total/NA	Water	8260B	
LCS 440-463925/5	Lab Control Sample	Total/NA	Water	8260B	
440-205762-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-205762-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 464099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	8260B	
440-205828-2	MW-2A	Total/NA	Water	8260B	
440-205828-3	MW-2B	Total/NA	Water	8260B	
440-205828-4	MW-13R	Total/NA	Water	8260B	
440-205828-5	DW-4	Total/NA	Water	8260B	
440-205828-6	QCAB	Total/NA	Water	8260B	
MB 440-464099/5	Method Blank	Total/NA	Water	8260B	
LCS 440-464099/6	Lab Control Sample	Total/NA	Water	8260B	
440-205872-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-205872-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 464744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	3520C	
440-205828-2	MW-2A	Total/NA	Water	3520C	
440-205828-3	MW-2B	Total/NA	Water	3520C	
440-205828-4	MW-13R	Total/NA	Water	3520C	
440-205828-5	DW-4	Total/NA	Water	3520C	
MB 440-464744/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-464744/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-205995-A-3-A MS	Matrix Spike	Total/NA	Water	3520C	
440-205995-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 465071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	8270C	464744
440-205828-2	MW-2A	Total/NA	Water	8270C	464744

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205828-1

GC/MS Semi VOA (Continued)

Analysis Batch: 465071 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-3	MW-2B	Total/NA	Water	8270C	464744
440-205828-4	MW-13R	Total/NA	Water	8270C	464744
440-205828-5	DW-4	Total/NA	Water	8270C	464744
MB 440-464744/1-A	Method Blank	Total/NA	Water	8270C	464744
LCS 440-464744/3-A	Lab Control Sample	Total/NA	Water	8270C	464744
440-205995-A-3-A MS	Matrix Spike	Total/NA	Water	8270C	464744
440-205995-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	464744

HPLC/IC

Analysis Batch: 463736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-4	MW-13R	Total/NA	Water	300.0	
MB 440-463736/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463736/5	Lab Control Sample	Total/NA	Water	300.0	
440-206039-L-8 MS	Matrix Spike	Total/NA	Water	300.0	
440-206039-L-8 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 463998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	300.0	
440-205828-2	MW-2A	Total/NA	Water	300.0	
440-205828-3	MW-2B	Total/NA	Water	300.0	
MB 440-463998/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463998/5	Lab Control Sample	Total/NA	Water	300.0	
440-206068-C-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-206068-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 464164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-5	DW-4	Total/NA	Water	300.0	
MB 440-464164/6	Method Blank	Total/NA	Water	300.0	
LCS 440-464164/5	Lab Control Sample	Total/NA	Water	300.0	
440-206063-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-206063-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 464483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total Recoverable	Water	3005A	
440-205828-2	MW-2A	Total Recoverable	Water	3005A	
440-205828-3	MW-2B	Total Recoverable	Water	3005A	
440-205828-4	MW-13R	Total Recoverable	Water	3005A	
440-205828-5	DW-4	Total Recoverable	Water	3005A	
MB 440-464483/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-464483/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-205788-C-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-205788-C-1-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: 440-205828-1

Metals (Continued)

Analysis Batch: 465138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total Recoverable	Water	6010B	464483
440-205828-2	MW-2A	Total Recoverable	Water	6010B	464483
440-205828-3	MW-2B	Total Recoverable	Water	6010B	464483
440-205828-4	MW-13R	Total Recoverable	Water	6010B	464483
440-205828-5	DW-4	Total Recoverable	Water	6010B	464483
MB 440-464483/1-A	Method Blank	Total Recoverable	Water	6010B	464483
LCS 440-464483/2-A	Lab Control Sample	Total Recoverable	Water	6010B	464483
440-205788-C-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	464483
440-205788-C-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	464483

General Chemistry

Analysis Batch: 463908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	SM 2320B	
440-205828-2	MW-2A	Total/NA	Water	SM 2320B	
440-205828-3	MW-2B	Total/NA	Water	SM 2320B	
440-205828-4	MW-13R	Total/NA	Water	SM 2320B	
440-205828-5	DW-4	Total/NA	Water	SM 2320B	
MB 440-463908/19	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-463908/18	Lab Control Sample	Total/NA	Water	SM 2320B	
440-205810-J-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 464173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	SM 5310C	
440-205828-2	MW-2A	Total/NA	Water	SM 5310C	
440-205828-3	MW-2B	Total/NA	Water	SM 5310C	
440-205828-4	MW-13R	Total/NA	Water	SM 5310C	
440-205828-5	DW-4	Total/NA	Water	SM 5310C	
MB 440-464173/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-464173/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-464173/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-205828-3 MS	MW-2B	Total/NA	Water	SM 5310C	
440-205828-3 MSD	MW-2B	Total/NA	Water	SM 5310C	

Prep Batch: 464353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	SM 4500 NH3 B	
440-205828-2	MW-2A	Total/NA	Water	SM 4500 NH3 B	
440-205828-3	MW-2B	Total/NA	Water	SM 4500 NH3 B	
440-205828-4	MW-13R	Total/NA	Water	SM 4500 NH3 B	
440-205828-5	DW-4	Total/NA	Water	SM 4500 NH3 B	
MB 440-464353/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-464353/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-205642-I-2-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-205642-I-2-C MSD	Matrix Spike 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: 440-205828-1

General Chemistry (Continued)

Analysis Batch: 464370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	SM 4500 NH3 D	464353
440-205828-2	MW-2A	Total/NA	Water	SM 4500 NH3 D	464353
440-205828-3	MW-2B	Total/NA	Water	SM 4500 NH3 D	464353
440-205828-4	MW-13R	Total/NA	Water	SM 4500 NH3 D	464353
440-205828-5	DW-4	Total/NA	Water	SM 4500 NH3 D	464353
MB 440-464353/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	464353
LCS 440-464353/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-I-2-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	464353
440-205642-I-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	464353

Analysis Batch: 464653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	SM 2540C	
440-205828-2	MW-2A	Total/NA	Water	SM 2540C	
440-205828-3	MW-2B	Total/NA	Water	SM 2540C	
440-205828-4	MW-13R	Total/NA	Water	SM 2540C	
MB 440-464653/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-464653/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-205828-1 DU	Extraction Trench	Total/NA	Water	SM 2540C	

Analysis Batch: 464958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-5	DW-4	Total/NA	Water	SM 2540C	
MB 440-464958/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-464958/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-206035-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 465598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205828-1	Extraction Trench	Total/NA	Water	410.4	
440-205828-2	MW-2A	Total/NA	Water	410.4	
440-205828-3	MW-2B	Total/NA	Water	410.4	
440-205828-4	MW-13R	Total/NA	Water	410.4	
440-205828-5	DW-4	Total/NA	Water	410.4	
MB 440-465598/3	Method Blank	Total/NA	Water	410.4	
LCS 440-465598/4	Lab Control Sample	Total/NA	Water	410.4	
440-205828-2 MS	MW-2A	Total/NA	Water	410.4	
440-205828-2 MSD	MW-2A	Total/NA	Water	410.4	

Definitions/Glossary

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

TestAmerica Job ID: 440-205828-1

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

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.
N	Presumptive evidence of material.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 440-205828-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18 *
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18
Nevada	State Program	9	CA015312018-1	07-31-18
New Mexico	State Program	6	N/A	01-29-19
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

TestAmerica Irvine
 17451 Verlan Ave
 Suite 100
 Irvine, CA 92614
 Phone: 949.261.1022 Fax:

Chain of Custody Record 210144

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

Regulatory Program: DW NPDES RCRA Other:

Project Manager: **Kyle Williams** Date: **3-12-18**
 Tel/Fax: **858-451-1136** Carrier: **TA**

Site Contact: **Josh Miller** Lab Contact: **Rossing**

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

Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Site Contact	Lab Contact	Date	Carrier	COC No
3/14/18	1040	G	WW	12	X	X	Josh Miller	Rossing	3-12-18	TA	1 of 1
1055	0810	G	GW	12	X	X	Josh Miller	Rossing	3-12-18	TA	1 of 1
1415	1055	G	GW	12	X	X	Josh Miller	Rossing	3-12-18	TA	1 of 1
1035	1415	G	GW	12	X	X	Josh Miller	Rossing	3-12-18	TA	1 of 1
↓	↓	↓	LAB	4	X	X	Josh Miller	Rossing	3-12-18	TA	1 of 1
↓	↓	↓	P.F.	4	X	X	Josh Miller	Rossing	3-12-18	TA	1 of 1

Sample Specific Notes: **Metals are not field filtered**

Barcode: 440-205828 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other
 Possible Hazard Identification: _____
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

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

Cooler Temp. (°C) Obs'd: **6.0**

Received by: **[Signature]** Company: **Geo-Logic** Date/Time: **3-14-18 1735**
 Received by: **[Signature]** Company: **Geo-Logic** Date/Time: **3-14-18 1735**
 Received in Laboratory by: **[Signature]** Company: **Geo-Logic** Date/Time: **3/14/18 1710**

IR-87: 11/11 2.9/2.9



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-205828-1

Login Number: 205828

List Number: 1

Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-205980-1

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:

3/27/2018 3:43:36 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	5
Method Summary	13
Lab Chronicle	14
QC Sample Results	16
QC Association Summary	29
Definitions/Glossary	32
Certification Summary	33
Chain of Custody	34
Receipt Checklists	35

Sample Summary

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

TestAmerica Job ID: 440-205980-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-205980-1	DW-5	Water	03/15/18 08:05	03/15/18 15:30
440-205980-2	MW-1	Water	03/15/18 09:10	03/15/18 15:30
440-205980-3	QCAB	Water	03/15/18 00:01	03/15/18 15:30
440-205980-4	QCTB	Water	03/15/18 00:01	03/15/18 15:30

1

2

3

4

5

6

7

8

9

10

11

12

13

Case Narrative

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

TestAmerica Job ID: 440-205980-1

Job ID: 440-205980-1

Laboratory: TestAmerica Irvine

Narrative

**Job Narrative
440-205980-1**

Comments

No additional comments.

Receipt

The samples were received on 3/15/2018 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

GC/MS VOA

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

GC/MS Semi VOA

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

HPLC/IC

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

Metals

Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-465079 and analytical batch 440-465306 were outside control limits for Potassium. 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: 440-205980-1

Client Sample ID: DW-5
Date Collected: 03/15/18 08:05
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-1
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			03/19/18 15:24	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Acrolein	ND		50	2.5	ug/L			03/17/18 02:36	1
Acrylonitrile	ND		50	1.0	ug/L			03/17/18 02:36	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 15:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 15:24	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 15:24	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 15:24	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 15:24	1
Acetone	ND		20	10	ug/L			03/19/18 15:24	1
Acetonitrile	ND		20	10	ug/L			03/19/18 15:24	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 15:24	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 15:24	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 15:24	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 15:24	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 15:24	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 15:24	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 15:24	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 15:24	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 15:24	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 15:24	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 15:24	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 15:24	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 15:24	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: DW-5
Date Collected: 03/15/18 08:05
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 15:24	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 15:24	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Propionitrile	ND		20	10	ug/L			03/19/18 15:24	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 15:24	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 15:24	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 15:24	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 15:24	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 15:24	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 15:24	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 15:24	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 15:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 15:24	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Butane, 2,3-dimethyl-	11	T J N	ug/L		4.70	79-29-8		03/19/18 15:24	1
Unknown	9.8	T J	ug/L		6.09			03/19/18 15:24	1
Benzene, (2-methylpropyl)-	8.8	T J N	ug/L		11.69	538-93-2		03/19/18 15:24	1
1H-Indene, 2,3-dihydro-1,6-dimethyl-	9.1	T J N	ug/L		13.04	17059-48-2		03/19/18 15:24	1
Benzene, 1,2,3,5-tetramethyl-	34	T J N	ug/L		13.23	527-53-7		03/19/18 15:24	1
Benzene, 2,4-diethyl-1-methyl-	7.6	T J N	ug/L		13.61	1758-85-6		03/19/18 15:24	1
Benzene, pentamethyl-	16	T J N	ug/L		13.94	700-12-9		03/19/18 15:24	1
Benzene, pentamethyl-	9.7	T J N	ug/L		14.31	700-12-9		03/19/18 15:24	1
1H-Indene, 2,3-dihydro-4,6-dimethyl-	9.5	T J N	ug/L		14.64	1685-82-1		03/19/18 15:24	1
Unknown	8.3	T J	ug/L		14.83			03/19/18 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		03/17/18 02:36	1
4-Bromofluorobenzene (Surr)	105		80 - 120		03/17/18 02:36	1
Toluene-d8 (Surr)	101		80 - 128		03/19/18 15:24	1
4-Bromofluorobenzene (Surr)	91		80 - 120		03/19/18 15:24	1
Dibromofluoromethane (Surr)	102		76 - 132		03/17/18 02:36	1
Dibromofluoromethane (Surr)	113		76 - 132		03/19/18 15:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		03/20/18 14:00	03/22/18 03:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	69		30 - 120	03/20/18 14:00	03/22/18 03:15	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		5.0	2.5	mg/L			03/17/18 01:17	10

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1.0		0.50	0.25	mg/L		03/21/18 14:28	03/22/18 01:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.27		0.20	0.10	mg/L			03/22/18 23:05	1
Chemical Oxygen Demand	ND		20	10	mg/L			03/23/18 17:41	1
Total Dissolved Solids	1200		10	5.0	mg/L			03/22/18 09:23	1
Total Organic Carbon	8.4		0.10	0.050	mg/L			03/16/18 12:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	920		4.0	4.0	mg/L			03/16/18 07:25	1

Client Sample ID: MW-1

Date Collected: 03/15/18 09:10

Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-2

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			03/19/18 15:53	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Acrolein	ND		50	2.5	ug/L			03/17/18 03:04	1
Acrylonitrile	ND		50	1.0	ug/L			03/17/18 03:04	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 15:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 15:53	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 15:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 15:53	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 15:53	1
Acetone	ND		20	10	ug/L			03/19/18 15:53	1
Acetonitrile	ND		20	10	ug/L			03/19/18 15:53	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 15:53	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 15:53	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 15:53	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 15:53	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 15:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 15:53	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: MW-1
Date Collected: 03/15/18 09:10
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 15:53	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 15:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 15:53	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 15:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 15:53	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 15:53	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 15:53	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 15:53	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 15:53	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Propionitrile	ND		20	10	ug/L			03/19/18 15:53	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
t-Butanol	15	ID	10	5.0	ug/L			03/19/18 15:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 15:53	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 15:53	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 15:53	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 15:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 15:53	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 15:53	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 15:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 15:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.1	TJ	ug/L		4.67			03/19/18 15:53	1
Unknown	9.4	TJ	ug/L		6.09			03/19/18 15:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		03/17/18 03:04	1
4-Bromofluorobenzene (Surr)	109		80 - 120		03/17/18 03:04	1
Toluene-d8 (Surr)	104		80 - 128		03/19/18 15:53	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/19/18 15:53	1
Dibromofluoromethane (Surr)	106		76 - 132		03/17/18 03:04	1
Dibromofluoromethane (Surr)	113		76 - 132		03/19/18 15:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	21		1.0	0.25	ug/L		03/20/18 14:00	03/22/18 03:37	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: MW-1
Date Collected: 03/15/18 09:10
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	60		30 - 120	03/20/18 14:00	03/22/18 03:37	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		100	50	mg/L			03/16/18 01:03	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	31		0.50	0.25	mg/L		03/21/18 14:28	03/22/18 01:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	4.5		1.0	0.50	mg/L			03/22/18 23:10	5
Chemical Oxygen Demand	100		20	10	mg/L			03/23/18 17:41	1
Total Dissolved Solids	3800		50	25	mg/L			03/22/18 09:23	1
Total Organic Carbon	24		0.50	0.25	mg/L			03/16/18 15:45	5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	690		4.0	4.0	mg/L			03/16/18 07:06	1

Client Sample ID: QCAB
Date Collected: 03/15/18 00:01
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-3
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			03/19/18 16:22	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Acrolein	ND		50	2.5	ug/L			03/17/18 03:32	1
Acrylonitrile	ND		50	1.0	ug/L			03/17/18 03:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 16:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 16:22	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 16:22	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 16:22	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 16:22	1
Acetone	ND		20	10	ug/L			03/19/18 16:22	1
Acetonitrile	ND		20	10	ug/L			03/19/18 16:22	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 16:22	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 16:22	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 16:22	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: QCAB

Lab Sample ID: 440-205980-3

Date Collected: 03/15/18 00:01

Matrix: Water

Date Received: 03/15/18 15:30

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			03/19/18 16:22	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 16:22	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 16:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 16:22	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 16:22	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 16:22	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 16:22	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 16:22	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 16:22	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 16:22	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 16:22	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 16:22	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 16:22	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Propionitrile	ND		20	10	ug/L			03/19/18 16:22	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 16:22	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 16:22	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 16:22	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 16:22	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 16:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 16:22	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 16:22	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 16:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 16:22	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.9	T J	ug/L		6.09			03/19/18 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/17/18 03:32	1
4-Bromofluorobenzene (Surr)	107		80 - 120		03/17/18 03:32	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: QCAB

Date Collected: 03/15/18 00:01

Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-3

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/19/18 16:22	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/19/18 16:22	1
Dibromofluoromethane (Surr)	105		76 - 132		03/17/18 03:32	1
Dibromofluoromethane (Surr)	122		76 - 132		03/19/18 16:22	1

Client Sample ID: QCTB

Date Collected: 03/15/18 00:01

Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-4

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			03/19/18 16:51	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Acrolein	ND		50	2.5	ug/L			03/17/18 04:00	1
Acrylonitrile	ND		50	1.0	ug/L			03/17/18 04:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 16:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 16:51	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 16:51	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 16:51	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 16:51	1
Acetone	ND		20	10	ug/L			03/19/18 16:51	1
Acetonitrile	ND		20	10	ug/L			03/19/18 16:51	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 16:51	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 16:51	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 16:51	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 16:51	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 16:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 16:51	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 16:51	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: QCTB
Date Collected: 03/15/18 00:01
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 16:51	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 16:51	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 16:51	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 16:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 16:51	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 16:51	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 16:51	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 16:51	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 16:51	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Propionitrile	ND		20	10	ug/L			03/19/18 16:51	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 16:51	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 16:51	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 16:51	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 16:51	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 16:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 16:51	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 16:51	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 16:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 16:51	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.7	TJ	ug/L		6.09			03/19/18 16:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/17/18 04:00	1
4-Bromofluorobenzene (Surr)	110		80 - 120		03/17/18 04:00	1
Toluene-d8 (Surr)	102		80 - 128		03/19/18 16:51	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/19/18 16:51	1
Dibromofluoromethane (Surr)	104		76 - 132		03/17/18 04:00	1
Dibromofluoromethane (Surr)	119		76 - 132		03/19/18 16:51	1

Method Summary

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

TestAmerica Job ID: 440-205980-1

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: 440-205980-1

Client Sample ID: DW-5
Date Collected: 03/15/18 08:05
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-1
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	464097	03/17/18 02:36	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 15:24	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	464746	03/20/18 14:00	JS1	TAL IRV
Total/NA	Analysis	8270C		1			465071	03/22/18 03:15	HN	TAL IRV
Total/NA	Analysis	300.0		10			463993	03/17/18 01:17	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	465079	03/21/18 14:28	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465306	03/22/18 01:14	K1E	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	465468	03/22/18 23:05	MMH	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465711	03/23/18 17:41	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463947	03/16/18 07:25	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	465245	03/22/18 09:23	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	464173	03/16/18 12:12	YZ	TAL IRV

Client Sample ID: MW-1
Date Collected: 03/15/18 09:10
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-2
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	464097	03/17/18 03:04	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 15:53	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	464746	03/20/18 14:00	JS1	TAL IRV
Total/NA	Analysis	8270C		1			465071	03/22/18 03:37	HN	TAL IRV
Total/NA	Analysis	300.0		200			463736	03/16/18 01:03	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	465079	03/21/18 14:28	JL	TAL IRV
Total Recoverable	Analysis	6010B		1			465306	03/22/18 01:16	K1E	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8 mL	465468	03/22/18 23:10	MMH	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	465711	03/23/18 17:41	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			463947	03/16/18 07:06	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	465245	03/22/18 09:23	XL	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	464173	03/16/18 15:45	YZ	TAL IRV

Client Sample ID: QCAB
Date Collected: 03/15/18 00:01
Date Received: 03/15/18 15:30

Lab Sample ID: 440-205980-3
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	464097	03/17/18 03:32	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 16:22	RM	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-205980-1

Client Sample ID: QCTB

Lab Sample ID: 440-205980-4

Date Collected: 03/15/18 00:01

Matrix: Water

Date Received: 03/15/18 15:30

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	464097	03/17/18 04:00	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	464334	03/19/18 16:51	RM	TAL IRV

Laboratory References:

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: MB 440-464097/4
Matrix: Water
Analysis Batch: 464097

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			03/16/18 18:07	1
Acrylonitrile	ND		50	1.0	ug/L			03/16/18 18:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		03/16/18 18:07	1
4-Bromofluorobenzene (Surr)	109		80 - 120		03/16/18 18:07	1
Dibromofluoromethane (Surr)	106		76 - 132		03/16/18 18:07	1

Lab Sample ID: LCS 440-464097/5
Matrix: Water
Analysis Batch: 464097

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	18.6	J	ug/L		75	10 - 145
Acrylonitrile	250	257		ug/L		103	48 - 140

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

Lab Sample ID: 440-206045-A-3 MS
Matrix: Water
Analysis Batch: 464097

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	18.7	J	ug/L		75	10 - 147
Acrylonitrile	ND		250	262		ug/L		105	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

Lab Sample ID: 440-206045-A-3 MSD
Matrix: Water
Analysis Batch: 464097

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	17.9	J	ug/L		72	10 - 147	4	40
Acrylonitrile	ND		250	251		ug/L		100	38 - 144	4	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: MB 440-464334/4
Matrix: Water
Analysis Batch: 464334

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			03/19/18 08:17	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/19/18 08:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			03/19/18 08:17	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/19/18 08:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			03/19/18 08:17	1
2-Hexanone	ND		5.0	2.5	ug/L			03/19/18 08:17	1
Acetone	ND		20	10	ug/L			03/19/18 08:17	1
Acetonitrile	ND		20	10	ug/L			03/19/18 08:17	1
Acrolein	ND		5.0	2.5	ug/L			03/19/18 08:17	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Benzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Allyl chloride	ND		1.0	0.50	ug/L			03/19/18 08:17	1
Bromoform	ND		1.0	0.40	ug/L			03/19/18 08:17	1
Bromomethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/18 08:17	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Bromochloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Chloroethane	ND		1.0	0.40	ug/L			03/19/18 08:17	1
Chloroform	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Chloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Dibromomethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/19/18 08:17	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Iodomethane	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Isobutyl alcohol	ND		25	13	ug/L			03/19/18 08:17	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/19/18 08:17	1
Methylacrylonitrile	ND		10	2.5	ug/L			03/19/18 08:17	1
Methyl methacrylate	ND		2.0	1.0	ug/L			03/19/18 08:17	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/19/18 08:17	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: MB 440-464334/4
Matrix: Water
Analysis Batch: 464334

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Naphthalene	ND		1.0	0.40	ug/L			03/19/18 08:17	1
o-Xylene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Propionitrile	ND		20	10	ug/L			03/19/18 08:17	1
Styrene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
t-Butanol	ND		10	5.0	ug/L			03/19/18 08:17	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Tetrahydrofuran	ND		10	5.0	ug/L			03/19/18 08:17	1
Toluene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			03/19/18 08:17	1
Trichloroethene	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/19/18 08:17	1
Vinyl acetate	ND		4.0	2.0	ug/L			03/19/18 08:17	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/19/18 08:17	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			03/19/18 08:17	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			03/19/18 08:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/19/18 08:17	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					03/19/18 08:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		03/19/18 08:17	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/19/18 08:17	1
Dibromofluoromethane (Surr)	110		76 - 132		03/19/18 08:17	1

Lab Sample ID: LCS 440-464334/5
Matrix: Water
Analysis Batch: 464334

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	23.4		ug/L		94	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.3		ug/L		109	60 - 141
1,1,1-Trichloroethane	25.0	26.5		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.5		ug/L		90	63 - 130
1,1,2-Trichloroethane	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloroethane	25.0	23.6		ug/L		95	64 - 130
1,1-Dichloroethene	25.0	23.8		ug/L		95	70 - 130
1,1-Dichloropropene	25.0	25.1		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	25.0	24.9		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		92	52 - 140
1,2-Dichlorobenzene	25.0	24.8		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	24.8		ug/L		99	57 - 138
1,2-Dichloropropane	25.0	22.2		ug/L		89	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: 440-205980-1

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

Lab Sample ID: LCS 440-464334/5
Matrix: Water
Analysis Batch: 464334

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	21.5		ug/L		86	70 - 130
1,4-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	27.5		ug/L		110	68 - 141
2-Hexanone	25.0	21.7		ug/L		87	10 - 150
Acetone	25.0	24.5		ug/L		98	10 - 150
Acrolein	25.0	12.9		ug/L		52	10 - 145
Acrylonitrile	250	248		ug/L		99	48 - 140
Benzene	25.0	23.7		ug/L		95	68 - 130
Bromoform	25.0	27.1		ug/L		108	60 - 148
Bromomethane	25.0	23.7		ug/L		95	64 - 139
Carbon disulfide	25.0	21.8		ug/L		87	52 - 136
Carbon tetrachloride	25.0	29.4		ug/L		118	60 - 150
Chlorobenzene	25.0	23.5		ug/L		94	70 - 130
Bromochloromethane	25.0	26.5		ug/L		106	70 - 130
Chloroethane	25.0	22.3		ug/L		89	64 - 135
Chloroform	25.0	24.6		ug/L		98	70 - 130
Chloromethane	25.0	20.2		ug/L		81	47 - 140
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	70 - 133
cis-1,3-Dichloropropene	25.0	22.4		ug/L		90	70 - 133
Dibromochloromethane	25.0	26.5		ug/L		106	69 - 145
Dibromomethane	25.0	23.8		ug/L		95	70 - 130
Bromodichloromethane	25.0	25.5		ug/L		102	70 - 132
Dichlorodifluoromethane	25.0	20.0		ug/L		80	29 - 150
Ethylbenzene	25.0	23.5		ug/L		94	70 - 130
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	21.9		ug/L		88	52 - 130
Methyl tert-butyl ether	25.0	21.5		ug/L		86	63 - 131
Naphthalene	25.0	24.8		ug/L		99	60 - 140
o-Xylene	25.0	23.8		ug/L		95	70 - 130
Styrene	25.0	22.9		ug/L		92	70 - 134
t-Butanol	250	277		ug/L		111	70 - 130
Tetrachloroethene	25.0	26.7		ug/L		107	70 - 130
Toluene	25.0	23.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	22.7		ug/L		91	70 - 132
Trichloroethene	25.0	27.1		ug/L		109	70 - 130
Trichlorofluoromethane	25.0	26.6		ug/L		106	60 - 150
Vinyl acetate	25.0	22.8		ug/L		91	48 - 140
Vinyl chloride	25.0	23.5		ug/L		94	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.5		ug/L		94	70 - 130
2-Butanone (MEK)	25.0	23.3		ug/L		93	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	22.0		ug/L		88	59 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	110		76 - 132

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: 440-205737-A-1 MS
Matrix: Water
Analysis Batch: 464334

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	25.8		ug/L		103	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	29.1		ug/L		116	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.5		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.1		ug/L		100	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130
1,1-Dichloroethane	ND		25.0	24.0		ug/L		96	65 - 130
1,1-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
1,1-Dichloropropene	ND		25.0	26.0		ug/L		104	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.6		ug/L		102	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	27.4		ug/L		109	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	26.1		ug/L		104	56 - 146
1,2-Dichloropropane	ND		25.0	23.3		ug/L		93	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	ND		25.0	23.9		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	28.8		ug/L		115	69 - 138
2-Hexanone	ND		25.0	28.5		ug/L		114	10 - 150
Acetone	ND		25.0	33.9		ug/L		135	10 - 150
Acrolein	ND		25.0	15.6		ug/L		63	10 - 147
Acrylonitrile	ND		250	299		ug/L		119	38 - 144
Benzene	ND		25.0	24.3		ug/L		97	66 - 130
Bromoform	ND		25.0	30.5		ug/L		122	59 - 150
Bromomethane	ND		25.0	23.2		ug/L		93	62 - 131
Carbon disulfide	ND		25.0	22.4		ug/L		89	49 - 140
Carbon tetrachloride	ND		25.0	30.6		ug/L		122	60 - 150
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	27.5		ug/L		110	70 - 130
Chloroethane	ND		25.0	22.4		ug/L		89	68 - 130
Chloroform	ND		25.0	25.3		ug/L		101	70 - 130
Chloromethane	ND		25.0	19.6		ug/L		78	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		25.0	24.0		ug/L		96	70 - 133
Dibromochloromethane	ND		25.0	28.9		ug/L		115	70 - 148
Dibromomethane	ND		25.0	25.7		ug/L		103	70 - 130
Bromodichloromethane	ND		25.0	26.7		ug/L		107	70 - 138
Dichlorodifluoromethane	ND		25.0	20.0		ug/L		80	25 - 142
Ethylbenzene	ND		25.0	24.5		ug/L		98	70 - 130
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133
Methylene Chloride	ND		25.0	22.1		ug/L		89	52 - 130
Methyl tert-butyl ether	ND		25.0	23.8		ug/L		95	70 - 130
Naphthalene	ND		25.0	27.6		ug/L		110	60 - 140
o-Xylene	ND		25.0	25.4		ug/L		101	70 - 133
Styrene	ND		25.0	23.9		ug/L		95	29 - 150
t-Butanol	ND		250	284		ug/L		113	70 - 130
Tetrachloroethene	ND		25.0	28.1		ug/L		112	70 - 137
Toluene	ND		25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.0		ug/L		104	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: 440-205737-A-1 MS

Matrix: Water

Analysis Batch: 464334

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 138
Trichloroethene	ND		25.0	28.2		ug/L		113	70 - 130
Trichlorofluoromethane	ND		25.0	27.3		ug/L		109	60 - 150
Vinyl acetate	ND		25.0	26.3		ug/L		105	23 - 150
Vinyl chloride	ND		25.0	22.8		ug/L		91	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	26.4		ug/L		106	70 - 131
2-Butanone (MEK)	ND		25.0	28.6		ug/L		114	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.1		ug/L		112	52 - 150

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	110		76 - 132

Lab Sample ID: 440-205737-A-1 MSD

Matrix: Water

Analysis Batch: 464334

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	25.8		ug/L		103	60 - 130	0	30
1,1,1,2-Tetrachloroethane	ND		25.0	28.2		ug/L		113	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	27.4		ug/L		110	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	63 - 130	0	30
1,1,2-Trichloroethane	ND		25.0	24.3		ug/L		97	70 - 130	4	25
1,1-Dichloroethane	ND		25.0	24.3		ug/L		97	65 - 130	1	20
1,1-Dichloroethene	ND		25.0	24.0		ug/L		96	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	25.4		ug/L		101	64 - 130	3	20
1,2,4-Trichlorobenzene	ND		25.0	26.0		ug/L		104	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	26.7		ug/L		107	48 - 140	2	30
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	26.0		ug/L		104	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	23.5		ug/L		94	69 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	0	20
1,3-Dichloropropane	ND		25.0	23.0		ug/L		92	70 - 130	4	25
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	28.6		ug/L		114	69 - 138	1	25
2-Hexanone	ND		25.0	26.7		ug/L		107	10 - 150	7	35
Acetone	ND		25.0	32.8		ug/L		131	10 - 150	3	35
Acrolein	ND		25.0	14.8		ug/L		59	10 - 147	6	40
Acrylonitrile	ND		25.0	28.6		ug/L		114	38 - 144	4	40
Benzene	ND		25.0	24.2		ug/L		97	66 - 130	0	20
Bromoform	ND		25.0	29.3		ug/L		117	59 - 150	4	25
Bromomethane	ND		25.0	23.4		ug/L		94	62 - 131	1	25
Carbon disulfide	ND		25.0	22.3		ug/L		89	49 - 140	0	20
Carbon tetrachloride	ND		25.0	30.5		ug/L		122	60 - 150	0	25
Chlorobenzene	ND		25.0	24.1		ug/L		96	70 - 130	3	20
Bromochloromethane	ND		25.0	27.7		ug/L		111	70 - 130	1	25
Chloroethane	ND		25.0	22.3		ug/L		89	68 - 130	0	25

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: 440-205737-A-1 MSD
Matrix: Water
Analysis Batch: 464334

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		25.0	25.0		ug/L		100	70 - 130	1	20
Chloromethane	ND		25.0	19.9		ug/L		80	39 - 144	2	25
cis-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 133	1	20
Dibromochloromethane	ND		25.0	27.9		ug/L		112	70 - 148	3	25
Dibromomethane	ND		25.0	25.1		ug/L		100	70 - 130	2	25
Bromodichloromethane	ND		25.0	26.7		ug/L		107	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	19.5		ug/L		78	25 - 142	3	30
Ethylbenzene	ND		25.0	24.1		ug/L		96	70 - 130	2	20
m,p-Xylene	ND		25.0	24.5		ug/L		98	70 - 133	2	25
Methylene Chloride	ND		25.0	22.4		ug/L		90	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	24.2		ug/L		97	70 - 130	1	25
Naphthalene	ND		25.0	27.9		ug/L		111	60 - 140	1	30
o-Xylene	ND		25.0	24.7		ug/L		99	70 - 133	3	20
Styrene	ND		25.0	23.6		ug/L		95	29 - 150	1	35
t-Butanol	ND		250	281		ug/L		112	70 - 130	1	25
Tetrachloroethene	ND		25.0	26.9		ug/L		108	70 - 137	4	20
Toluene	ND		25.0	24.1		ug/L		97	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	26.2		ug/L		105	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	24.5		ug/L		98	70 - 138	2	25
Trichloroethene	ND		25.0	27.9		ug/L		111	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	26.8		ug/L		107	60 - 150	2	25
Vinyl acetate	ND		25.0	25.6		ug/L		102	23 - 150	3	30
Vinyl chloride	ND		25.0	23.0		ug/L		92	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	25.6		ug/L		102	70 - 131	3	25
2-Butanone (MEK)	ND		25.0	27.7		ug/L		111	48 - 140	3	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	26.2		ug/L		105	52 - 150	7	35
			MSD	MSD							
Surrogate			%Recovery	Qualifier		Limits					
Toluene-d8 (Surr)			101			80 - 128					
4-Bromofluorobenzene (Surr)			98			80 - 120					
Dibromofluoromethane (Surr)			110			76 - 132					

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

Lab Sample ID: MB 440-464746/1-A
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464746

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		03/20/18 14:00	03/22/18 01:25	1
			MB	MB					
Surrogate			%Recovery	Qualifier		Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)			74			30 - 120	03/20/18 14:00	03/22/18 01:25	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: LCS 440-464746/2-A
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	1.94	1.41		ug/L		73	35 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	71		30 - 120						

Lab Sample ID: 440-206025-E-2-A MS
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 464746

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,4-Dioxane	ND		1.93	1.42		ug/L		73	35 - 120	
Surrogate	MS %Recovery	MS Qualifier	Limits							
1,4-Dioxane-d8 (Surr)	69		30 - 120							

Lab Sample ID: 440-206025-E-2-B MSD
Matrix: Water
Analysis Batch: 465071

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 464746

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
1,4-Dioxane	ND		1.95	1.70		ug/L		87	35 - 120		18	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits									
1,4-Dioxane-d8 (Surr)	79		30 - 120									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-463736/6
Matrix: Water
Analysis Batch: 463736

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/15/18 12:09	1

Lab Sample ID: LCS 440-463736/5
Matrix: Water
Analysis Batch: 463736

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	4.58		mg/L		92	90 - 110	

Lab Sample ID: 440-206039-L-8 MS
Matrix: Water
Analysis Batch: 463736

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	E	5.00	147	E 4	mg/L		99	80 - 120	

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-206039-L-8 MSD
Matrix: Water
Analysis Batch: 463736

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	E	5.00	146	E 4	mg/L		94	80 - 120	0	20

Lab Sample ID: MB 440-463993/6
Matrix: Water
Analysis Batch: 463993

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/16/18 13:16	1

Lab Sample ID: LCS 440-463993/5
Matrix: Water
Analysis Batch: 463993

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	4.66		mg/L		93	90 - 110

Lab Sample ID: 440-206058-A-16 MS
Matrix: Water
Analysis Batch: 463993

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	320	E	5.00	321	E 4	mg/L		59	80 - 120

Lab Sample ID: 440-206058-A-16 MSD
Matrix: Water
Analysis Batch: 463993

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	320	E	5.00	322	E 4	mg/L		71	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-465079/1-A
Matrix: Water
Analysis Batch: 465306

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 465079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		03/21/18 14:28	03/22/18 00:50	1

Lab Sample ID: LCS 440-465079/2-A
Matrix: Water
Analysis Batch: 465306

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 465079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.48		mg/L		95	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: 440-205989-C-3-B MS
Matrix: Water
Analysis Batch: 465306

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 465079

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Potassium	18	F1	10.0	25.3	F1	mg/L		69	75 - 125

Lab Sample ID: 440-205989-C-3-C MSD
Matrix: Water
Analysis Batch: 465306

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 465079

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Potassium	18	F1	10.0	26.7		mg/L		84	75 - 125	6	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-465468/69
Matrix: Water
Analysis Batch: 465468

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			03/22/18 22:33	1

Lab Sample ID: LCS 440-465468/70
Matrix: Water
Analysis Batch: 465468

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	5.00	5.06		mg/L		101	90 - 110

Lab Sample ID: MRL 440-465468/9
Matrix: Water
Analysis Batch: 465468

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	0.200	0.203		mg/L		102	50 - 150

Lab Sample ID: 440-206633-F-1 MS
Matrix: Water
Analysis Batch: 465468

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	ND		5.00	5.29		mg/L		106	90 - 110

Lab Sample ID: 440-206633-F-1 MSD
Matrix: Water
Analysis Batch: 465468

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ammonia (as N)	ND		5.00	5.34		mg/L		107	90 - 110	1	15

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

Method: 410.4 - COD

Lab Sample ID: MB 440-465711/3
Matrix: Water
Analysis Batch: 465711

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			03/23/18 17:41	1

Lab Sample ID: LCS 440-465711/4
Matrix: Water
Analysis Batch: 465711

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	197		mg/L		99	90 - 110

Lab Sample ID: 440-205685-H-1 MS
Matrix: Water
Analysis Batch: 465711

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	196		mg/L		98	70 - 120

Lab Sample ID: 440-205685-H-1 MSD
Matrix: Water
Analysis Batch: 465711

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	196		mg/L		98	70 - 120	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-463947/3
Matrix: Water
Analysis Batch: 463947

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			03/16/18 05:37	1

Lab Sample ID: LCS 440-463947/2
Matrix: Water
Analysis Batch: 463947

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	98.9	96.6		mg/L		98	80 - 120

Lab Sample ID: 440-205980-1 DU
Matrix: Water
Analysis Batch: 463947

Client Sample ID: DW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	920		921		mg/L		0.3	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

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

Lab Sample ID: MB 440-465245/1
Matrix: Water
Analysis Batch: 465245

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			03/22/18 09:23	1

Lab Sample ID: LCS 440-465245/2
Matrix: Water
Analysis Batch: 465245

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	968		mg/L		97	90 - 110

Lab Sample ID: 440-206039-N-8 DU
Matrix: Water
Analysis Batch: 465245

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		1650		mg/L		2	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-464173/6
Matrix: Water
Analysis Batch: 464173

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			03/16/18 09:08	1

Lab Sample ID: LCS 440-464173/5
Matrix: Water
Analysis Batch: 464173

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	9.55		mg/L		96	90 - 110

Lab Sample ID: MRL 440-464173/4
Matrix: Water
Analysis Batch: 464173

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	0.0700	J	mg/L		70	50 - 150

Lab Sample ID: 440-205828-G-3 MS
Matrix: Water
Analysis Batch: 464173

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	2.0		10.0	12.1		mg/L		102	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-205980-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-205828-G-3 MSD
 Matrix: Water
 Analysis Batch: 464173

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	2.0		10.0	12.2		mg/L		103	80 - 120	1	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Association Summary

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

TestAmerica Job ID: 440-205980-1

GC/MS VOA

Analysis Batch: 464097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	8260B	
440-205980-2	MW-1	Total/NA	Water	8260B	
440-205980-3	QCAB	Total/NA	Water	8260B	
440-205980-4	QCTB	Total/NA	Water	8260B	
MB 440-464097/4	Method Blank	Total/NA	Water	8260B	
LCS 440-464097/5	Lab Control Sample	Total/NA	Water	8260B	
440-206045-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-206045-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 464334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	8260B	
440-205980-2	MW-1	Total/NA	Water	8260B	
440-205980-3	QCAB	Total/NA	Water	8260B	
440-205980-4	QCTB	Total/NA	Water	8260B	
MB 440-464334/4	Method Blank	Total/NA	Water	8260B	
LCS 440-464334/5	Lab Control Sample	Total/NA	Water	8260B	
440-205737-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-205737-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 464746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	3520C	
440-205980-2	MW-1	Total/NA	Water	3520C	
MB 440-464746/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-464746/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-206025-E-2-A MS	Matrix Spike	Total/NA	Water	3520C	
440-206025-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 465071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	8270C	464746
440-205980-2	MW-1	Total/NA	Water	8270C	464746
MB 440-464746/1-A	Method Blank	Total/NA	Water	8270C	464746
LCS 440-464746/2-A	Lab Control Sample	Total/NA	Water	8270C	464746
440-206025-E-2-A MS	Matrix Spike	Total/NA	Water	8270C	464746
440-206025-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	464746

HPLC/IC

Analysis Batch: 463736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-2	MW-1	Total/NA	Water	300.0	
MB 440-463736/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463736/5	Lab Control Sample	Total/NA	Water	300.0	
440-206039-L-8 MS	Matrix Spike	Total/NA	Water	300.0	
440-206039-L-8 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205980-1

HPLC/IC (Continued)

Analysis Batch: 463993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	300.0	
MB 440-463993/6	Method Blank	Total/NA	Water	300.0	
LCS 440-463993/5	Lab Control Sample	Total/NA	Water	300.0	
440-206058-A-16 MS	Matrix Spike	Total/NA	Water	300.0	
440-206058-A-16 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 465079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total Recoverable	Water	3005A	
440-205980-2	MW-1	Total Recoverable	Water	3005A	
MB 440-465079/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-465079/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-205989-C-3-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-205989-C-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 465306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total Recoverable	Water	6010B	465079
440-205980-2	MW-1	Total Recoverable	Water	6010B	465079
MB 440-465079/1-A	Method Blank	Total Recoverable	Water	6010B	465079
LCS 440-465079/2-A	Lab Control Sample	Total Recoverable	Water	6010B	465079
440-205989-C-3-B MS	Matrix Spike	Total Recoverable	Water	6010B	465079
440-205989-C-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	465079

General Chemistry

Analysis Batch: 463947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	SM 2320B	
440-205980-2	MW-1	Total/NA	Water	SM 2320B	
MB 440-463947/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-463947/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-205980-1 DU	DW-5	Total/NA	Water	SM 2320B	

Analysis Batch: 464173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	SM 5310C	
440-205980-2	MW-1	Total/NA	Water	SM 5310C	
MB 440-464173/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-464173/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-464173/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-205828-G-3 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-205828-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 465245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	SM 2540C	
440-205980-2	MW-1	Total/NA	Water	SM 2540C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-205980-1

General Chemistry (Continued)

Analysis Batch: 465245 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-465245/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-465245/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-206039-N-8 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 465468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	350.1	
440-205980-2	MW-1	Total/NA	Water	350.1	
MB 440-465468/69	Method Blank	Total/NA	Water	350.1	
LCS 440-465468/70	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-465468/9	Lab Control Sample	Total/NA	Water	350.1	
440-206633-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-206633-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 465711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-205980-1	DW-5	Total/NA	Water	410.4	
440-205980-2	MW-1	Total/NA	Water	410.4	
MB 440-465711/3	Method Blank	Total/NA	Water	410.4	
LCS 440-465711/4	Lab Control Sample	Total/NA	Water	410.4	
440-205685-H-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-205685-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Definitions/Glossary

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

TestAmerica Job ID: 440-205980-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
ID	Analyte identified by RT & presence of single mass ion
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Metals

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

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 440-205980-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18 *
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18
Nevada	State Program	9	CA015312018-1	07-31-18
New Mexico	State Program	6	N/A	01-29-19
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

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

Chain of Custody Record 210143

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

Regulatory Program: DW NPDES RCR Other:

Client Contact
 Company Name: Geo-Logic Assoc.
 Address: 1145 W. Bernardo Ct.
 City/State/Zip: S.D., CA 92127
 Phone: 951-451-1136
 Fax: 951-451-1087
 Project Name: Public Services
 Site: Sanshine Can Landfill
 P.O #: 44007851

Project Manager: Kyle Welwood
 Tel/Fax: 951-451-1136
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Josh Mills
 Lab Contact: Jessica
 Date: 3-15-18
 Carrier: 17A
 Sampler: AS-18
 For Lab Use Only:
 Walk-in Client
 Lab Sampling:
 Job / SDG No

COC No: _____ of _____ COCs

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Lab Contact	Carrier	Date
DW-S	3/15/18	0805	G	GW	12	X	X	NCS-EPA 8260B	T.D.S.-EPA 161	3-15-18
MW-1	3/15/18	0910	G	GW	12	X	X	NCS-EPA 8260B	T.O.C.-EPA 415-1	3-15-18
QCAB	3/15/18	1100	G	GW	12	X	X	NCS-EPA 8260B	T.D.S.-EPA 161	3-15-18
QCAB	3/15/18	1100	G	GW	12	X	X	NCS-EPA 8260B	T.D.S.-EPA 161	3-15-18

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other
 Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

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

440-205980 Chain of Custody

Received by: [Signature] Date/Time: 3-15-18 1530
 Received by: [Signature] Date/Time: 3-15-18 1530
 Received in Laboratory by: [Signature] Date/Time: 3-15-18 1530

Company: TA-IRV

Therm ID No: _____
 Date/Time: 3-15-18 1005
 Date/Time: 3-15-18 1005
 Date/Time: 3-15-18 1530

1
2
3
4
5
6
7
8
9
10
11
12
13

IR-87 2.8/28

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-205980-1

Login Number: 205980

List Number: 1

Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Regulatory Program: DW NPDES RCRA Other:

Client Contact
Company Name: Geologic Associates
Address: 7377 F. Coast Rd.
City/State/Zip: Ontario CA 91761
Phone: 951-626-7287
Fax: 951-626-1733
Project Name: Republic Services
Site: Sunshine Cya Landfill
PO #: GIA # 5018.1024

Project Manager: Ygl Guekhan
Tel/Fax: _____
Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Losl Mills Date: 4.23.18
Lab Contact: R. Tamova Carrier: T/A
COC No: _____ of _____ COCs
Sampler: A. Stuebs
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)	Sample Specific Notes:	
								826DR-F-Bokh	Ammonic as N Cyanide
MW-S-A	4/23/18	1119	G	GAW	1	N	X	X	
MW-S-B		1119			1		X	X	
MW-13R-A		1033			4		X	X	
MW-13R-B		1033			4		X	X	
MW-14-A		0500			1		X	X	
MW-14-B		0900			1		X	X	
LR-2R		1215		Perchle 1	1		X	X	
QCAB				DFZ	2		X	X	
QCTB					2		X	X	

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____
Possible Hazard Identification: _____
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments: Re-test

Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Cooler Temp. (°C): Obs'd: _____	Therm ID No.: _____
Relinquished by: <u>YGL</u>	Received by: <u>YGL</u>	Date/Time: <u>4/23/18</u>
Relinquished by: _____	Received by: _____	Date/Time: _____
Relinquished by: _____	Received in Laboratory by: _____	Date/Time: _____

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

* Retest

MW-5-A & MW-5-B

Site Name:	<u>Sunshine Cyn</u>	Project No.:	<u>SD18.1024</u>
Well I.D.:	<u>MW-5</u>	Sampling Date:	<u>4.23.18</u>
Collected By:	<u>AS</u>	Purge start Time:	<u>1057</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>1114</u>
Starting Water Level:	<u>18.68</u>	Sampling (Well Recovery) Time:	<u>1119</u>
Total Depth (feet):	<u>26.20</u>	Ending Water Level (feet):	<u>19.32</u>
Water column (feet):	<u>7.52</u>	Total Purged (gallons):	<u>2.0 +</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S/N:	<u>U-52/WG6P8GR5</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1102	0.50	19.08	6.75	4.28	11.5	2.83	22.07	-152
1106	1.00	19.29	6.68	4.30	15.0	2.47	21.84	-155
1108	1.25	19.00	6.66	4.32	8.4	2.37	21.81	-155
1110	1.50	18.88	6.66	4.32	6.1	2.33	21.82	-155
1112	1.75	19.18	6.65	4.34	5.9	2.31	21.80	-155
1114	2.00	19.12	6.64	4.33	5.5	2.26	21.82	-156

Purge Sampling Rates: 25 PSL R:30/A:12
Clear water with yellowish tint - No odor,

Well condition: O.K.

Additional Info/Comments: Sunny, Warm

Name: A. Shaw Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-5 Date: 4.23.18

Access:

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

Concrete Pad:

Integrity: Good: Inadequate:
Presence of depressions or standing water around well: Yes: No:
Remarks: Concrete pad not visible

Protective Outer Casing:

Material: Metal

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

Well Riser:

Material: PVC

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

Dedicated Pump:

Type: Bladder

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

Field Certification:

AC-M
Signed Title

4.23.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

* Retest

MW-13R-A & MW-13R-B

Site Name: Sunshine Cyn Project No.: SD18-1024
 Well I.D.: MW-13R Sampling Date: 4.23.18
 Collected By: AS Purge start Time: 1003
 Casing Diameter (inches): 4 Purge Stop time: 1028
 Starting Water Level: 16.73 Sampling (Well Recovery) Time: 1033
 Total Depth (feet): 27.80 Ending Water Level (feet): 17.30
 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/WC6P86RS

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1012	0.50	17.03	7.26	2.58	0.0	2.48	24.05	-390
1016	0.75	17.10	7.25	2.86	0.0	2.28	24.06	-390
1020	1.00	17.17	7.26	2.53	0.0	2.25	24.02	-391
1024	1.25	17.23	7.26	2.52	0.0	2.19	23.99	-391
1028	1.50	17.30	7.26	2.52	0.0	2.17	23.97	-392

Purge Sampling Rates: 30 PSI R: 20 / A: 5
 Purge water has some blackish tint w/ very strong odor.

Well condition: OK

Additional Info/Comments: Sunny, Warm * Pump Inlet: 26.4 ft

* QCAR taken

Name: A. Shaw

Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-13R Date: 4-23-18

Access:

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

Remarks: Well located at entrance corner - Had to carry 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

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

Remarks: Monument heavily corroded.

Well Riser:

Material: PVC

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

OC-JL

Signed

Field Tech

Title

4-23-18

Date

* Retest

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

MW-14-A & MW-14-B

Site Name: Sunshine Cyn Project No.: S018.1024
 Well I.D.: MW-14 Sampling Date: 4.23.18
 Collected By: AS Purge start Time: 0838
 Casing Diameter (inches): 4 Purge Stop time: 0855
 Starting Water Level: 14.37 Sampling (Well Recovery) Time: 0900
 Total Depth (feet): 28.10 Ending Water Level (feet): 15.13
 Water column (feet): 10.73 Total Purged (gallons): 2.0+
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52 / W-6P8GR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0842	0.50	14.70	6.84	4.58	0.1	8.78	22.66	-75
0846	1.00	14.81	6.82	4.47	0.0	8.79	22.61	-61
0848	1.25	14.89	6.79	4.36	0.0	8.74	22.58	-49
0850	1.50	14.97	6.79	4.36	0.0	8.72	22.59	-48
0852	1.75	15.05	6.79	4.36	0.0	8.67	22.56	-46
0855	2.00	15.13	6.78	4.36	0.0	8.66	22.54	-45

Purge Sampling Rates: 20 PSI R; 20 / D: 10
 Purge water is clear w/ no odor.

Well condition: O.K. - Hike / Carry equipment downslope to well.

Additional Info/Comments: Sunny, Warm

* ~~ACAB taken from~~ (AS)

Name: A. Shaw Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-14 Date: 4.

Access:

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

Remarks: Requires hiking 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: Bladder

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

Remarks:

Field Certification:

AC-M Signed Field Tech Title

4.23.18 Date

* Retest

LR-2R ~~A~~ LR-2R ~~B~~ (S)

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Cyn

Project No.: 2018.1024

Station I.D.: LR-2R

Sampling Date: 4.23.18

Collected By: AS

Sampling Time: 1215

Horiba Model S/N: V-52 / 6667861

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Strong	Yellowish	6.89	10.3	18.9	2.71	30.87	-155

Leachate sampling station conditions: Collected sample w/ new 1 1/2" disposable
bailey - Requires hiking down slope to access.

Collected one 1/1 sample for retest LR-2R.

Additional Info/Comments: Sunny, Warm

A. Shaw / ac. M

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: LR-2R Date: 4-23-18

Access:

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

Concrete Pad:

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

Protective Outer Casing:

Material: N/A
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: HDPE
Condition of Riser: Good: Damaged: _____
Condition of Riser Cap: Good: Damaged: _____
Measurement reference point: N/A Yes: _____ No: _____
Remarks: _____

Dedicated Pump:

Type: N/A
Condition: Good: _____ Damaged: _____ Missing: _____
Pumping Rate (gpm): _____ Current (Hz): _____
Remarks: Leachate Well - Collected Grab.

Field Certification:

[Signature]
Signed _____ Title Field Tech

4.23.18
Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER So18.1024

Instrument Make/Model # <u>Hanna U-S2</u>		SA WAGGERS			
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Comments
4.23.18 0700	4.29	4.65	0.0	7.63	
Pre. Cal					
Calibration	4.00	4.49	0.0	9.63	
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 <u>GC.A</u>
Physical Condition of Unit		→ Good			

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-209533-1

Client Project/Site: Republic Sunshine Canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

5/7/2018 4:25:43 PM

Urvashi Patel, Manager of Project Management

urvashi.patel@testamericainc.com

Designee for

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	5
Method Summary	14
Lab Chronicle	15
QC Sample Results	17
QC Association Summary	26
Definitions/Glossary	28
Certification Summary	29
Chain of Custody	30
Receipt Checklists	31

Sample Summary

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

TestAmerica Job ID: 440-209533-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-209533-1	MW-5-A	Water	04/23/18 11:19	04/23/18 17:10
440-209533-2	MW-5-B	Water	04/23/18 11:19	04/23/18 17:10
440-209533-3	MW-13R-A	Water	04/23/18 10:33	04/23/18 17:10
440-209533-4	MW-13R-B	Water	04/23/18 10:33	04/23/18 17:10
440-209533-5	MW-14-A	Water	04/23/18 09:00	04/23/18 17:10
440-209533-6	MW-14-B	Water	04/23/18 09:00	04/23/18 17:10
440-209533-7	LR-2R	Water	04/23/18 12:15	04/23/18 17:10
440-209533-8	QCAB	Water	04/23/18 00:01	04/23/18 17:10
440-209533-9	QCTB	Water	04/23/18 00:01	04/23/18 17:10



Case Narrative

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

TestAmerica Job ID: 440-209533-1

Job ID: 440-209533-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-209533-1

Comments

No additional comments.

Receipt

The samples were received on 4/23/2018 5:10 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

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

General Chemistry

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

VOA Prep

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: MW-5-A

Date Collected: 04/23/18 11:19

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			04/26/18 16:25	1

Client Sample ID: MW-5-B

Date Collected: 04/23/18 11:19

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	5.9		0.20	0.10	mg/L			05/03/18 19:19	1

Client Sample ID: MW-13R-A

Date Collected: 04/23/18 10:33

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-3

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			05/02/18 12:43	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/02/18 12:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/02/18 12:43	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/02/18 12:43	1
2-Hexanone	ND		5.0	2.5	ug/L			05/02/18 12:43	1
Acetone	ND		20	10	ug/L			05/02/18 12:43	1
Acetonitrile	ND		20	10	ug/L			05/02/18 12:43	1
Acrolein	ND		5.0	2.5	ug/L			05/02/18 12:43	1
Benzene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Allyl chloride	ND		1.0	0.50	ug/L			05/02/18 12:43	1
Bromoform	ND		1.0	0.40	ug/L			05/02/18 12:43	1
Bromomethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/18 12:43	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Chloroethane	ND		1.0	0.40	ug/L			05/02/18 12:43	1
Chloroform	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Chloromethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 12:43	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: MW-13R-A

Lab Sample ID: 440-209533-3

Date Collected: 04/23/18 10:33

Matrix: Water

Date Received: 04/23/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Dibromomethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/02/18 12:43	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 12:43	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Iodomethane	ND		2.0	1.0	ug/L			05/02/18 12:43	1
Isobutyl alcohol	ND		25	13	ug/L			05/02/18 12:43	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/02/18 12:43	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/02/18 12:43	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Naphthalene	ND		1.0	0.40	ug/L			05/02/18 12:43	1
o-Xylene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Propionitrile	ND		20	10	ug/L			05/02/18 12:43	1
Styrene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
t-Butanol	5.1	J	10	5.0	ug/L			05/02/18 12:43	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/02/18 12:43	1
Toluene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/02/18 12:43	1
Trichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/02/18 12:43	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/02/18 12:43	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/02/18 12:43	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/02/18 12:43	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/02/18 12:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/02/18 12:43	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	19	T J	ug/L		2.62			05/02/18 12:43	1
Unknown	12	T J	ug/L		6.06			05/02/18 12:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		05/02/18 12:43	1
4-Bromofluorobenzene (Surr)	93		80 - 120		05/02/18 12:43	1
Dibromofluoromethane (Surr)	103		76 - 132		05/02/18 12:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/03/18 04:56	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/03/18 04:56	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/03/18 04:56	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/03/18 04:56	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	38	T J	ug/L		2.57			05/03/18 04:56	1
Unknown	86	T J	ug/L		2.58			05/03/18 04:56	1
Unknown	240	T J	ug/L		2.70			05/03/18 04:56	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: MW-13R-A

Lab Sample ID: 440-209533-3

Date Collected: 04/23/18 10:33

Matrix: Water

Date Received: 04/23/18 17:10

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.7	T J	ug/L		3.46			05/03/18 04:56	1
Unknown	9.6	T J	ug/L		7.24			05/03/18 04:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128					05/03/18 04:56	1
4-Bromofluorobenzene (Surr)	94		80 - 120					05/03/18 04:56	1
Dibromofluoromethane (Surr)	101		76 - 132					05/03/18 04:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	7.3		0.20	0.10	mg/L			04/26/18 17:29	1

Client Sample ID: MW-13R-B

Lab Sample ID: 440-209533-4

Date Collected: 04/23/18 10:33

Matrix: Water

Date Received: 04/23/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			05/02/18 13:11	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/02/18 13:11	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/02/18 13:11	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/02/18 13:11	1
2-Hexanone	ND		5.0	2.5	ug/L			05/02/18 13:11	1
Acetone	ND		20	10	ug/L			05/02/18 13:11	1
Acetonitrile	ND		20	10	ug/L			05/02/18 13:11	1
Acrolein	ND		5.0	2.5	ug/L			05/02/18 13:11	1
Benzene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Allyl chloride	ND		1.0	0.50	ug/L			05/02/18 13:11	1
Bromoform	ND		1.0	0.40	ug/L			05/02/18 13:11	1
Bromomethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/18 13:11	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Chloroethane	ND		1.0	0.40	ug/L			05/02/18 13:11	1
Chloroform	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Chloromethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: MW-13R-B

Lab Sample ID: 440-209533-4

Date Collected: 04/23/18 10:33

Matrix: Water

Date Received: 04/23/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Dibromomethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/02/18 13:11	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 13:11	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Iodomethane	ND		2.0	1.0	ug/L			05/02/18 13:11	1
Isobutyl alcohol	ND		25	13	ug/L			05/02/18 13:11	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/02/18 13:11	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/02/18 13:11	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Naphthalene	ND		1.0	0.40	ug/L			05/02/18 13:11	1
o-Xylene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Propionitrile	ND		20	10	ug/L			05/02/18 13:11	1
Styrene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
t-Butanol	5.0	J ID	10	5.0	ug/L			05/02/18 13:11	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/02/18 13:11	1
Toluene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/02/18 13:11	1
Trichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/02/18 13:11	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/02/18 13:11	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/02/18 13:11	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/02/18 13:11	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/02/18 13:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/02/18 13:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	17	T J	ug/L		2.62			05/02/18 13:11	1
Unknown	12	T J	ug/L		6.06			05/02/18 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		05/02/18 13:11	1
4-Bromofluorobenzene (Surr)	93		80 - 120		05/02/18 13:11	1
Dibromofluoromethane (Surr)	104		76 - 132		05/02/18 13:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/03/18 05:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/03/18 05:21	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/03/18 05:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/03/18 05:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	73	T J	ug/L		2.57			05/03/18 05:21	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: MW-13R-B

Lab Sample ID: 440-209533-4

Date Collected: 04/23/18 10:33

Matrix: Water

Date Received: 04/23/18 17:10

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	65	TJ	ug/L		2.62			05/03/18 05:21	1
Unknown	260	TJ	ug/L		2.69			05/03/18 05:21	1
Unknown	5.0	TJ	ug/L		3.46			05/03/18 05:21	1
Unknown	9.5	TJ	ug/L		7.24			05/03/18 05:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		05/03/18 05:21	1
4-Bromofluorobenzene (Surr)	95		80 - 120		05/03/18 05:21	1
Dibromofluoromethane (Surr)	101		76 - 132		05/03/18 05:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	7.8		0.20	0.10	mg/L			04/26/18 16:52	1

Client Sample ID: MW-14-A

Lab Sample ID: 440-209533-5

Date Collected: 04/23/18 09:00

Matrix: Water

Date Received: 04/23/18 17:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.22		0.20	0.10	mg/L			04/26/18 16:57	1

Client Sample ID: MW-14-B

Lab Sample ID: 440-209533-6

Date Collected: 04/23/18 09:00

Matrix: Water

Date Received: 04/23/18 17:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.21		0.20	0.10	mg/L			04/26/18 17:40	1

Client Sample ID: LR-2R

Lab Sample ID: 440-209533-7

Date Collected: 04/23/18 12:15

Matrix: Water

Date Received: 04/23/18 17:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.025	0.013	mg/L		04/24/18 10:05	04/24/18 12:43	1

Client Sample ID: QCAB

Lab Sample ID: 440-209533-8

Date Collected: 04/23/18 00:01

Matrix: Water

Date Received: 04/23/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			05/02/18 13:39	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: QCAB

Lab Sample ID: 440-209533-8

Date Collected: 04/23/18 00:01

Matrix: Water

Date Received: 04/23/18 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/02/18 13:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/02/18 13:39	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/02/18 13:39	1
2-Hexanone	ND		5.0	2.5	ug/L			05/02/18 13:39	1
Acetone	ND		20	10	ug/L			05/02/18 13:39	1
Acetonitrile	ND		20	10	ug/L			05/02/18 13:39	1
Acrolein	ND		5.0	2.5	ug/L			05/02/18 13:39	1
Benzene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Allyl chloride	ND		1.0	0.50	ug/L			05/02/18 13:39	1
Bromoform	ND		1.0	0.40	ug/L			05/02/18 13:39	1
Bromomethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/18 13:39	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Chloroethane	ND		1.0	0.40	ug/L			05/02/18 13:39	1
Chloroform	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Chloromethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Dibromomethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/02/18 13:39	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 13:39	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Iodomethane	ND		2.0	1.0	ug/L			05/02/18 13:39	1
Isobutyl alcohol	ND		25	13	ug/L			05/02/18 13:39	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/02/18 13:39	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/02/18 13:39	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Naphthalene	ND		1.0	0.40	ug/L			05/02/18 13:39	1
o-Xylene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Propionitrile	ND		20	10	ug/L			05/02/18 13:39	1
Styrene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
t-Butanol	ND		10	5.0	ug/L			05/02/18 13:39	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/02/18 13:39	1
Toluene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 13:39	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: QCAB
Date Collected: 04/23/18 00:01
Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/02/18 13:39	1
Trichloroethene	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/02/18 13:39	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/02/18 13:39	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/02/18 13:39	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/02/18 13:39	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/02/18 13:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/02/18 13:39	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Sulfur dioxide	14	T J N	ug/L		2.58	7446-09-5		05/02/18 13:39	1
Unknown	13	T J	ug/L		6.06			05/02/18 13:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		05/02/18 13:39	1
4-Bromofluorobenzene (Surr)	94		80 - 120		05/02/18 13:39	1
Dibromofluoromethane (Surr)	108		76 - 132		05/02/18 13:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/03/18 05:46	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/03/18 05:46	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/03/18 05:46	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/03/18 05:46	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.5	T J	ug/L		7.24			05/03/18 05:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		05/03/18 05:46	1
4-Bromofluorobenzene (Surr)	95		80 - 120		05/03/18 05:46	1
Dibromofluoromethane (Surr)	103		76 - 132		05/03/18 05:46	1

Client Sample ID: QCTB
Date Collected: 04/23/18 00:01
Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-9
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			05/02/18 12:15	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/02/18 12:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/02/18 12:15	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: QCTB
Date Collected: 04/23/18 00:01
Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/02/18 12:15	1
2-Hexanone	ND		5.0	2.5	ug/L			05/02/18 12:15	1
Acetone	ND		20	10	ug/L			05/02/18 12:15	1
Acetonitrile	ND		20	10	ug/L			05/02/18 12:15	1
Acrolein	ND		5.0	2.5	ug/L			05/02/18 12:15	1
Benzene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Allyl chloride	ND		1.0	0.50	ug/L			05/02/18 12:15	1
Bromoform	ND		1.0	0.40	ug/L			05/02/18 12:15	1
Bromomethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/18 12:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Chloroethane	ND		1.0	0.40	ug/L			05/02/18 12:15	1
Chloroform	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Chloromethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Dibromomethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/02/18 12:15	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 12:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Iodomethane	ND		2.0	1.0	ug/L			05/02/18 12:15	1
Isobutyl alcohol	ND		25	13	ug/L			05/02/18 12:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/02/18 12:15	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/02/18 12:15	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Naphthalene	0.46	J	1.0	0.40	ug/L			05/02/18 12:15	1
o-Xylene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Propionitrile	ND		20	10	ug/L			05/02/18 12:15	1
Styrene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
t-Butanol	ND		10	5.0	ug/L			05/02/18 12:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/02/18 12:15	1
Toluene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/02/18 12:15	1
Trichloroethene	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/02/18 12:15	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/02/18 12:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/02/18 12:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/02/18 12:15	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: QCTB
Date Collected: 04/23/18 00:01
Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/02/18 12:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/02/18 12:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.2	T J	ug/L		1.93			05/02/18 12:15	1
Unknown	12	T J	ug/L		6.07			05/02/18 12:15	1
Naphthalene, 1-ethyl-	5.2	T J N	ug/L		16.10	1127-76-0		05/02/18 12:15	1
Naphthalene, 1,5-dimethyl-	8.6	T J N	ug/L		16.30	571-61-9		05/02/18 12:15	1
Pentadecane	9.4	T J N	ug/L		16.44	629-62-9		05/02/18 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		05/02/18 12:15	1
4-Bromofluorobenzene (Surr)	93		80 - 120		05/02/18 12:15	1
Dibromofluoromethane (Surr)	100		76 - 132		05/02/18 12:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/03/18 06:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/03/18 06:12	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/03/18 06:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/03/18 06:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.7	T J	ug/L		7.24			05/03/18 06:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 128		05/03/18 06:12	1
4-Bromofluorobenzene (Surr)	95		80 - 120		05/03/18 06:12	1
Dibromofluoromethane (Surr)	103		76 - 132		05/03/18 06:12	1

Method Summary

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

TestAmerica Job ID: 440-209533-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV
SM 4500 CN E	Cyanide, Total	SM	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
Distill/CN	Distillation, Cyanide	None	TAL IRV

Protocol References:

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

None = None

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

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

Laboratory References:

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: 440-209533-1

Client Sample ID: MW-5-A

Date Collected: 04/23/18 11:19

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-1

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	350.1		1	0.8 mL	8 mL	472717	04/26/18 16:25	MMH	TAL IRV

Client Sample ID: MW-5-B

Date Collected: 04/23/18 11:19

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	474108	05/03/18 19:19	MMH	TAL IRV

Client Sample ID: MW-13R-A

Date Collected: 04/23/18 10:33

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-3

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	473631	05/02/18 12:43	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	473795	05/03/18 04:56	JB	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	472717	04/26/18 17:29	MMH	TAL IRV

Client Sample ID: MW-13R-B

Date Collected: 04/23/18 10:33

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-4

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	473631	05/02/18 13:11	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	473795	05/03/18 05:21	JB	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	472717	04/26/18 16:52	MMH	TAL IRV

Client Sample ID: MW-14-A

Date Collected: 04/23/18 09:00

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	472717	04/26/18 16:57	MMH	TAL IRV

Client Sample ID: MW-14-B

Date Collected: 04/23/18 09:00

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	472717	04/26/18 17:40	MMH	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-209533-1

Client Sample ID: LR-2R

Date Collected: 04/23/18 12:15

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			50 mL	50 mL	472079	04/24/18 10:05	KMY	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			472122	04/24/18 12:43	KMY	TAL IRV

Client Sample ID: QCAB

Date Collected: 04/23/18 00:01

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-8

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	473631	05/02/18 13:39	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	473795	05/03/18 05:46	JB	TAL IRV

Client Sample ID: QCTB

Date Collected: 04/23/18 00:01

Date Received: 04/23/18 17:10

Lab Sample ID: 440-209533-9

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	473631	05/02/18 12:15	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	473795	05/03/18 06:12	JB	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: 440-209533-1

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

Lab Sample ID: MB 440-473631/4

Matrix: Water

Analysis Batch: 473631

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			05/02/18 08:14	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/02/18 08:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/02/18 08:14	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/02/18 08:14	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/02/18 08:14	1
2-Hexanone	ND		5.0	2.5	ug/L			05/02/18 08:14	1
Acetone	ND		20	10	ug/L			05/02/18 08:14	1
Acetonitrile	ND		20	10	ug/L			05/02/18 08:14	1
Acrolein	ND		5.0	2.5	ug/L			05/02/18 08:14	1
Benzene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Allyl chloride	ND		1.0	0.50	ug/L			05/02/18 08:14	1
Bromoform	ND		1.0	0.40	ug/L			05/02/18 08:14	1
Bromomethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/18 08:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Chloroethane	ND		1.0	0.40	ug/L			05/02/18 08:14	1
Chloroform	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Chloromethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Dibromomethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/02/18 08:14	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 08:14	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Iodomethane	ND		2.0	1.0	ug/L			05/02/18 08:14	1
Isobutyl alcohol	ND		25	13	ug/L			05/02/18 08:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/02/18 08:14	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/02/18 08:14	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 08:14	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/02/18 08:14	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/02/18 08:14	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

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

Lab Sample ID: MB 440-473631/4
Matrix: Water
Analysis Batch: 473631

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			05/02/18 08:14	1
o-Xylene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Propionitrile	ND		20	10	ug/L			05/02/18 08:14	1
Styrene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
t-Butanol	ND		10	5.0	ug/L			05/02/18 08:14	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/02/18 08:14	1
Toluene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/02/18 08:14	1
Trichloroethene	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/02/18 08:14	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/02/18 08:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/02/18 08:14	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/02/18 08:14	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/02/18 08:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/02/18 08:14	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					05/02/18 08:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		05/02/18 08:14	1
4-Bromofluorobenzene (Surr)	94		80 - 120		05/02/18 08:14	1
Dibromofluoromethane (Surr)	106		76 - 132		05/02/18 08:14	1

Lab Sample ID: LCS 440-473631/5
Matrix: Water
Analysis Batch: 473631

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	24.5		ug/L		98	63 - 130
1,1,1,2-Tetrachloroethane	25.0	29.4		ug/L		118	60 - 141
1,1,1-Trichloroethane	25.0	29.2		ug/L		117	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.1		ug/L		88	63 - 130
1,1,2-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1-Dichloroethane	25.0	24.7		ug/L		99	64 - 130
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130
1,1-Dichloropropene	25.0	29.3		ug/L		117	70 - 130
1,2,4-Trichlorobenzene	25.0	30.0		ug/L		120	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.5		ug/L		98	52 - 140
1,2-Dichlorobenzene	25.0	27.2		ug/L		109	70 - 130
1,2-Dichloroethane	25.0	27.8		ug/L		111	57 - 138
1,2-Dichloropropane	25.0	24.9		ug/L		100	67 - 130
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	70 - 130
1,3-Dichloropropane	25.0	24.3		ug/L		97	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

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

Lab Sample ID: LCS 440-473631/5

Matrix: Water

Analysis Batch: 473631

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	25.0	24.9		ug/L		100	70 - 130
2,2-Dichloropropane	25.0	28.2		ug/L		113	68 - 141
2-Hexanone	25.0	21.1		ug/L		84	10 - 150
Acetone	25.0	24.2		ug/L		97	10 - 150
Acrolein	25.0	17.6		ug/L		70	10 - 145
Benzene	25.0	24.8		ug/L		99	68 - 130
Bromoform	25.0	29.5		ug/L		118	60 - 148
Bromomethane	25.0	26.2		ug/L		105	64 - 139
Carbon disulfide	25.0	22.6		ug/L		90	52 - 136
Carbon tetrachloride	25.0	30.6		ug/L		122	60 - 150
Chlorobenzene	25.0	24.9		ug/L		100	70 - 130
Bromochloromethane	25.0	26.8		ug/L		107	70 - 130
Chloroethane	25.0	27.3		ug/L		109	64 - 135
Chloroform	25.0	27.5		ug/L		110	70 - 130
Chloromethane	25.0	20.2		ug/L		81	47 - 140
cis-1,2-Dichloroethene	25.0	26.6		ug/L		107	70 - 133
cis-1,3-Dichloropropene	25.0	27.9		ug/L		112	70 - 133
Dibromochloromethane	25.0	28.5		ug/L		114	69 - 145
Dibromomethane	25.0	25.9		ug/L		103	70 - 130
Bromodichloromethane	25.0	28.4		ug/L		114	70 - 132
Dichlorodifluoromethane	25.0	20.6		ug/L		82	29 - 150
Ethylbenzene	25.0	28.3		ug/L		113	70 - 130
m,p-Xylene	25.0	27.4		ug/L		110	70 - 130
Methylene Chloride	25.0	24.3		ug/L		97	52 - 130
Methyl tert-butyl ether	25.0	27.5		ug/L		110	63 - 131
Naphthalene	25.0	26.9		ug/L		108	60 - 140
o-Xylene	25.0	28.3		ug/L		113	70 - 130
Styrene	25.0	27.6		ug/L		110	70 - 134
t-Butanol	25.0	28.3		ug/L		113	70 - 130
Tetrachloroethene	25.0	28.0		ug/L		112	70 - 130
Toluene	25.0	27.0		ug/L		108	70 - 130
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	70 - 130
trans-1,3-Dichloropropene	25.0	27.1		ug/L		108	70 - 132
Trichloroethene	25.0	28.0		ug/L		112	70 - 130
Trichlorofluoromethane	25.0	25.3		ug/L		101	60 - 150
Vinyl acetate	25.0	23.0		ug/L		92	48 - 140
Vinyl chloride	25.0	24.5		ug/L		98	59 - 133
1,2-Dibromoethane (EDB)	25.0	26.7		ug/L		107	70 - 130
2-Butanone (MEK)	25.0	23.2		ug/L		93	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	22.4		ug/L		90	59 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

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

Lab Sample ID: 440-209912-F-1 MS
Matrix: Water
Analysis Batch: 473631

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		250	248		ug/L		99	60 - 130
1,1,1,2-Tetrachloroethane	ND		250	274		ug/L		109	60 - 149
1,1,1-Trichloroethane	ND		250	282		ug/L		113	70 - 130
1,1,2,2-Tetrachloroethane	ND		250	214		ug/L		86	63 - 130
1,1,2-Trichloroethane	ND		250	226		ug/L		90	70 - 130
1,1-Dichloroethane	ND		250	242		ug/L		97	65 - 130
1,1-Dichloroethene	3.9	J	250	244		ug/L		96	70 - 130
1,1-Dichloropropene	ND		250	277		ug/L		111	64 - 130
1,2,4-Trichlorobenzene	ND		250	281		ug/L		112	60 - 140
1,2-Dibromo-3-Chloropropane	ND		250	247		ug/L		99	48 - 140
1,2-Dichlorobenzene	ND		250	256		ug/L		102	70 - 130
1,2-Dichloroethane	ND		250	266		ug/L		106	56 - 146
1,2-Dichloropropane	ND		250	237		ug/L		95	69 - 130
1,3-Dichlorobenzene	ND		250	243		ug/L		97	70 - 130
1,3-Dichloropropane	ND		250	229		ug/L		92	70 - 130
1,4-Dichlorobenzene	ND		250	234		ug/L		94	70 - 130
2,2-Dichloropropane	ND		250	277		ug/L		111	69 - 138
2-Hexanone	ND		250	241		ug/L		96	10 - 150
Acetone	ND		250	271		ug/L		108	10 - 150
Acrolein	ND		250	199		ug/L		79	10 - 147
Benzene	ND		250	238		ug/L		95	66 - 130
Bromoform	ND		250	273		ug/L		109	59 - 150
Bromomethane	ND		250	252		ug/L		101	62 - 131
Carbon disulfide	ND		250	220		ug/L		88	49 - 140
Carbon tetrachloride	ND		250	290		ug/L		116	60 - 150
Chlorobenzene	ND		250	233		ug/L		93	70 - 130
Bromochloromethane	ND		250	262		ug/L		105	70 - 130
Chloroethane	ND		250	258		ug/L		103	68 - 130
Chloroform	ND		250	261		ug/L		105	70 - 130
Chloromethane	ND		250	202		ug/L		81	39 - 144
cis-1,2-Dichloroethene	9.3		250	269		ug/L		104	70 - 130
cis-1,3-Dichloropropene	ND		250	260		ug/L		104	70 - 133
Dibromochloromethane	ND		250	270		ug/L		108	70 - 148
Dibromomethane	ND		250	254		ug/L		102	70 - 130
Bromodichloromethane	ND		250	270		ug/L		108	70 - 138
Dichlorodifluoromethane	ND		250	194		ug/L		78	25 - 142
Ethylbenzene	ND		250	267		ug/L		107	70 - 130
m,p-Xylene	ND		250	261		ug/L		104	70 - 133
Methylene Chloride	ND		250	238		ug/L		95	52 - 130
Methyl tert-butyl ether	ND		250	262		ug/L		105	70 - 130
Naphthalene	ND		250	259		ug/L		104	60 - 140
o-Xylene	ND		250	264		ug/L		105	70 - 133
Styrene	ND		250	258		ug/L		103	29 - 150
t-Butanol	ND		2500	2530		ug/L		101	70 - 130
Tetrachloroethene	ND		250	256		ug/L		103	70 - 137
Toluene	ND		250	253		ug/L		101	70 - 130
trans-1,2-Dichloroethene	ND		250	258		ug/L		103	70 - 130
trans-1,3-Dichloropropene	ND		250	250		ug/L		100	70 - 138

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

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

Lab Sample ID: 440-209912-F-1 MS

Matrix: Water

Analysis Batch: 473631

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
Trichloroethene	220		250	476		ug/L		104	70 - 130
Trichlorofluoromethane	ND		250	244		ug/L		98	60 - 150
Vinyl acetate	ND		250	236		ug/L		94	23 - 150
Vinyl chloride	ND		250	243		ug/L		97	50 - 137
1,2-Dibromoethane (EDB)	ND		250	257		ug/L		103	70 - 131
2-Butanone (MEK)	ND		250	251		ug/L		100	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		250	231		ug/L		93	52 - 150
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
<i>Toluene-d8 (Surr)</i>	97		80 - 128						
<i>4-Bromofluorobenzene (Surr)</i>	94		80 - 120						
<i>Dibromofluoromethane (Surr)</i>	104		76 - 132						

Lab Sample ID: 440-209912-F-1 MSD

Matrix: Water

Analysis Batch: 473631

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		250	258		ug/L		103	60 - 130	4	30
1,1,1,2-Tetrachloroethane	ND		250	275		ug/L		110	60 - 149	0	20
1,1,1-Trichloroethane	ND		250	282		ug/L		113	70 - 130	0	20
1,1,1,2,2-Tetrachloroethane	ND		250	230		ug/L		92	63 - 130	7	30
1,1,2-Trichloroethane	ND		250	235		ug/L		94	70 - 130	4	25
1,1-Dichloroethane	ND		250	239		ug/L		95	65 - 130	1	20
1,1-Dichloroethene	3.9	J	250	251		ug/L		99	70 - 130	3	20
1,1-Dichloropropene	ND		250	279		ug/L		111	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		250	282		ug/L		113	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		250	274		ug/L		110	48 - 140	10	30
1,2-Dichlorobenzene	ND		250	259		ug/L		104	70 - 130	1	20
1,2-Dichloroethane	ND		250	268		ug/L		107	56 - 146	1	20
1,2-Dichloropropane	ND		250	240		ug/L		96	69 - 130	1	20
1,3-Dichlorobenzene	ND		250	247		ug/L		99	70 - 130	2	20
1,3-Dichloropropane	ND		250	237		ug/L		95	70 - 130	3	25
1,4-Dichlorobenzene	ND		250	241		ug/L		96	70 - 130	3	20
2,2-Dichloropropane	ND		250	277		ug/L		111	69 - 138	0	25
2-Hexanone	ND		250	263		ug/L		105	10 - 150	9	35
Acetone	ND		250	301		ug/L		121	10 - 150	11	35
Acrolein	ND		250	207		ug/L		83	10 - 147	4	40
Benzene	ND		250	239		ug/L		96	66 - 130	1	20
Bromoform	ND		250	292		ug/L		117	59 - 150	7	25
Bromomethane	ND		250	250		ug/L		100	62 - 131	1	25
Carbon disulfide	ND		250	216		ug/L		87	49 - 140	2	20
Carbon tetrachloride	ND		250	289		ug/L		115	60 - 150	1	25
Chlorobenzene	ND		250	231		ug/L		93	70 - 130	1	20
Bromochloromethane	ND		250	260		ug/L		104	70 - 130	1	25
Chloroethane	ND		250	254		ug/L		102	68 - 130	2	25
Chloroform	ND		250	258		ug/L		103	70 - 130	1	20
Chloromethane	ND		250	203		ug/L		81	39 - 144	0	25

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

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

Lab Sample ID: 440-209912-F-1 MSD
Matrix: Water
Analysis Batch: 473631

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	9.3		250	264		ug/L		102	70 - 130	2	20
cis-1,3-Dichloropropene	ND		250	266		ug/L		106	70 - 133	2	20
Dibromochloromethane	ND		250	272		ug/L		109	70 - 148	1	25
Dibromomethane	ND		250	257		ug/L		103	70 - 130	1	25
Bromodichloromethane	ND		250	266		ug/L		106	70 - 138	2	20
Dichlorodifluoromethane	ND		250	208		ug/L		83	25 - 142	7	30
Ethylbenzene	ND		250	264		ug/L		106	70 - 130	1	20
m,p-Xylene	ND		250	257		ug/L		103	70 - 133	1	25
Methylene Chloride	ND		250	240		ug/L		96	52 - 130	1	20
Methyl tert-butyl ether	ND		250	270		ug/L		108	70 - 130	3	25
Naphthalene	ND		250	278		ug/L		111	60 - 140	7	30
o-Xylene	ND		250	264		ug/L		106	70 - 133	0	20
Styrene	ND		250	259		ug/L		103	29 - 150	0	35
t-Butanol	ND		2500	2580		ug/L		103	70 - 130	2	25
Tetrachloroethene	ND		250	253		ug/L		101	70 - 137	1	20
Toluene	ND		250	251		ug/L		101	70 - 130	1	20
trans-1,2-Dichloroethene	ND		250	257		ug/L		103	70 - 130	0	20
trans-1,3-Dichloropropene	ND		250	257		ug/L		103	70 - 138	3	25
Trichloroethene	220		250	478		ug/L		105	70 - 130	0	20
Trichlorofluoromethane	ND		250	244		ug/L		98	60 - 150	0	25
Vinyl acetate	ND		250	243		ug/L		97	23 - 150	3	30
Vinyl chloride	ND		250	234		ug/L		93	50 - 137	4	30
1,2-Dibromoethane (EDB)	ND		250	259		ug/L		104	70 - 131	1	25
2-Butanone (MEK)	ND		250	281		ug/L		113	48 - 140	11	40
4-Methyl-2-pentanone (MIBK)	ND		250	249		ug/L		100	52 - 150	7	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	96		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Lab Sample ID: MB 440-473795/6
Matrix: Water
Analysis Batch: 473795

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/02/18 20:51	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/02/18 20:51	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/02/18 20:51	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/02/18 20:51	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					05/02/18 20:51	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		05/02/18 20:51	1
4-Bromofluorobenzene (Surr)	94		80 - 120		05/02/18 20:51	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

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

Lab Sample ID: MB 440-473795/6
Matrix: Water
Analysis Batch: 473795

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	95		76 - 132		05/02/18 20:51	1

Lab Sample ID: LCS 440-473795/4
Matrix: Water
Analysis Batch: 473795

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrylonitrile	250	273		ug/L		109	48 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: 440-209547-F-2 MS
Matrix: Water
Analysis Batch: 473795

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
Acrylonitrile	ND		1250	1250		ug/L		100	38 - 144

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

Lab Sample ID: 440-209547-F-2 MSD
Matrix: Water
Analysis Batch: 473795

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
Acrylonitrile	ND		1250	1210		ug/L		97	38 - 144	3	40

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-472717/10
Matrix: Water
Analysis Batch: 472717

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ammonia (as N)	ND		0.20	0.10	mg/L			04/26/18 14:48	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 440-472717/11
Matrix: Water
Analysis Batch: 472717

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.01		mg/L		100	90 - 110

Lab Sample ID: MRL 440-472717/9
Matrix: Water
Analysis Batch: 472717

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	0.173	J	mg/L		87	50 - 150

Lab Sample ID: 440-209629-F-1 MS
Matrix: Water
Analysis Batch: 472717

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	4.95		mg/L		99	90 - 110

Lab Sample ID: 440-209629-F-1 MSD
Matrix: Water
Analysis Batch: 472717

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Ammonia (as N)	ND		5.00	5.18		mg/L		104	90 - 110	5	15

Lab Sample ID: MB 440-474108/10
Matrix: Water
Analysis Batch: 474108

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			05/03/18 16:35	1

Lab Sample ID: LCS 440-474108/11
Matrix: Water
Analysis Batch: 474108

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.07		mg/L		101	90 - 110

Lab Sample ID: MRL 440-474108/9
Matrix: Water
Analysis Batch: 474108

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	0.193	J	mg/L		97	50 - 150

Lab Sample ID: 440-210279-P-1 MS
Matrix: Water
Analysis Batch: 474108

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.17	J	5.00	5.32		mg/L		103	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-209533-1

Lab Sample ID: 440-210279-P-1 MSD
Matrix: Water
Analysis Batch: 474108

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.17	J	5.00	5.13		mg/L		99	90 - 110	4	15

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 440-472079/1-A
Matrix: Water
Analysis Batch: 472122

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 472079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.025	0.013	mg/L		04/24/18 10:05	04/24/18 12:42	1

Lab Sample ID: LCS 440-472079/2-A
Matrix: Water
Analysis Batch: 472122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 472079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.193		mg/L		96	90 - 110

Lab Sample ID: 440-209511-O-3-B MS
Matrix: Water
Analysis Batch: 472122

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 472079

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		0.200	0.193		mg/L		97	70 - 115

Lab Sample ID: 440-209511-O-3-C MSD
Matrix: Water
Analysis Batch: 472122

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 472079

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.200	0.187		mg/L		94	70 - 115	3	15

QC Association Summary

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

TestAmerica Job ID: 440-209533-1

GC/MS VOA

Analysis Batch: 473631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209533-3	MW-13R-A	Total/NA	Water	8260B	
440-209533-4	MW-13R-B	Total/NA	Water	8260B	
440-209533-8	QCAB	Total/NA	Water	8260B	
440-209533-9	QCTB	Total/NA	Water	8260B	
MB 440-473631/4	Method Blank	Total/NA	Water	8260B	
LCS 440-473631/5	Lab Control Sample	Total/NA	Water	8260B	
440-209912-F-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-209912-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 473795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209533-3 - RA	MW-13R-A	Total/NA	Water	8260B	
440-209533-4 - RA	MW-13R-B	Total/NA	Water	8260B	
440-209533-8 - RA	QCAB	Total/NA	Water	8260B	
440-209533-9 - RA	QCTB	Total/NA	Water	8260B	
MB 440-473795/6	Method Blank	Total/NA	Water	8260B	
LCS 440-473795/4	Lab Control Sample	Total/NA	Water	8260B	
440-209547-F-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-209547-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

General Chemistry

Prep Batch: 472079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209533-7	LR-2R	Total/NA	Water	Distill/CN	
MB 440-472079/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-472079/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
440-209511-O-3-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-209511-O-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 472122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209533-7	LR-2R	Total/NA	Water	SM 4500 CN E	472079
MB 440-472079/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	472079
LCS 440-472079/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	472079
440-209511-O-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	472079
440-209511-O-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	472079

Analysis Batch: 472717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209533-1	MW-5-A	Total/NA	Water	350.1	
440-209533-3	MW-13R-A	Total/NA	Water	350.1	
440-209533-4	MW-13R-B	Total/NA	Water	350.1	
440-209533-5	MW-14-A	Total/NA	Water	350.1	
440-209533-6	MW-14-B	Total/NA	Water	350.1	
MB 440-472717/10	Method Blank	Total/NA	Water	350.1	
LCS 440-472717/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-472717/9	Lab Control Sample	Total/NA	Water	350.1	
440-209629-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-209629-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-209533-1

General Chemistry (Continued)

Analysis Batch: 474108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209533-2	MW-5-B	Total/NA	Water	350.1	
MB 440-474108/10	Method Blank	Total/NA	Water	350.1	
LCS 440-474108/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-474108/9	Lab Control Sample	Total/NA	Water	350.1	
440-210279-P-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-210279-P-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Definitions/Glossary

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

TestAmerica Job ID: 440-209533-1

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.

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 440-209533-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18
Nevada	State Program	9	CA015312018-1	07-31-18
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-18

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

Regulatory Program: DW NPDES RCRA Other

Client Contact: Geologic Associates		Project Manager: Vicki Lebeckas		Site Contact: Just Hills		Date: 4-23-18		COC No: _____	
Address: 2777 E. Gustavi Rd.		Toll/Fax: _____		Lab Contact: P. Tamura		Carrier: TA		Sampler: A. Shaw	
City/State/Zip: Orange CA 92661		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS		Perform MS / MSD (Y / N)		826DB-t-Butano		For Lab Use Only:	
Phone: 949-626-7282		TAT if different from Below _____		826DB-t-Butano		EPA 350.2-		Walk-In Client	
Fax: 949-626-1233		2 weeks		Ammoniac as N		Cyanide		Lab Sampling:	
Project Name: Deportive Services		1 week		Cyanide				Job / SDG No.:	
Site: Southern Orange Landfill		2 days							
PO # GA # 808,1024		1 day							
Sample Identification			Sample Date	Sample Time	Sample Type (c=Comp, g=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)
WJ-S-A			4/23/18	1119	G	GLU	1	WP	X
WJ-S-B									X
WJ-13R-A				1033			H		X
WJ-13R-B				1033			H		X
WJ-14-A				0900			I		X
WJ-14-B				0900			I		X
LP-2R				1215			I		X
OCAR							DI-2		X
OCER							DI-2		X



5/12/18
00214

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.

Special Instructions/QC Requirements & Comments: **Peasetts**

Non-Hazard Flammable Skin Irritant Poison B Unknown Return to Client Archive for _____ Months Disposed by Lab

Custody Seals Intact: Yes No

Relinquished by: **MC-A** Company: **GA** Date/Time: **4/23/18 1440**

Relinquished by: **Scott Riccio** Company: **TA-TRU** Date/Time: **4/23/18 1710**

Cooler Temp (°C): Obs'd _____

Received by: **Whit Riccio** Company: **TA-TRU** Date/Time: **4/23/18 1440**

Received in Laboratory by: **[Signature]** Company: **TA-TRU** Date/Time: **4/23/18 1710**

0.5/1.1 #88

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-209533-1

Login Number: 209533

List Number: 1

Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

Chain of Custody Record

201015

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-9210 (0713)

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: <u>GLA/Republic</u> Address: <u>1415 W. Bismarck Ct.</u> City/State/Zip: <u>S-D, CA, 92727</u> Phone: <u>858-451-1136</u> Fax: <u>858-451-1087</u> Project Name: <u>Republic San Jac</u> Site: <u>Sunshine Sw. Landfill</u> P O # <u>44007851</u>			Site Contact: <u>Josh Mills</u> Lab Contact: <u>Umeshi</u> Date: <u>6-14-18</u> Carrier: <u>T/A</u> COC No: <u>1</u> of <u>1</u> COCs		
Project Manager: <u>KAO Welch</u> Tel/Fax: <u>858-451-1136</u> <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day			For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:		
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.
PZ-4	6/14/18	1030 G	G	GW	13
MW-2A	↑	1035	↑	↑	13
MW-2B	↑	0910	↑	↑	13
DW-4	↑	0758	↑	↑	13
GCAB	↑	-	↑	↑	4
GCAB	↑	-	↑	↑	4
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.					
Special Instructions/QC Requirements & Comments: <u>8260B was include Dichlorodifluoromethane, MPPE and 1,1,1-Dioxane.</u>					
Relinquished by: <u>Shant Salinas</u>			Received by: <u>[Signature]</u>		
Relinquished by:			Received by:		
Relinquished by:			Received by:		

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

Return to Client Disposal by Lab Archive for _____ Months

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

Company: Geo-logic Date/Time: 6-14-18/12:5
 Company: Geo-logic Date/Time: 6-14-18/11:5
 Company: _____ Date/Time: _____

TestAmerica Irvine
 17461 Meridian Ave
 Suite 100
 Irvine, CA 92614
 Phone: 949.261.1972 Fax:

Chain of Custody Record

211651

TestAmerica

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

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: CIA / Republic Address: 1115 W. Berkeley St City/State/Zip: S. D. CA 92717 Phone: 858-451-1136 Fax: 858-451-1136 Project Name: Republic Services Site: Washing Ctr Landfill PO # 44007851		Project Manager: Dave Welch Tel/Fax: 858-451-1136 <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below: <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: Lab Contact: [Blank] Perform MS / MSD (Y / N) Filtered Sample (Y / N)		Date: 6-12-18 Carrier: [Blank]		COC No.: 1 of 1 COCs Sampler: ASOS, MC 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.	Analysis	Retention	Disposition	Notes
CM-9R3	12/18/10	0935	G	GW	13	1218	X	X	
CM-1DR	1218	1218	G	GW	13	1218	X	X	
CM-11R	1218	1218	G	GW	13	1218	X	X	
MW-5	1218	1218	G	GW	13	1218	X	X	
Subdrain (N)	1218	1218	G	GW	13	1218	X	X	
Combined Subdrains	1218	1218	G	GW	13	1218	X	X	
Duplicate	1218	1218	G	GW	13	1218	X	X	
MW-13R	1218	1218	G	GW	13	1218	X	X	
PZ-2	1218	1218	G	GW	13	1218	X	X	
MW-6	1218	1218	G	GW	13	1218	X	X	
MW-14	1218	1218	G	GW	13	1218	X	X	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____ Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months									
Special Instructions/QC Requirements & Comments: * EPA Method 8260 includes all 40 CFR Part 258 Appendix 1 VOCs Dichlorodifluoromethane, MTBE, and 1,4-Dioxane Cooler Temp. (°C): Obs'd: _____ Corrd: _____ Therm ID No.: _____ Custody Seal No.: Relinquished by: [Signature] Company: [Blank] Date/Time: 6/12/18/1410 Relinquished by: [Signature] Company: [Blank] Date/Time: [Blank] Relinquished by: [Signature] Company: [Blank] Date/Time: [Blank]									

Chain of Custody Record

210798

TestAmerica

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

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 Company Name: CAA / Republic
 Address: 11155 W. Raymond Ct
 City/State/Zip: Sunnyvale, CA 94087
 Phone: 408-251-5135
 Fax: 408-251-1085
 Project Name: Republic Services
 Site: Sunnyvale CA Landfill
 PO #: 4400-2851

Project Manager: Kyle Johnson
Tel/Fax: 888-251-1136
Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Tosh Mills **Date:** 6-17-18
Lab Contact: Unkash **Carrier:** TIA
Sampler: ASDC MC
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)	Sample Specific Notes:	
GCAR	6/12/18	-	G	LAB	4				
GCOR	6/12/18	-	G	LAB	2				
TestAmerica Irvine 17001 Harbor Ave Suite 100 Irvine, CA 92614 Phone: 949.261.1022 Fax:									

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

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

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

Special Instructions/QC Requirements & Comments:
 *EPA 8260 includes all 40 CFR part 258 Appendix 1 VOCs.
 Dichlorodifluoromethane, MRE and 1,1,1-Trichloroethane

Custody Seal No.:	Therm ID No.:	Company:	Date/Time:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Geo-Logic

ASSOCIATES

Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM WATER LEVEL SURVEY RECORD SHEET

Site Sunshine Cyn, 4/F

Project No.: S018-1024

Date 6-12-18

Field Personnel BS, MC, AS

1 of 2

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			14.49	
MW-2A			32.56	
MW-2B			17.77	
MW-5			18.88	
MW-6			16.47	
MW-8			16.07	
MW-9			17.81	
MW-13R			16.69	
MW-14			14.52	
DW-1			TOC	
DW-2			25.56	
DW-3			154.63	
DW-4			32.59	
DW-5			14.02	
CM-5R			no access	Heavy equip. operation
CM-9R3			11.47	
CM-10R			49.55	
CM-11R			16.16	
PZ-1			92.97	
PZ-2			122.17	

REMARKS:

Name:

Ben Salinas

Signature:

Ben Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Cyn. Project No.: 2018.1024

Station I.D.: combined
subdrains Sampling Date: 6-12-18

Collected By: BS Sampling Time: 1218

Horiba Model S/N: R8JS4944 Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Brownish</u>	<u>veg</u>	<u>6.25</u>	<u>2.94</u>	<u>117</u>	<u>2.29</u>	<u>31.39</u>	<u>182</u>

Surface water conditions (including stream flow rate, stream depth): samples collected @ filter units.

Additional Info/Comments: clear, warm.

Name: B. Salinas Signature: B. Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine

Project No.: 2018.1024

Station I.D.: Subdrain(N)

Sampling Date: 6-12-18

Collected By: BS

Sampling Time: 1130

Horiba Model S/N: RJSS401H

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Trace of yellow</u>	<u>yes</u>	<u>6.03</u>	<u>3.56</u>	<u>5</u>	<u>2.33</u>	<u>29.14</u>	<u>92</u>

Surface water conditions (including stream flow rate, stream depth): Sample collected @ 15 ft depth on the left side of the containment.

Additional Info/Comments: clear, warm, light winds

Name: B. Salinas

Signature: B. Salinas

**GROUNDWATER MONITORING PROGRAM
 SURFACE WATER DATA SHEET**

Site Name: Sunshine

Project No.: 5018-1024

Station I.D.: Extraction Trench

Sampling Date: 6-13-18

Collected By: BS

Sampling Time: 1120

Horiba Model S/N: R855494H

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
yellowish	yes	6.30	5.01	34.0	2.48	26.03	49

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

Additional Info/Comments: Clear, sunny

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn</u>	Project No.: <u>2018-1024</u>
Well I.D.: <u>CM-9R3</u>	Sampling Date: <u>6.12.18</u>
Collected By: <u>AS</u>	Purge start Time: <u>1038</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1057</u>
Starting Water Level: <u>11.47</u>	Sampling (Well Recovery) Time: <u>1105</u>
Total Depth (feet): <u>29.00</u>	Ending Water Level (feet): <u>13.23</u>
Water column (feet): <u>17.53</u>	Total Purged (gallons): <u>2.0+</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> <input checked="" type="checkbox"/> Low Flow <input type="checkbox"/>	
Horiba Model S/N: <u>U-52/W26P8GR5</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1042	0.50	12.08	6.23	5.02	500	11.13	19.26	-56
1045	1.00	12.40	6.20	4.81	182	10.77	19.06	-52
1048	1.25	12.64	6.21	4.73	134	11.88	19.05	-48
1051	1.50	12.82	6.20	4.63	71.8	11.10	19.06	-41
1054	1.75	13.09	6.20	4.60	70.2	11.06	19.04	-40
1057	2.00	13.23	6.20	4.60	69.4	11.00	19.00	-38

Purge Sampling Rates: 25 PSI R:30/A:10

Well condition: O.K. - Cloudy water (reddish/brown) w/ no odor

Additional Info/Comments: Sunny, Warm, Breezy * Pump Depth: 27.4 ft.

Name: A. Shaw Signature: AC. Shaw

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-9R3 Date: 6.12.18

Access:

Accessibility: Good: _____ Fair: _____ Poor:

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

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

Remarks: _____

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

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

Remarks: Concrete pad not visible.

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: Damaged: _____

Condition of Locking Cap: Good: _____ Damaged:

Condition of Lock: Good: Damaged: _____

Condition of Weepholes: Good: Damaged: _____

Remarks: Locking cap is broken - 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: [Signature] Signed _____ Title Field Tech Date 6.12.18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn</u>	Project No.: <u>S018.1024</u>
Well I.D.: <u>CM-10R</u>	Sampling Date: <u>6.12.18</u>
Collected By: <u>AS</u>	Purge start Time: <u>0901</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>0922</u>
Starting Water Level: <u>49.55</u>	Sampling (Well Recovery) Time: <u>0935</u>
Total Depth (feet): <u>110.90</u>	Ending Water Level (feet): <u>49.78</u>
Water column (feet): <u>61.35</u>	Total Purged (gallons): <u>2.54</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: <input checked="" type="radio"/> YES <input type="radio"/> NO
Sample Method: <u>Micro Purge</u> Low Flow	* Duplicate collected.
Horiba Model S/N: <u>V-52/WGAP8GR51</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0910	1.00	49.78	6.96	2.96	0.0	2.83	22.22	-223
0914	1.50	"	6.97	2.95	0.0	2.30	22.25	-242
0916	1.75	"	6.97	2.95	0.0	2.12	22.20	-251
0918	2.00	"	6.96	2.96	0.0	2.10	22.19	-250
0920	2.25	"	6.96	2.96	0.0	2.04	22.21	-258
0922	2.50	"	6.97	2.95	0.0	2.02	22.20	-259

Purge Sampling Rates: 50 PSI R:40/A:15

Well condition: O.K. - Clear water w/ strong odor.

Additional Info/Comments: Sunny, Warm, Breezy * Pump Depth: 100 ft.

Name: A. Shaw Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cgn Well ID: CM-10R Date: 6.12.18

Access:

Accessibility: Good: Fair: Poor:

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

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

Remarks:

Concrete Pad:

Integrity: Good: Inadequate:

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

Remarks:

Protective Outer Casing: Material: Bladders

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: Bladders

Condition: Good: Damaged: Missing:

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

Remarks:

Field Certification: C.C. M Signed Field Tech Title 6.12.18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>Sunshine Cyn</u>	Project No.:	<u>8018-1024</u>
Well I.D.:	<u>CM-11R</u>	Sampling Date:	<u>6.12.18</u>
Collected By:	<u>AS</u>	Purge start Time:	<u>1207</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>1238</u>
Starting Water Level:	<u>16.16</u>	Sampling (Well Recovery) Time:	<u>1250</u>
Total Depth (feet):	<u>31.00</u>	Ending Water Level (feet):	<u>16.99</u>
Water column (feet):	<u>14.84</u>	Total Purged (gallons):	<u>1.5+</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<input checked="" type="checkbox"/> Micro Purge <input type="checkbox"/> Low Flow		
Horiba Model S/N:	<u>U-52/WGGP8GR51</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1213	0.25	16.35	5.13	4.62	0.0	5.35	21.06	240
1218	0.50	16.48	5.17	4.63	0.0	3.53	21.08	240
1223	0.75	16.60	5.16	4.67	0.0	2.72	20.71	242
1228	1.00	16.73	5.15	4.66	0.0	2.48	20.66	244
1233	1.25	16.87	5.15	4.67	0.0	2.42	20.64	244
1238	1.50	16.99	5.15	4.68	0.0	2.39	20.58	244

Purge Sampling Rates: 30 PSI R: 25 / D: 5

Well condition: OK - Visually clear water w/ no odor

Additional Info/Comments: Sunny Warm Breezy * Pump Depth: 29.8 ft.

Name: A. Shaw Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-11R Date: 6.12.18

Access:

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

Remarks: Concrete channel requires some clean up for better 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:

* low-yield

Field Certification:

OC-M Field Tech
Signed Title

6.12.18
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018-1024
 Well I.D.: MW-1 Sampling Date: 6-13-18
 Collected By: MC Purge start Time: 9:59
 Casing Diameter (inches): 4 Purge Stop time: 10:15
 Starting Water Level: 14.48 Sampling (Well Recovery) Time: 10:25
 Total Depth (feet): 29.60 Ending Water Level (feet): 14.52
 Water column (feet): 15.12 Total Purged (gallons): 2.0
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: 4-52/WSYWB00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
10:03	0.5	14.52	6.46	4.16	16.2	1.16	20.34	-123
10:07	1.0	"	6.46	4.13	12.9	1.84	20.20	-127
10:09	1.25	"	6.48	4.10	15.3	1.72	20.20	-125
10:11	1.5	"	6.47	4.09	16.4	1.68	20.18	-124
10:13	1.75	"	6.47	4.09	16.7	1.66	20.16	-125
10:15	2.0	"	6.48	4.08	16.6	1.64	20.16	-126

Purge Sampling Rates: 20 psi ref. 11 30 discharge 11
water contains yellowish color with an odor

Well condition: OK

Additional Info/Comments: clear hot, slight breeze

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Cyn</u>	Well ID:	<u>MW-1</u>	Date:	<u>6-13-18</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>Concrete pad is covered with soil</u>				
Concrete Pad:					
Integrity:	<u>NA</u>	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>Concrete pad is covered with soil</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):	_____		Current (Hz):	_____	
Remarks:					

Field Certification: Mike Coyll Signed Field Tech Title 6-13-18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn
 Well I.D.: MW-2A
 Collected By: MC
 Casing Diameter (inches): 4
 Starting Water Level: 32.53
 Total Depth (feet): 41.30
 Water column (feet): 8.77
 Screen Length (feet): _____

Project No.: 5018.1024
 Sampling Date: 6.14.18
 Purge start Time: 9:43
 Purge Stop time: 10:15
 Sampling (Well Recovery) Time: 10:35
 Ending Water Level (feet): 33.67
 Total Purged (gallons): 1.50 +
 Duplicate Sample: YES NO

Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/W54WB00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
9:50	.25	32.96	6.08	3.20	0.0	.96	23.48	-93
9:55	.50	33.10	6.08	3.20	0.0	.76	23.20	-94
10:00	.75	33.28	6.08	3.20	0.0	.58	22.94	-96
10:05	1.0	33.42	6.09	3.19	0.0	.54	22.97	-97
10:10	1.25	33.54	6.09	3.19	0.0	.50	23.10	-99
10:15	1.50	33.67	6.10	3.19	0.0	.48	23.06	-100

Purge Sampling Rates: 25 psi refill 20 discharge 6

Well condition: ok Heavy erosion around well (on slope)
 Required hiking equipment and bottles to well. Heavy vegetation
 Additional Info/Comments: clear, hot, breeze, to windy

Pump inlet 39.0 ft

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>	Well ID: <u>MW-2A</u>	Date: <u>6-14-18</u>
Access:		
Accessibility: Good: _____ Fair: _____ Poor: <u>✓</u>	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>Required carrying equipment and sample bottles down a slope. Heavy erosion on slope around the well. Vegetation weeds around well/monument</u>	
Concrete Pad:		
Integrity: <u>NA</u> 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: Mic [Signature] Signed Field Tech Title 6-14-18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: SO/E 1024
 Well I.D.: MW-2B Sampling Date: 6-14-16
 Collected By: mc Purge start Time: 8:34
 Casing Diameter (inches): 4 Purge Stop time: 9:00
 Starting Water Level: 17.81 Sampling (Well Recovery) Time: 9:10
 Total Depth (feet): 71.10 Ending Water Level (feet): 20.20
 Water column (feet): 53.29 Total Purged (gallons): 2.25
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: V-52/W541WBDD

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
8:46	1.0	19.36	6.94	3.23	0.0	.86	21.63	-210
8:51	1.5	19.71	6.93	3.24	0.0	.69	21.51	-197
8:54	1.75	19.87	6.95	3.23	0.0	.62	21.49	-193
8:57	2.0	20.05	6.96	3.23	0.0	.60	21.47	-191
9:00	2.25	20.20	6.96	3.22	0.0	.59	21.47	-190

Purge Sampling Rates: 40psi refill 35, discharge 13
water is clear w. tn no odor

Well condition: OK Required hiking equipment to the well
Heavy erosion on slope near well Heavy vegetation
 Additional Info/Comments: clear, hot

Pump inlet 68.0 ft
 Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>		Well ID: <u>MW-2B</u>		Date: <u>6-14-18</u>	
Access:					
Accessibility:		Good: _____	Fair: _____	Poor: <input checked="" type="checkbox"/>	
Vicinity of well clear of weeds and/or debris:				Yes: _____	No: _____
Presence of depressions or standing water around well:				Yes: _____	No: _____
Remarks: <u>Required carrying equipment and sample bottle down the slope to well. Heavy erosion in slope around well. Heavy vegetation (weeds) around the well.</u>					
Concrete Pad:					
Integrity:		Good: _____	Inadequate: <input checked="" type="checkbox"/>		
Presence of depressions or standing water around well:				Yes: _____	No: <input checked="" type="checkbox"/>
Remarks: <u>Half of the pad is buried (not visible)</u>					
Protective Outer Casing:		Material: <u>metal</u>			
Condition of Protective Casing:		Good: <input checked="" type="checkbox"/>	Damaged: _____		
Condition of Locking Cap:		Good: <input checked="" type="checkbox"/>	Damaged: _____		
Condition of Lock:		Good: <input checked="" type="checkbox"/>	Damaged: _____		
Condition of Weepholes:		Good: <input checked="" type="checkbox"/>	Damaged: _____		
Remarks:					
Well Riser:		Material: <u>PVC</u>			
Condition of Riser:		Good: <input checked="" type="checkbox"/>	Damaged: _____		
Condition of Riser Cap:		Good: <input checked="" type="checkbox"/>	Damaged: _____		
Measurement reference point:		Yes: <input checked="" type="checkbox"/>	No: _____		
Remarks:					
Dedicated Pump:		Type: <u>Bladder</u>			
Condition:		Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____	
Pumping Rate (gpm): <u>NA</u>		Current (Hz): <u>NA</u>			
Remarks:					

Field Certification: Mike Campbell Signed _____ Title Field Tech Date 6-14-18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>Sunshine</u>	Project No.:	<u>3018.1024</u>
Well I.D.:	<u>MW-5</u>	Sampling Date:	<u>6-12-18</u>
Collected By:	<u>BS</u>	Purge start Time:	<u>1013</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>1028</u>
Starting Water Level:	<u>18.88</u>	Sampling (Well Recovery) Time:	<u>1035</u>
Total Depth (feet):	<u>26.20</u>	Ending Water Level (feet):	<u>19.38</u>
Water column (feet):	<u>7.32</u>	Total Purged (gallons):	<u>3</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S/N:	<u>R8J200112</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1016	1/2	18.94	6.00	4.14	14.7	3.65	21.69	50
1018	1	19.06	6.14	4.14	5.6	1.63	21.35	59
1021	1 1/2	19.13	6.17	4.14	5.2	1.55	21.40	57
1023	2	19.20	6.18	4.14	4.8	1.47	21.28	55
1025	2 1/2	19.26	6.21	4.14	4.4	1.43	21.25	52
1028	3	19.32	6.22	4.14	3.8	1.38	21.28	52

Purge Sampling Rates: RSS 25, 2:30 10:10, water has an odor and has a yellow tint color/clean

Well condition: OK

Additional Info/Comments: Sunny, Warm

Name: Bert Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: MW-5 Date: 6-12-18

Access:

Accessibility: Good: _____ Fair: Poor: _____

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

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

Remarks: _____

Concrete Pad:

Integrity: Good: _____ Inadequate: _____

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

Remarks: concrete pad is not visible

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: Damaged: _____

Condition of Locking Cap: Good: Damaged: _____

Condition of Lock: Good: Damaged: _____

Condition of Weepholes: Good: Damaged: _____

Remarks: _____

Well Riser: Material: PVC 2"

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 AW Manager Date 6-12-18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018.1024
 Well I.D.: MW-6 Sampling Date: 6-12-18
 Collected By: mc Purge start Time: 9:33
 Casing Diameter (inches): 2 Purge Stop time: 10:15
 Starting Water Level: 16.47 Sampling (Well Recovery) Time: 10:35
 Total Depth (feet): 23.50 Ending Water Level (feet): 17.35
 Water column (feet): 7.03 Total Purged (gallons): 1.50
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/W54/WB00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
9:41	.25	16.89	7.08	3.48	0.0	.82	22.88	-261
9:48	.50	17.03	7.07	3.48	0.0	.65	22.54	-285
9:55	.75	17.13	7.07	3.48	0.0	.60	22.49	-294
10:01	1.0	17.20	7.06	3.48	0.0	.57	22.42	-296
10:08	1.25	17.27	7.05	3.49	0.0	.56	22.46	-299
10:15	1.50	17.35	7.04	3.49	0.0	.54	22.45	-301

Purge Sampling Rates: 20 psi refill 30 discharge 5
water is cloudy with a strong odor. water has blackish tint
 Well condition: OK
carried equipment down slope along path to well
 Additional Info/Comments: clear, hot, windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-6 Date: 6-12-18

Access:

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

Remarks: Required carrying equipment and bottles down a slope, along a path to sample the well

Concrete Pad:

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

Protective Outer Casing:

Material: Metal

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

Remarks: _____

Well Riser:

Material: PVC

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

Remarks: _____

Dedicated Pump:

Type: Bladder

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

Remarks: _____

Field Certification:

Mike Capell Environmental Tech 6-12-18
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018-1024
 Well I.D.: MW-9 Sampling Date: 6-13-18
 Collected By: ML Purge start Time: 7:19
 Casing Diameter (inches): 4 Purge Stop time: 7:56
 Starting Water Level: 17.84 Sampling (Well Recovery) Time: 8:15
 Total Depth (feet): 26.70 Ending Water Level (feet): 17.90
 Water column (feet): 8.86 Total Purged (gallons): 2.0
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: 4-52/125412301

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
7:32	.5	17.90	6.36	5.54	37.6	.77	21.32	-139
7:40	1.0	11	6.33	5.18	32.6	.63	21.36	-138
7:44	1.25	11	6.32	5.07	23.6	.61	21.35	-138
7:48	1.50	11	6.31	5.01	15.0	.59	21.42	-139
7:52	1.75	11	6.31	4.96	13.9	.58	21.42	-140
7:56	2.0	11	6	4.94	13.6	.57	21.44	-141

Purge Sampling Rates: 25 psi ref. 11 20 discharge 5
water has yellow tint w no odor

Well condition: OK
Had to carry equipment and bottles to well
 Additional Info/Comments: clear, hot, breezy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-9 Date: 6.13.18

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

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

Protective Outer Casing: Material: Metal Flushmount
 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: _____

Field Certification: me creek Field Tech 6-13-18
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn</u>	Project No.: <u>SO18.1034</u>
Well I.D.: <u>MW-13R</u>	Sampling Date: <u>6-12-18</u>
Collected By: <u>MC</u>	Purge start Time: <u>12:36</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>13:06</u>
Starting Water Level: <u>16.69</u>	Sampling (Well Recovery) Time: <u>13:20</u>
Total Depth (feet): <u>27.80</u>	Ending Water Level (feet): <u>17.27</u>
Water column (feet): <u>11.11</u>	Total Purged (gallons): <u>1.50</u>
Screen Length (feet): _____	Duplicate Sample: YES <input checked="" type="radio"/> NO <input type="radio"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>U-52/W541W300</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
12:47	.5	17:01	7.16	2.35	1.0	.48	30.80	-386
12:52	.75	17:08	7.18	2.29	0.0	.42	30.50	-394
12:56	1.0	17:14	7.22	2.27	0.0	.41	30.53	-396
13:01	1.25	17:21	7.23	2.25	0.0	.38	30.50	-398
13:06	1.50	17:27	7.26	2.23	0.0	.36	30.48	-400

Purge Sampling Rates: 30 psi refill 20 discharge
water contains black color with very strong odor

Well condition: OK
monument very corroded
 Additional Info/Comments: clearly hard breezy, heavy traffic

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>	Well ID: <u>MW-13R</u>	Date: <u>6-12-18</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>well located near entrance of landfill, required hiking equipment and bottles to the well Heavy traffic</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: <u>Monument, monument lid, and lock heavily corroded</u>		
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 Coyne Signed Environmental Tech Title 6-12-18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018, 1024
 Well I.D.: MW-14 Sampling Date: 6-12-18
 Collected By: mc Purge start Time: 8:46
 Casing Diameter (inches): 4 Purge Stop time: 9:04
 Starting Water Level: 14.52 Sampling (Well Recovery) Time: 9:14
 Total Depth (feet): 28.10 Ending Water Level (feet): 15.39
 Water column (feet): 13.58 Total Purged (gallons): 2.25
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: 452/w541wB00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D O mg/L	TEMPERATURE °C	ORP mV
8:54	1.0	14.96	6.76	4.30	0.0	1.02	21.21	-15
8:56	1.25	15.07	6.75	4.20	0.0	.83	21.14	-7
8:58	1.50	15.18	6.75	4.18	0.0	.78	21.13	-3
9:00	1.75	15.24	6.75	4.15	0.0	.70	21.13	2
9:02	2.0	15.31	6.75	4.14	0.0	.67	21.10	4
9:04	2.25	15.39	6.75	4.14	0.0	.65	21.10	5

Purge Sampling Rates: 20 psi refill 20 discharge 10
water is clear with no odor

Well condition: OK
Hiked carried equipment down slope to the well
 Additional Info/Comments: clear hot, windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-14 Date: 6-12-18

Access:

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

Remarks: Carried equipment and sample bottles down a slope to get to the well

Concrete Pad:

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

Remarks:

Protective Outer Casing:

Material: Metal

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

Remarks:

Well Riser:

Material: PVC

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

Remarks:

Dedicated Pump:

Type: Bladder

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

Remarks:

Field Certification: [Signature] Signed Environmental Tech Title 6-12-18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018-1024
 Well I.D.: PZ-2 Sampling Date: 6-12-18
 Collected By: MC Purge start Time: 11:04
 Casing Diameter (inches): 2 Purge Stop time: 11:36
 Starting Water Level: 122.17 Sampling (Well Recovery) Time: 11:46
 Total Depth (feet): 160.90 Ending Water Level (feet): 126.89
 Water column (feet): 38.73 Total Purged (gallons): 2.0
 Screen Length (feet): _____ Duplicate Sample: YES

Sample Method: Micro Purge Low Flow
 Horiba Model S/N: L-52 / W541W300

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
11:12	.5	124.05	8.48	5.53	15.4	1.48	25.27	-231
11:20	1.0	124.72	8.50	5.51	3.0	.86	24.93	-204
11:24	1.25	125.30	8.50	5.51	1.5	.77	24.90	-202
11:28	1.50	125.83	8.49	5.50	0.8	.71	24.91	-199
11:32	1.75	126.40	8.49	5.49	0.8	.70	24.89	-197
11:36	2.00	126.89	8.48	5.50	0.2	1.66	24.90	-195

Purge Sampling Rates: 80 psi refill 30 discharge 21
water is clear with no odor

Well condition: OK
carried equipment across concrete channel
 Additional Info/Comments: clear, hot, windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine cyn</u>	Well ID: <u>PZ-2</u>	Date: <u>6-12-18</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>Required carrying sampling equipment and bottles across concrete drainage channel</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>NA</u>		
Remarks: _____		

Field Certification: Mike Cuffin (Signed) Environmental Tech (Title) 6-12-18 (Date)

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>Sunshine Cyn,</u>	Project No.:	<u>3018-1024</u>
Well I.D.:	<u>PZ-4</u>	Sampling Date:	<u>6-14-18</u>
Collected By:	<u>BS</u>	Purge start Time:	<u>1003</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>1020</u>
Starting Water Level:	<u>111.47</u>	Sampling (Well Recovery) Time:	<u>1030</u>
Total Depth (feet):	<u>125.15</u>	Ending Water Level (feet):	<u>114.07</u>
Water column (feet):		Total Purged (gallons):	<u>2</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S/N:	<u>R8J5494H</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1007	1/2	111.92	6.67	1.48	1.2	2.47	24.27	59
1010	1	112.58	6.63	1.49	0	1.60	24.16	57
1012	1 1/4	112.94	6.65	1.51	0	1.27	24.22	61
1014	1 1/2	113.03	6.67	1.53	2.3	1.11	24.17	64
1017	1 3/4	113.58	6.68	1.53	2.6	1.10	24.18	65
1020	2	114.07	6.70	1.54	2.9	1.08	24.20	65

Purge Sampling Rates: PSP 80, R, 40, D, 15
Clear water.

Well condition: OK
QCAB taken.

Additional Info/Comments: Sunny, warm

Name: Bert Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn. Well ID: PZ-4 Date: 6-14-18

Access:

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

Concrete Pad:

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

Protective Outer Casing:

Material: FLUSH MOUNT

Condition of Protective Casing: Good: Damaged:
 Condition of Locking Cap: Good: N/A Damaged:
 Condition of Lock: Good: N/A Damaged:
 Condition of Weepholes: Good: N/A 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 pump

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

Field Certification:

[Signature]
 Signed _____ Title GW Manager

6-14-18
 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cem. Project No.: 2018.1024
 Well I.D.: DW-1 Sampling Date: 6-13-18
 Collected By: BS Purge start Time: _____
 Casing Diameter (inches): 4 Purge Stop time: _____
 Starting Water Level: 102 Sampling (Well Recovery) Time: 1015
 Total Depth (feet): _____ Ending Water Level (feet): _____
 Water column (feet): _____ Total Purged (gallons): _____
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R85549414

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>1</u>	<u>6.5</u>	<u>—</u>	<u>8.38</u>	<u>4.45</u>	<u>0</u>	<u>2.85</u>	<u>25.17</u>	<u>18</u>

Purge Sampling Rates: Collect samples from the discharge tube. Has H₂S odor.

Well condition: OK - Dist all around concrete pad/block
GPB taken here.

Additional Info/Comments: _____

Name: B. Salinas Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	Sunshine Gen.	Well ID:	DW-1	Date:	6-13-18
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 checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>			
Remarks:	Dirt/soil around concrete pad.				
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: <input type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
Remarks:					
Protective Outer Casing:					
Material:	Metal				
Condition of Protective Casing:	Good: <input 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:	casing is deteriorating.				
Well Riser:					
Material:	PVC				
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:	Drop Tube				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: <input checked="" type="checkbox"/>	Missing: <input checked="" type="checkbox"/>		
Pumping Rate (gpm):	n/a		Current (Hz):	n/a	
Remarks:					

Field Certification: Benjamin Signed GW Manager Title 6-13-18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5018.1024
 Well I.D.: 0w-2 Sampling Date: 6-13-16
 Collected By: mc Purge start Time: 11:19
 Casing Diameter (inches): 4 Purge Stop time: 11:44
 Starting Water Level: 25.56 Sampling (Well Recovery) Time: 11:54
 Total Depth (feet): 71.00 Ending Water Level (feet): 29.02
 Water column (feet): 45.44 Total Purged (gallons): 2.51
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: 4-52/w5412600

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
11:28	1.0	26.97	7.33	2.63	0.0	1.20	19.75	-131
11:33	1.5	27.44	7.30	2.61	0.0	.89	19.64	-129
11:36	1.75	27.86	7.29	2.61	0.0	.85	19.57	-130
11:39	2.0	28.24	7.28	2.61	0.0	.75	19.53	-132
11:41	2.25	28.63	7.28	2.62	0.0	.72	19.50	-131
11:44	2.50	29.02	7.27	2.62	0.0	.69	19.51	-131

Purge Sampling Rates: 50 psi refill 35 discharge 12
water is clear with no odor

Well condition: OK
HEAVY Vegetation around well
 Additional Info/Comments: clear, hot, breezy

Name: Mike Campbell Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-2 Date: 6-13-18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

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

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

Remarks: Heavy vegetation around well monument

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

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

Remarks: Half of the pad is covered with soil and vegetation

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:

Field Certification: Mike Capelli Signed Field Tech Title 6-13-18 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn</u>	Project No.: <u>5018-1024</u>
Well I.D.: <u>DW-3</u>	Sampling Date: <u>6-13-18</u>
Collected By: <u>ML</u>	Purge start Time: <u>12:43</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>13:05</u>
Starting Water Level: <u>154.63</u>	Sampling (Well Recovery) Time: <u>13:15</u>
Total Depth (feet): <u>256.60</u>	Ending Water Level (feet): <u>157.95</u>
Water column (feet): <u>101.97</u>	Total Purged (gallons): <u>2.51</u>
Screen Length (feet): _____	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>4-52/WSY14B00</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
12:53	1.0	156.23	7.21	2.10	0.6	2.11	21.02	-57
12:57	1.5	156.79	7.14	2.11	0.6	1.10	21.48	-81
12:59	1.75	157.11	7.14	2.12	0.0	.94	21.25	-87
13:01	2.0	157.46	7.15	2.12	0.0	.91	21.21	-88
13:03	2.25	157.78	7.15	2.11	0.0	.86	21.16	-90
13:05	2.50	157.95	7.16	2.12	0.0	.83	21.12	-29

Purge Sampling Rates: 100 psi refill 35, discharge 19
water is clear with no odor

Well condition: OK

Additional Info/Comments: clear, hot, breezy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sandhill Cyn</u>	Well ID: <u>DW-3</u>	Date: <u>6-13-10</u>
Access:		
Accessibility: Good: <input checked="" type="checkbox"/>	Fair: <input type="checkbox"/>	Poor: <input type="checkbox"/>
Vicinity of well clear of weeds and/or debris: Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>	
Presence of depressions or standing water around well: Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>	
Remarks:		
Concrete Pad:		
Integrity: Good: <input checked="" type="checkbox"/>	Inadequate: <input type="checkbox"/>	
Presence of depressions or standing water around well: Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
Remarks:		
Protective Outer Casing:		
Material: <u>Meta</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>NA</u>	Current (Hz): <u>NA</u>	
Remarks:		

Field Certification: Mike Campbell Signed Field Tech Title 6-13-10 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn
 Well I.D.: DW-4
 Collected By: ML
 Casing Diameter (inches): 4
 Starting Water Level: 32.56
 Total Depth (feet): 134.80
 Water column (feet): 102.24
 Screen Length (feet): _____
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52

Project No.: 5018.1024
 Sampling Date: 6.14.18
 Purge start Time: 7:25
 Purge Stop time: 7:48
 Sampling (Well Recovery) Time: 7:58
 Ending Water Level (feet): 34.75
 Total Purged (gallons): 2.5
 Duplicate Sample: YES NO

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
7:34	1.0	33.78	6.80	3.48	0.0	.98	20.26	-245
7:39	1.5	34.26	6.80	3.56	0.0	.78	20.24	-243
7:41	1.75	34.38	6.81	3.54	0.0	.70	20.22	-242
7:43	2.0	34.50	6.83	3.53	0.0	.66	20.25	-239
7:46	2.25	34.64	6.82	3.53	0.0	.63	20.27	-240
7:48	2.50	34.75	6.82	3.53	0.0	.62	20.29	-238

Purge Sampling Rates: 75 psi 30 refill dischargers 17
water is clear with strong odor with blackish
color

Well condition: OK Heavy erosion on slope near well, Heavy vegetation
Hike equipment and bottles down slope to well
 Additional Info/Comments: clear, hot

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine cyn Well ID: DW-4 Date: 6-14-18

Access:

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

Remarks: Required hiking sampling equipment and sample bottles down a slope. Heavy erosion in slope around well. Vegetation around well.

Concrete Pad:

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

Remarks: concrete pad is buried

Protective Outer Casing:

Material: metal

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

Remarks: _____

Well Riser:

Material: PVC

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

Remarks: _____

Dedicated Pump:

Type: ✓ Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

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

Remarks: _____

Field Certification: [Signature] Field Tech 6-14-18
 Signed Title Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Gym PROJECT NAME / NUMBER SC18 1024

Instrument Make/Model # L-52/WS41WB01

Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>5-14-18 6:25</u>						
Pre. Cal	<u>4.30</u>	<u>4.45</u>	<u>0.8</u>	<u>8.21</u>		
Calibration	<u>4.01</u>	<u>4.50</u>	<u>0.6</u>	<u>7.56</u>		
Calibration Successful? (Y/N)	<u>yes</u>					
Satisfies Protocol?	<u>yes</u>					
Calibration by	<u>[Signature]</u>					
Physical Condition of Unit					<u>Good</u>	

Did calibration meet criteria in the sampling protocol? (Y or N)
enter YES or NO

Signature or initials
Richard Campbell

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn
 Well I.D.: DW-5
 Collected By: mc
 Casing Diameter (inches): 4
 Starting Water Level: 14.05
 Total Depth (feet): 101.00
 Water column (feet): 86.95
 Screen Length (feet): _____

Project No.: 5018.1024
 Sampling Date: 6-13-10
 Purge start Time: 8:58
 Purge Stop time: 9:28
 Sampling (Well Recovery) Time: 9:38
 Ending Water Level (feet): 17.40
 Total Purged (gallons): 2.54
 Duplicate Sample: YES NO

Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/W5Y1WB00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
9:04	.5	14.98	8.09	1.71	0.0	1.20	19.84	-96
9:10	1.0	15.66	8.03	1.67	0.0	.86	19.68	-120
9:16	1.5	16.26	7.97	1.67	0.0	.72	19.75	-135
9:19	1.75	16.56	7.95	1.65	0.1	.64	19.69	-150
9:22	2.0	16.84	7.94	1.65	0.2	.61	19.68	-154
9:25	2.25	17.12	7.94	1.65	0.1	.59	19.68	-157
9:28	2.50	17.40	7.93	1.64	0.0	.56	19.70	-160

Purge Sampling Rates: 65 psi ref. 11 30 discharge 20
rate constant slight yellow tint with an odor

Well condition: OK

Additional Info/Comments: clear hot, slight breeze
heavy effervescence in VOAs with black bubbles in vials

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Canyon</u>	Well ID:	<u>DW-5</u>	Date:	<u>6-13-18</u>
Access:					
Accessibility:	Good: <input checked="" type="checkbox"/>	Fair:	<input type="checkbox"/>	Poor:	<input type="checkbox"/>
Vicinity of well clear of weeds and/or debris:	Yes: <input checked="" type="checkbox"/>	No:	<input type="checkbox"/>		
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No:	<input checked="" type="checkbox"/>		
Remarks:					
Concrete Pad:					
Integrity:	<u>NA</u>	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>concrete pad is cover with soil and concrete debris ground monument</u>				
Protective Outer Casing:					
Material:	<u>metal</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>		
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>		
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>		
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>		
Remarks:					
Well Riser:					
Material:	<u>PVC</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>		
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>		
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No:	<input type="checkbox"/>		
Remarks:					
Dedicated Pump:					
Type:	<u>Bladder</u>				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged:	<input type="checkbox"/>	Missing:	<input type="checkbox"/>
Pumping Rate (gpm):	<u>NA</u>	Current (Hz):	<u>NA</u>		
Remarks:					

Field Certification: Mike Capell Signed Field Tech Title 6-13-18 Date

FIELD CALIBRATION DOCUMENTATION FORM

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

Instrument Make/Model # L-52/W5412B00

Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>6-13-10 6:42</u>						
Pre. Cal	<u>4.38</u>	<u>4.53</u>	<u>0.5</u>	<u>8.50</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>7.57</u>		
Calibration Successful? (Y/N)	<u>yes</u>				enter YES or NO	
Satfies Protocol?	<u>yes</u>				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>[Signature]</u>				Signature or initials	<u>[Signature]</u>
Physical Condition of Unit					<u>Good</u>	

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Can. PROJECT NAME / NUMBER S018-1024

Instrument Make/Model #		88559644					
Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments	
6-12-18 0712	4.33	4.66	0.2	12.13			
Pre. Cal	4.00	4.49	←	8.92			
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	P. Post Lines						
Physical Condition of Unit				Good			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spa PROJECT NAME / NUMBER 2018-1624

Instrument Make/Model #		PSS5494H					
Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments	
<u>6-13-18</u>							
Pre-Cal	3.91	4.55	0.6	13.08			
Calibration	4.00	4.49	←	8.62			
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>Bard</u>	<u>Jordan</u>			Signature or initials		
Physical Condition of Unit			<u>Good</u>				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Gym

PROJECT NAME / NUMBER 5018 1024

Instrument Make/Model # LI-52/WSY12BDD

Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>6-12-18 6:14</u>						
Pre. Cal	<u>3.94</u>	<u>4.52</u>	<u>0.1</u>	<u>8.13</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>8.03</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>mm</u>				Signature or initials	<u>Richard Campbell</u>
Physical Condition of Unit					<u>Good</u>	

FIELD CALIBRATION DOCUMENTATION FORM

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

Instrument Make/Model # <u>Hanna U-S2</u> <u>S/L WATER BEARS</u>		PROJECT NAME / NUMBER				
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
6.12.18 0736	4.04	4.52	1.4	10.80		
Pre. Cal						
Calibration	4.00	4.49	0.0	9.18		
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	ACM
Physical Condition of Unit		← Good →				

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-213374-1

Client Project/Site: Republic Sunshine Canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

6/26/2018 4:30:32 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Client Sample Results	6
Method Summary	37
Lab Chronicle	38
QC Sample Results	45
QC Association Summary	67
Definitions/Glossary	74
Certification Summary	76
Chain of Custody	77
Receipt Checklists	79

Sample Summary

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

TestAmerica Job ID: 440-213374-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-213374-1	CM-9R3	Water	06/12/18 11:05	06/12/18 16:50
440-213374-2	CM-10R	Water	06/12/18 09:35	06/12/18 16:50
440-213374-3	CM-11R	Water	06/12/18 12:50	06/12/18 16:50
440-213374-4	MW-5	Water	06/12/18 10:35	06/12/18 16:50
440-213374-5	Subdrain (N)	Water	06/12/18 11:30	06/12/18 16:50
440-213374-6	Combined Subdrains	Water	06/12/18 12:18	06/12/18 16:50
440-213374-7	Duplicate	Water	06/12/18 00:01	06/12/18 16:50
440-213374-8	MW-13R	Water	06/12/18 13:20	06/12/18 16:50
440-213374-9	PZ-2	Water	06/12/18 11:46	06/12/18 16:50
440-213374-10	MW-6	Water	06/12/18 10:35	06/12/18 16:50
440-213374-11	MW-14	Water	06/12/18 09:14	06/12/18 16:50
440-213374-12	QCAB	Water	06/12/18 00:01	06/12/18 16:50
440-213374-13	QCTB	Water	06/12/18 00:01	06/12/18 16:50

Case Narrative

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

TestAmerica Job ID: 440-213374-1

Job ID: 440-213374-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-213374-1

Comments

No additional comments.

Receipt

The samples were received on 6/12/2018 4:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.3° C, 1.6° C, 1.9° C and 1.9° C.

GC/MS VOA

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample vial due to multiple runs performed: QCTB (440-213374-13). Significant headspace is defined as a bubble greater than 6 mm in diameter.

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

GC/MS Semi VOA

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

HPLC/IC

Method(s) 300.0: The following samples were diluted for Bromide and/or Fluoride due to the nature of the sample matrix: PZ-2 (440-213374-9), MW-6 (440-213374-10) and MW-14 (440-213374-11). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Bromide and/or Fluoride due to the nature of the sample matrix: CM-9R3 (440-213374-1), CM-10R (440-213374-2), CM-11R (440-213374-3), MW-5 (440-213374-4), Subdrain (N) (440-213374-5), Combined Subdrains (440-213374-6) and Duplicate (440-213374-7). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Nitrate as N due to the nature of the sample matrix: PZ-2 (440-213374-9), MW-6 (440-213374-10) and MW-14 (440-213374-11). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Nitrate as N due to the nature of the sample matrix: CM-9R3 (440-213374-1), CM-10R (440-213374-2), CM-11R (440-213374-3), MW-5 (440-213374-4), Subdrain (N) (440-213374-5) and Duplicate (440-213374-7). 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 method blank for preparation batch 440-483135 and analytical batch 440-483660 contained Calcium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

General Chemistry

Method(s) SM 5310C: The continuing calibration blank (CCB) for analytical batch 440-482280 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.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C/8270C-14dioxane. preparation batch 440-482586.

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

Case Narrative

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

TestAmerica Job ID: 440-213374-1

Job ID: 440-213374-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

VOA Prep

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

1

2

3

4

5

6

7

8

9

10

11

12

13

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-213374-1

Date Collected: 06/12/18 11:05

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 09:45	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Acrolein	ND		50	2.5	ug/L			06/16/18 11:05	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 11:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 09:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 09:45	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 09:45	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 09:45	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 09:45	1
Acetone	ND		20	10	ug/L			06/20/18 09:45	1
Acetonitrile	ND		20	10	ug/L			06/20/18 09:45	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 09:45	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 09:45	1
Benzene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Allyl chloride	ND		1.0	0.50	ug/L			06/20/18 09:45	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 09:45	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 09:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 09:45	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 09:45	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 09:45	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 09:45	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 09:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 09:45	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 09:45	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 09:45	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-213374-1

Date Collected: 06/12/18 11:05

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 09:45	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 09:45	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Propionitrile	ND		20	10	ug/L			06/20/18 09:45	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 09:45	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 09:45	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 09:45	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 09:45	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 09:45	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 09:45	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 09:45	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 09:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 09:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					06/20/18 09:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		06/16/18 11:05	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 11:05	1
Toluene-d8 (Surr)	105		80 - 128		06/20/18 09:45	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/20/18 09:45	1
Dibromofluoromethane (Surr)	113		76 - 132		06/16/18 11:05	1
Dibromofluoromethane (Surr)	103		76 - 132		06/20/18 09:45	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		06/18/18 07:21	06/19/18 11:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	72		30 - 120	06/18/18 07:21	06/19/18 11:48	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			06/13/18 01:34	5
Nitrate as N	ND		0.55	0.28	mg/L			06/13/18 01:34	5
Chloride	13		2.5	1.3	mg/L			06/13/18 01:34	5
Fluoride	2.0	J	2.5	1.3	mg/L			06/13/18 01:34	5
Sulfate	2800		100	50	mg/L			06/13/18 01:53	200

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		06/20/18 10:09	06/21/18 17:35	1
Manganese	2.9		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 17:35	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-213374-1

Date Collected: 06/12/18 11:05

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	230		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 17:35	1
Boron	2.1		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 17:35	1
Sodium	480		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 17:35	1
Calcium	340	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:35	1
Iron	13		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:44	1
Total Dissolved Solids	4300		50	25	mg/L			06/18/18 09:05	1
Ammonia (as N)	5.4		1.0	0.20	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:08	1
Total Organic Carbon	6.5		0.10	0.050	mg/L			06/14/18 10:38	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	160		4.0	4.0	mg/L			06/13/18 05:31	1
Bicarbonate Alkalinity as CaCO3	160		4.0	4.0	mg/L			06/13/18 05:31	1
Carbon Dioxide, Free	70		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: CM-10R

Lab Sample ID: 440-213374-2

Date Collected: 06/12/18 09:35

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 14:20	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Acrolein	ND		50	2.5	ug/L			06/16/18 11:28	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 11:28	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 14:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 14:20	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 14:20	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 14:20	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 14:20	1
Acetone	ND		20	10	ug/L			06/20/18 14:20	1
Acetonitrile	ND		20	10	ug/L			06/20/18 14:20	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 14:20	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 14:20	1
Benzene	ND		0.50	0.25	ug/L			06/20/18 14:20	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-10R

Lab Sample ID: 440-213374-2

Date Collected: 06/12/18 09:35

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 14:20	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 14:20	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 14:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 14:20	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 14:20	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 14:20	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 14:20	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 14:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 14:20	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 14:20	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 14:20	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 14:20	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 14:20	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Propionitrile	ND		20	10	ug/L			06/20/18 14:20	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 14:20	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 14:20	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 14:20	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 14:20	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 14:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 14:20	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 14:20	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 14:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 14:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	730	TJ	ug/L		1.53			06/20/18 14:20	1
Unknown	9.5	TJ	ug/L		5.26			06/20/18 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		06/16/18 11:28	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-10R

Lab Sample ID: 440-213374-2

Date Collected: 06/12/18 09:35

Matrix: Water

Date Received: 06/12/18 16:50

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 11:28	1
Toluene-d8 (Surr)	104		80 - 128		06/20/18 14:20	1
4-Bromofluorobenzene (Surr)	93		80 - 120		06/20/18 14:20	1
Dibromofluoromethane (Surr)	114		76 - 132		06/16/18 11:28	1
Dibromofluoromethane (Surr)	103		76 - 132		06/20/18 14:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		06/18/18 07:21	06/19/18 12:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		30 - 120	06/18/18 07:21	06/19/18 12:11	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/13/18 02:11	2
Nitrate as N	ND		0.22	0.11	mg/L			06/13/18 02:11	2
Chloride	7.7		1.0	0.50	mg/L			06/13/18 02:11	2
Fluoride	1.2		1.0	0.50	mg/L			06/13/18 02:11	2
Sulfate	1400		50	25	mg/L			06/13/18 02:30	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	12		0.50	0.25	mg/L		06/20/18 10:09	06/21/18 17:48	1
Manganese	0.40		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 17:48	1
Magnesium	190		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 17:48	1
Boron	0.98		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 17:48	1
Sodium	190		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 17:48	1
Calcium	250	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:48	1
Iron	0.11		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	12	J	20	10	mg/L			06/19/18 14:44	1
Total Dissolved Solids	2500		20	10	mg/L			06/18/18 09:05	1
Ammonia (as N)	13		2.5	0.50	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	3.7		0.25	0.14	mg/L			06/15/18 17:08	5
Total Organic Carbon	5.2		0.10	0.050	mg/L			06/14/18 16:43	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		4.0	4.0	mg/L			06/13/18 05:42	1
Bicarbonate Alkalinity as CaCO3	470		4.0	4.0	mg/L			06/13/18 05:42	1
Carbon Dioxide, Free	70		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: CM-11R

Lab Sample ID: 440-213374-3

Date Collected: 06/12/18 12:50

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 14:48	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-11R

Lab Sample ID: 440-213374-3

Date Collected: 06/12/18 12:50

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 14:48	1
Acrolein	ND		50	2.5	ug/L			06/16/18 11:51	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 11:51	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 14:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 14:48	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 14:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 14:48	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 14:48	1
Acetone	ND		20	10	ug/L			06/20/18 14:48	1
Acetonitrile	ND		20	10	ug/L			06/20/18 14:48	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 14:48	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 14:48	1
Benzene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Allyl chloride	ND		1.0	0.50	ug/L			06/20/18 14:48	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 14:48	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 14:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 14:48	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 14:48	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 14:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 14:48	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 14:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 14:48	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 14:48	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 14:48	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 14:48	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-11R

Lab Sample ID: 440-213374-3

Date Collected: 06/12/18 12:50

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 14:48	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Propionitrile	ND		20	10	ug/L			06/20/18 14:48	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 14:48	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 14:48	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 14:48	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 14:48	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 14:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 14:48	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 14:48	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 14:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 14:48	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	450	T J	ug/L		1.53			06/20/18 14:48	1
Unknown	9.5	T J	ug/L		5.26			06/20/18 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	113		80 - 128		06/16/18 11:51	1
4-Bromofluorobenzene (Surr)	101		80 - 120		06/16/18 11:51	1
Toluene-d8 (Surr)	105		80 - 128		06/20/18 14:48	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/20/18 14:48	1
Dibromofluoromethane (Surr)	113		76 - 132		06/16/18 11:51	1
Dibromofluoromethane (Surr)	102		76 - 132		06/20/18 14:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		06/18/18 07:21	06/19/18 12:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	74		30 - 120	06/18/18 07:21	06/19/18 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			06/13/18 03:26	5
Nitrate as N	ND		0.55	0.28	mg/L			06/13/18 03:26	5
Chloride	12		2.5	1.3	mg/L			06/13/18 03:26	5
Fluoride	ND		2.5	1.3	mg/L			06/13/18 03:26	5
Sulfate	2900		100	50	mg/L			06/13/18 03:44	200

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		06/20/18 10:09	06/21/18 17:51	1
Manganese	5.3		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 17:51	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-11R

Lab Sample ID: 440-213374-3

Date Collected: 06/12/18 12:50

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	180		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 17:51	1
Boron	1.6		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 17:51	1
Sodium	600		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 17:51	1
Calcium	270	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:51	1
Iron	0.20		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:44	1
Total Dissolved Solids	4200		50	25	mg/L			06/18/18 09:05	1
Ammonia (as N)	2.5		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:08	1
Total Organic Carbon	4.8		0.10	0.050	mg/L			06/14/18 11:03	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	27		4.0	4.0	mg/L			06/13/18 05:48	1
Bicarbonate Alkalinity as CaCO3	27		4.0	4.0	mg/L			06/13/18 05:48	1
Carbon Dioxide, Free	33		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: MW-5

Lab Sample ID: 440-213374-4

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 15:15	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Acrolein	ND		50	2.5	ug/L			06/16/18 12:14	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 12:14	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 15:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 15:15	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 15:15	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 15:15	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 15:15	1
Acetone	ND		20	10	ug/L			06/20/18 15:15	1
Acetonitrile	ND		20	10	ug/L			06/20/18 15:15	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 15:15	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 15:15	1
Benzene	ND		0.50	0.25	ug/L			06/20/18 15:15	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-5

Lab Sample ID: 440-213374-4

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 15:15	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 15:15	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 15:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 15:15	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 15:15	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 15:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 15:15	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 15:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 15:15	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 15:15	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 15:15	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 15:15	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 15:15	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Propionitrile	ND		20	10	ug/L			06/20/18 15:15	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 15:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 15:15	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 15:15	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 15:15	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 15:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 15:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 15:15	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 15:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 15:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	820	TJ	ug/L		1.53			06/20/18 15:15	1
Unknown	3.6	TJ	ug/L		3.85			06/20/18 15:15	1
Unknown	9.7	TJ	ug/L		5.26			06/20/18 15:15	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-5

Lab Sample ID: 440-213374-4

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		06/16/18 12:14	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 12:14	1
Toluene-d8 (Surr)	106		80 - 128		06/20/18 15:15	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/20/18 15:15	1
Dibromofluoromethane (Surr)	114		76 - 132		06/16/18 12:14	1
Dibromofluoromethane (Surr)	99		76 - 132		06/20/18 15:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		0.97	0.24	ug/L		06/18/18 07:21	06/19/18 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	71		30 - 120	06/18/18 07:21	06/19/18 12:56	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	3.7		2.5	1.3	mg/L			06/13/18 04:03	5
Nitrate as N	ND		0.55	0.28	mg/L			06/13/18 04:03	5
Chloride	240		100	50	mg/L			06/13/18 04:21	200
Fluoride	2.2	J	2.5	1.3	mg/L			06/13/18 04:03	5
Sulfate	1700		100	50	mg/L			06/13/18 04:21	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	30		1.0	0.50	mg/L		06/20/18 10:09	06/21/18 17:53	2
Manganese	5.4		0.040	0.030	mg/L		06/20/18 10:09	06/21/18 17:53	2
Magnesium	210		0.040	0.020	mg/L		06/20/18 10:09	06/21/18 17:53	2
Boron	1.2		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:53	2
Sodium	300		1.0	0.52	mg/L		06/20/18 10:09	06/21/18 17:53	2
Calcium	450	B	0.20	0.10	mg/L		06/20/18 10:09	06/21/18 17:53	2
Iron	23		0.20	0.10	mg/L		06/20/18 10:09	06/21/18 17:53	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	82		20	10	mg/L			06/19/18 14:44	1
Total Dissolved Solids	3600		50	25	mg/L			06/18/18 09:05	1
Ammonia (as N)	7.5		2.5	0.50	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:08	1
Total Organic Carbon	36		0.50	0.25	mg/L			06/14/18 12:22	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	670		4.0	4.0	mg/L			06/13/18 06:01	1
Bicarbonate Alkalinity as CaCO3	670		4.0	4.0	mg/L			06/13/18 06:01	1
Carbon Dioxide, Free	150		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-213374-5

Date Collected: 06/12/18 11:30

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 15:43	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-213374-5

Date Collected: 06/12/18 11:30

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 15:43	1
Acrolein	ND		50	2.5	ug/L			06/16/18 12:37	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 12:37	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 15:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 15:43	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,4-Dichlorobenzene	3.6		0.50	0.25	ug/L			06/20/18 15:43	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 15:43	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 15:43	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 15:43	1
Acetone	ND		20	10	ug/L			06/20/18 15:43	1
Acetonitrile	ND		20	10	ug/L			06/20/18 15:43	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 15:43	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 15:43	1
Benzene	0.70		0.50	0.25	ug/L			06/20/18 15:43	1
Allyl chloride	ND		1.0	0.50	ug/L			06/20/18 15:43	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 15:43	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 15:43	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Chlorobenzene	0.25 J		0.50	0.25	ug/L			06/20/18 15:43	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 15:43	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
cis-1,2-Dichloroethene	1.5		0.50	0.25	ug/L			06/20/18 15:43	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 15:43	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 15:43	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 15:43	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 15:43	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 15:43	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 15:43	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 15:43	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 15:43	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-213374-5

Date Collected: 06/12/18 11:30

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	1.2		0.50	0.25	ug/L			06/20/18 15:43	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 15:43	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Propionitrile	ND		20	10	ug/L			06/20/18 15:43	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
t-Butanol	9.7	J ID	10	5.0	ug/L			06/20/18 15:43	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Tetrahydrofuran	9.0	J	10	5.0	ug/L			06/20/18 15:43	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 15:43	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 15:43	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 15:43	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 15:43	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 15:43	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 15:43	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	990	T J	ug/L		1.53			06/20/18 15:43	1
Silanol, trimethyl-	7.6	T J N	ug/L		3.85	1066-40-6		06/20/18 15:43	1
Unknown	9.5	T J	ug/L		5.26			06/20/18 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		06/16/18 12:37	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/16/18 12:37	1
Toluene-d8 (Surr)	105		80 - 128		06/20/18 15:43	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/20/18 15:43	1
Dibromofluoromethane (Surr)	112		76 - 132		06/16/18 12:37	1
Dibromofluoromethane (Surr)	101		76 - 132		06/20/18 15:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.7		1.0	0.25	ug/L		06/18/18 07:21	06/19/18 13:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	79		30 - 120	06/18/18 07:21	06/19/18 13:18	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.94	J	1.0	0.50	mg/L			06/13/18 04:40	2
Nitrate as N	ND		0.22	0.11	mg/L			06/13/18 04:40	2
Chloride	40	J	50	25	mg/L			06/13/18 04:59	100
Fluoride	1.4		1.0	0.50	mg/L			06/13/18 04:40	2
Sulfate	1600		50	25	mg/L			06/13/18 04:59	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		06/20/18 10:09	06/21/18 19:54	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-213374-5

Date Collected: 06/12/18 11:30

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	6.2		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 19:54	1
Magnesium	190		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 19:54	1
Boron	0.96		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 19:54	1
Sodium	260		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 19:54	1
Calcium	360	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 19:54	1
Iron	26		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 19:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	49		20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	3200		20	10	mg/L			06/18/18 09:05	1
Ammonia (as N)	3.4		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	0.036	J	0.050	0.027	mg/L			06/15/18 17:09	1
Total Organic Carbon	26		0.50	0.25	mg/L			06/14/18 17:37	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	670		4.0	4.0	mg/L			06/13/18 06:18	1
Bicarbonate Alkalinity as CaCO3	670		4.0	4.0	mg/L			06/13/18 06:18	1
Carbon Dioxide, Free	170		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-213374-6

Date Collected: 06/12/18 12:18

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 16:10	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Acrolein	ND		50	2.5	ug/L			06/16/18 13:00	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 13:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 16:10	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 16:10	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 16:10	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 16:10	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 16:10	1
Acetone	ND		20	10	ug/L			06/20/18 16:10	1
Acetonitrile	ND		20	10	ug/L			06/20/18 16:10	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 16:10	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 16:10	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-213374-6

Date Collected: 06/12/18 12:18

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 16:10	1
Allyl chloride	ND		1.0	0.50	ug/L			06/20/18 16:10	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 16:10	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 16:10	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 16:10	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
cis-1,2-Dichloroethene	0.73		0.50	0.25	ug/L			06/20/18 16:10	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 16:10	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 16:10	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 16:10	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 16:10	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 16:10	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 16:10	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 16:10	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 16:10	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 16:10	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Propionitrile	ND		20	10	ug/L			06/20/18 16:10	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 16:10	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 16:10	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 16:10	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 16:10	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 16:10	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 16:10	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 16:10	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 16:10	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>
Unknown	660	TJ	ug/L		1.53			06/20/18 16:10	1
Unknown	9.4	TJ	ug/L		5.26			06/20/18 16:10	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-213374-6

Date Collected: 06/12/18 12:18

Matrix: Water

Date Received: 06/12/18 16:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	116		80 - 128		06/16/18 13:00	1
4-Bromofluorobenzene (Surr)	101		80 - 120		06/16/18 13:00	1
Toluene-d8 (Surr)	103		80 - 128		06/20/18 16:10	1
4-Bromofluorobenzene (Surr)	94		80 - 120		06/20/18 16:10	1
Dibromofluoromethane (Surr)	115		76 - 132		06/16/18 13:00	1
Dibromofluoromethane (Surr)	102		76 - 132		06/20/18 16:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.1		0.98	0.24	ug/L		06/18/18 07:21	06/19/18 13:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		30 - 120	06/18/18 07:21	06/19/18 13:40	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.87	J	1.0	0.50	mg/L			06/13/18 05:17	2
Nitrate as N	2.9		0.22	0.11	mg/L			06/13/18 05:17	2
Chloride	63		50	25	mg/L			06/13/18 05:36	100
Fluoride	1.0		1.0	0.50	mg/L			06/13/18 05:17	2
Sulfate	1500		50	25	mg/L			06/13/18 05:36	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	7.8		0.50	0.25	mg/L		06/20/18 10:09	06/21/18 19:57	1
Manganese	2.7		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 19:57	1
Magnesium	210		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 19:57	1
Boron	0.33		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 19:57	1
Sodium	120		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 19:57	1
Calcium	290	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 19:57	1
Iron	12		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	2700		20	10	mg/L			06/18/18 09:05	1
Ammonia (as N)	1.2		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:09	1
Total Organic Carbon	6.1		0.10	0.050	mg/L			06/14/18 13:17	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	280		4.0	4.0	mg/L			06/13/18 06:27	1
Bicarbonate Alkalinity as CaCO3	280		4.0	4.0	mg/L			06/13/18 06:27	1
Carbon Dioxide, Free	63		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: Duplicate

Lab Sample ID: 440-213374-7

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 16:38	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Duplicate

Lab Sample ID: 440-213374-7

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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			06/20/18 16:38	1
Acrolein	ND		50	2.5	ug/L			06/16/18 13:23	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 13:23	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 16:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 16:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 16:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 16:38	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 16:38	1
Acetone	ND		20	10	ug/L			06/20/18 16:38	1
Acetonitrile	ND		20	10	ug/L			06/20/18 16:38	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 16:38	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 16:38	1
Benzene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Allyl chloride	ND		1.0	0.50	ug/L			06/20/18 16:38	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 16:38	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 16:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 16:38	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 16:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 16:38	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 16:38	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 16:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 16:38	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 16:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 16:38	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 16:38	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Duplicate

Lab Sample ID: 440-213374-7

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 16:38	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Propionitrile	ND		20	10	ug/L			06/20/18 16:38	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 16:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 16:38	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 16:38	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 16:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 16:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 16:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 16:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 16:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 16:38	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	790	T J	ug/L		1.53			06/20/18 16:38	1
Unknown	9.8	T J	ug/L		5.26			06/20/18 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		06/16/18 13:23	1
4-Bromofluorobenzene (Surr)	103		80 - 120		06/16/18 13:23	1
Toluene-d8 (Surr)	105		80 - 128		06/20/18 16:38	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/20/18 16:38	1
Dibromofluoromethane (Surr)	113		76 - 132		06/16/18 13:23	1
Dibromofluoromethane (Surr)	102		76 - 132		06/20/18 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		06/18/18 07:21	06/19/18 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	80		30 - 120	06/18/18 07:21	06/19/18 14:03	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/13/18 05:54	2
Nitrate as N	ND		0.22	0.11	mg/L			06/13/18 05:54	2
Chloride	7.9		1.0	0.50	mg/L			06/13/18 05:54	2
Fluoride	1.2		1.0	0.50	mg/L			06/13/18 05:54	2
Sulfate	1400		50	25	mg/L			06/13/18 06:13	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	12		0.50	0.25	mg/L		06/20/18 10:09	06/21/18 19:59	1
Manganese	0.40		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 19:59	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Duplicate

Lab Sample ID: 440-213374-7

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	190		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 19:59	1
Boron	0.98		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 19:59	1
Sodium	200		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 19:59	1
Calcium	250	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 19:59	1
Iron	0.12		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 19:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	2500		20	10	mg/L			06/18/18 09:05	1
Ammonia (as N)	13		2.5	0.50	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	3.9		0.25	0.14	mg/L			06/15/18 17:09	5
Total Organic Carbon	5.5		0.50	0.25	mg/L			06/14/18 13:28	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	480		4.0	4.0	mg/L			06/13/18 06:37	1
Bicarbonate Alkalinity as CaCO3	480		4.0	4.0	mg/L			06/13/18 06:37	1
Carbon Dioxide, Free	49		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: MW-13R

Lab Sample ID: 440-213374-8

Date Collected: 06/12/18 13:20

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 22:53	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Acrolein	ND		50	2.5	ug/L			06/16/18 13:46	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 13:46	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/21/18 22:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/21/18 22:53	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/21/18 22:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/21/18 22:53	1
2-Hexanone	ND		5.0	2.5	ug/L			06/21/18 22:53	1
Acetone	ND		20	10	ug/L			06/21/18 22:53	1
Acetonitrile	ND		20	10	ug/L			06/21/18 22:53	1
Acrolein	ND		5.0	2.5	ug/L			06/21/18 22:53	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/21/18 22:53	1
Benzene	ND		0.50	0.25	ug/L			06/21/18 22:53	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-13R

Lab Sample ID: 440-213374-8

Date Collected: 06/12/18 13:20

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 22:53	1
Bromoform	ND		1.0	0.40	ug/L			06/21/18 22:53	1
Bromomethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/21/18 22:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Chloroethane	ND		1.0	0.40	ug/L			06/21/18 22:53	1
Chloroform	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Chloromethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Dibromomethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/21/18 22:53	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 22:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Iodomethane	ND		2.0	1.0	ug/L			06/21/18 22:53	1
Isobutyl alcohol	ND		25	13	ug/L			06/21/18 22:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/21/18 22:53	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/21/18 22:53	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 22:53	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/18 22:53	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Naphthalene	ND		1.0	0.40	ug/L			06/21/18 22:53	1
o-Xylene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Propionitrile	ND		20	10	ug/L			06/21/18 22:53	1
Styrene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
t-Butanol	5.0	J	10	5.0	ug/L			06/21/18 22:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/21/18 22:53	1
Toluene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/21/18 22:53	1
Trichloroethene	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/21/18 22:53	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/21/18 22:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/21/18 22:53	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/21/18 22:53	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/21/18 22:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/21/18 22:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.7	TJ	ug/L		3.60			06/21/18 22:53	1
Unknown	11	TJ	ug/L		7.25			06/21/18 22:53	1
Unknown	5.9	TJ	ug/L		15.14			06/21/18 22:53	1
Unknown	16	TJ	ug/L		15.27			06/21/18 22:53	1
Unknown	3.5	TJ	ug/L		17.00			06/21/18 22:53	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		06/16/18 13:46	1
4-Bromofluorobenzene (Surr)	101		80 - 120		06/16/18 13:46	1
Toluene-d8 (Surr)	104		80 - 128		06/21/18 22:53	1
4-Bromofluorobenzene (Surr)	92		80 - 120		06/21/18 22:53	1
Dibromofluoromethane (Surr)	114		76 - 132		06/16/18 13:46	1
Dibromofluoromethane (Surr)	104		76 - 132		06/21/18 22:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.2		1.0	0.25	ug/L		06/18/18 07:21	06/19/18 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		30 - 120	06/18/18 07:21	06/19/18 14:25	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.2		0.50	0.25	mg/L			06/13/18 07:09	1
Nitrate as N	ND		0.11	0.055	mg/L			06/13/18 07:09	1
Chloride	150		25	13	mg/L			06/13/18 07:27	50
Fluoride	0.36	J	0.50	0.25	mg/L			06/13/18 07:09	1
Sulfate	380		25	13	mg/L			06/13/18 07:27	50

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		06/20/18 10:09	06/21/18 20:02	1
Manganese	0.042		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 20:02	1
Magnesium	140		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 20:02	1
Boron	0.85		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 20:02	1
Sodium	180		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 20:02	1
Calcium	110	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 20:02	1
Iron	0.10		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 20:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	220		20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	1500		20	10	mg/L			06/18/18 09:05	1
Ammonia (as N)	8.4		2.5	0.50	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	14		1.0	0.54	mg/L			06/15/18 17:09	20
Total Organic Carbon	25		0.50	0.25	mg/L			06/14/18 13:42	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	660		4.0	4.0	mg/L			06/13/18 07:03	1
Bicarbonate Alkalinity as CaCO3	660		4.0	4.0	mg/L			06/13/18 07:03	1
Carbon Dioxide, Free	26		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: PZ-2

Lab Sample ID: 440-213374-9

Date Collected: 06/12/18 11:46

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 21:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Acrolein	ND		50	2.5	ug/L			06/16/18 14:09	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 14:09	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: PZ-2

Lab Sample ID: 440-213374-9

Date Collected: 06/12/18 11:46

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 21:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/21/18 21:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/21/18 21:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/21/18 21:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/21/18 21:07	1
2-Hexanone	ND		5.0	2.5	ug/L			06/21/18 21:07	1
Acetone	ND		20	10	ug/L			06/21/18 21:07	1
Acetonitrile	ND		20	10	ug/L			06/21/18 21:07	1
Acrolein	ND		5.0	2.5	ug/L			06/21/18 21:07	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/21/18 21:07	1
Benzene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Allyl chloride	ND		1.0	0.50	ug/L			06/21/18 21:07	1
Bromoform	ND		1.0	0.40	ug/L			06/21/18 21:07	1
Bromomethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/21/18 21:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Chloroethane	ND		1.0	0.40	ug/L			06/21/18 21:07	1
Chloroform	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Chloromethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Dibromomethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/21/18 21:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 21:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Iodomethane	ND		2.0	1.0	ug/L			06/21/18 21:07	1
Isobutyl alcohol	ND		25	13	ug/L			06/21/18 21:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/21/18 21:07	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/21/18 21:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 21:07	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/18 21:07	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Naphthalene	ND		1.0	0.40	ug/L			06/21/18 21:07	1
o-Xylene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Propionitrile	ND		20	10	ug/L			06/21/18 21:07	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: PZ-2

Lab Sample ID: 440-213374-9

Date Collected: 06/12/18 11:46

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 21:07	1
t-Butanol	ND		10	5.0	ug/L			06/21/18 21:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/21/18 21:07	1
Toluene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/21/18 21:07	1
Trichloroethene	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/21/18 21:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/21/18 21:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/21/18 21:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/21/18 21:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/21/18 21:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/21/18 21:07	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.0	TJ	ug/L		15.38			06/21/18 21:07	1
Unknown	10	TJ	ug/L		16.45			06/21/18 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		06/16/18 14:09	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/16/18 14:09	1
Toluene-d8 (Surr)	106		80 - 128		06/21/18 21:07	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/21/18 21:07	1
Dibromofluoromethane (Surr)	115		76 - 132		06/16/18 14:09	1
Dibromofluoromethane (Surr)	104		76 - 132		06/21/18 21:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		06/18/18 07:21	06/19/18 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	92		30 - 120	06/18/18 07:21	06/19/18 14:48	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			06/13/18 00:32	10
Nitrate as N	ND		1.1	0.55	mg/L			06/13/18 00:32	10
Chloride	11		5.0	2.5	mg/L			06/13/18 00:32	10
Fluoride	ND		5.0	2.5	mg/L			06/13/18 00:32	10
Sulfate	2500		100	50	mg/L			06/13/18 00:48	200

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		06/20/18 10:09	06/21/18 18:16	1
Manganese	0.026		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 18:16	1
Magnesium	11		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 18:16	1
Boron	1.5		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 18:16	1
Sodium	1300		1.0	0.52	mg/L		06/20/18 10:09	06/21/18 20:04	2
Calcium	13 B		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 18:16	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: PZ-2

Lab Sample ID: 440-213374-9

Date Collected: 06/12/18 11:46

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 18:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	4000		100	50	mg/L			06/18/18 09:05	1
Ammonia (as N)	3.4		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:09	1
Total Organic Carbon	2.4		0.10	0.050	mg/L			06/14/18 13:55	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			06/13/18 07:11	1
Bicarbonate Alkalinity as CaCO3	330		4.0	4.0	mg/L			06/13/18 07:11	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: MW-6

Lab Sample ID: 440-213374-10

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 23:19	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Acrolein	ND		50	2.5	ug/L			06/16/18 14:32	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 14:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/21/18 23:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/21/18 23:19	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/21/18 23:19	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/21/18 23:19	1
2-Hexanone	ND		5.0	2.5	ug/L			06/21/18 23:19	1
Acetone	ND		20	10	ug/L			06/21/18 23:19	1
Acetonitrile	ND		20	10	ug/L			06/21/18 23:19	1
Acrolein	ND		5.0	2.5	ug/L			06/21/18 23:19	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/21/18 23:19	1
Benzene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Allyl chloride	ND		1.0	0.50	ug/L			06/21/18 23:19	1
Bromoform	ND		1.0	0.40	ug/L			06/21/18 23:19	1
Bromomethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/21/18 23:19	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-6

Lab Sample ID: 440-213374-10

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 23:19	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Chloroethane	ND		1.0	0.40	ug/L			06/21/18 23:19	1
Chloroform	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Chloromethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Dibromomethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/21/18 23:19	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 23:19	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Iodomethane	ND		2.0	1.0	ug/L			06/21/18 23:19	1
Isobutyl alcohol	ND		25	13	ug/L			06/21/18 23:19	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/21/18 23:19	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/21/18 23:19	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 23:19	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/18 23:19	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Naphthalene	ND		1.0	0.40	ug/L			06/21/18 23:19	1
o-Xylene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Propionitrile	ND		20	10	ug/L			06/21/18 23:19	1
Styrene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
t-Butanol	ND		10	5.0	ug/L			06/21/18 23:19	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/21/18 23:19	1
Toluene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/21/18 23:19	1
Trichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/21/18 23:19	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/21/18 23:19	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/21/18 23:19	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/21/18 23:19	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/21/18 23:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/21/18 23:19	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	53	T J	ug/L		2.77			06/21/18 23:19	1
Unknown	11	T J	ug/L		7.26			06/21/18 23:19	1
Unknown	17	T J	ug/L		17.54			06/21/18 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		06/16/18 14:32	1
4-Bromofluorobenzene (Surr)	101		80 - 120		06/16/18 14:32	1
Toluene-d8 (Surr)	104		80 - 128		06/21/18 23:19	1
4-Bromofluorobenzene (Surr)	94		80 - 120		06/21/18 23:19	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-6

Lab Sample ID: 440-213374-10

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		76 - 132		06/16/18 14:32	1
Dibromofluoromethane (Surr)	102		76 - 132		06/21/18 23:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.26	ug/L		06/18/18 07:21	06/19/18 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	77		30 - 120	06/18/18 07:21	06/19/18 15:10	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.88	J	1.0	0.50	mg/L			06/13/18 01:04	2
Nitrate as N	ND		0.22	0.11	mg/L			06/13/18 01:04	2
Chloride	37		1.0	0.50	mg/L			06/13/18 01:04	2
Fluoride	1.0		1.0	0.50	mg/L			06/13/18 01:04	2
Sulfate	1700		50	25	mg/L			06/13/18 01:20	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.3		0.50	0.25	mg/L		06/20/18 10:09	06/21/18 20:07	1
Manganese	0.81		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 20:07	1
Magnesium	170		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 20:07	1
Boron	0.72		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 20:07	1
Sodium	290		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 20:07	1
Calcium	310	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 20:07	1
Iron	0.29		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 20:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	13	J	20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	3100		20	10	mg/L			06/18/18 09:05	1
Ammonia (as N)	1.5		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	9.3		1.0	0.54	mg/L			06/15/18 17:09	20
Total Organic Carbon	5.1		0.10	0.050	mg/L			06/14/18 14:08	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	450		4.0	4.0	mg/L			06/13/18 07:22	1
Bicarbonate Alkalinity as CaCO3	450		4.0	4.0	mg/L			06/13/18 07:22	1
Carbon Dioxide, Free	56		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: MW-14

Lab Sample ID: 440-213374-11

Date Collected: 06/12/18 09:14

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 23:45	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Acrolein	ND		50	2.5	ug/L			06/16/18 14:55	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 14:55	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-14

Lab Sample ID: 440-213374-11

Date Collected: 06/12/18 09:14

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/21/18 23:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/21/18 23:45	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/21/18 23:45	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/21/18 23:45	1
2-Hexanone	ND		5.0	2.5	ug/L			06/21/18 23:45	1
Acetone	ND		20	10	ug/L			06/21/18 23:45	1
Acetonitrile	ND		20	10	ug/L			06/21/18 23:45	1
Acrolein	ND		5.0	2.5	ug/L			06/21/18 23:45	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/21/18 23:45	1
Benzene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Allyl chloride	ND		1.0	0.50	ug/L			06/21/18 23:45	1
Bromoform	ND		1.0	0.40	ug/L			06/21/18 23:45	1
Bromomethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/21/18 23:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Chloroethane	ND		1.0	0.40	ug/L			06/21/18 23:45	1
Chloroform	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Chloromethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Dibromomethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/21/18 23:45	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 23:45	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Iodomethane	ND		2.0	1.0	ug/L			06/21/18 23:45	1
Isobutyl alcohol	ND		25	13	ug/L			06/21/18 23:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/21/18 23:45	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/21/18 23:45	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 23:45	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/18 23:45	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Naphthalene	ND		1.0	0.40	ug/L			06/21/18 23:45	1
o-Xylene	ND		0.50	0.25	ug/L			06/21/18 23:45	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-14

Lab Sample ID: 440-213374-11

Date Collected: 06/12/18 09:14

Matrix: Water

Date Received: 06/12/18 16:50

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			06/21/18 23:45	1
Styrene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
t-Butanol	ND		10	5.0	ug/L			06/21/18 23:45	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/21/18 23:45	1
Toluene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/21/18 23:45	1
Trichloroethene	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/21/18 23:45	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/21/18 23:45	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/21/18 23:45	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/21/18 23:45	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/21/18 23:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/21/18 23:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	TJ	ug/L		7.26			06/21/18 23:45	1
Unknown	3.7	TJ	ug/L		16.46			06/21/18 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		06/16/18 14:55	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 14:55	1
Toluene-d8 (Surr)	104		80 - 128		06/21/18 23:45	1
4-Bromofluorobenzene (Surr)	94		80 - 120		06/21/18 23:45	1
Dibromofluoromethane (Surr)	115		76 - 132		06/16/18 14:55	1
Dibromofluoromethane (Surr)	102		76 - 132		06/21/18 23:45	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		06/18/18 07:21	06/19/18 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	84		30 - 120	06/18/18 07:21	06/19/18 15:33	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			06/13/18 02:08	5
Nitrate as N	ND		0.55	0.28	mg/L			06/13/18 02:08	5
Chloride	54		2.5	1.3	mg/L			06/13/18 02:08	5
Fluoride	1.6	J	2.5	1.3	mg/L			06/13/18 02:08	5
Sulfate	2200		100	50	mg/L			06/13/18 02:24	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	8.1		0.50	0.25	mg/L		06/20/18 10:09	06/21/18 20:09	1
Manganese	3.1		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 20:09	1
Magnesium	200		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 20:09	1
Boron	0.57		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 20:09	1
Sodium	420		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 20:09	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-14

Lab Sample ID: 440-213374-11

Date Collected: 06/12/18 09:14

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	390	B	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 20:09	1
Iron	0.32		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 20:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:45	1
Total Dissolved Solids	3900		50	25	mg/L			06/15/18 08:35	1
Ammonia (as N)	0.73		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:09	1
Total Organic Carbon	6.2		0.10	0.050	mg/L			06/14/18 14:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		4.0	4.0	mg/L			06/13/18 07:33	1
Bicarbonate Alkalinity as CaCO3	470		4.0	4.0	mg/L			06/13/18 07:33	1
Carbon Dioxide, Free	65		2.0	2.0	mg/L			06/21/18 11:48	1

Client Sample ID: QCAB

Lab Sample ID: 440-213374-12

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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			06/22/18 00:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Acrolein	ND		50	2.5	ug/L			06/16/18 15:19	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 15:19	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/22/18 00:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/22/18 00:12	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/22/18 00:12	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/22/18 00:12	1
2-Hexanone	ND		5.0	2.5	ug/L			06/22/18 00:12	1
Acetone	ND		20	10	ug/L			06/22/18 00:12	1
Acetonitrile	ND		20	10	ug/L			06/22/18 00:12	1
Acrolein	ND		5.0	2.5	ug/L			06/22/18 00:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/22/18 00:12	1
Benzene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Allyl chloride	ND		1.0	0.50	ug/L			06/22/18 00:12	1
Bromoform	ND		1.0	0.40	ug/L			06/22/18 00:12	1
Bromomethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: QCAB

Lab Sample ID: 440-213374-12

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			06/22/18 00:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Chloroethane	ND		1.0	0.40	ug/L			06/22/18 00:12	1
Chloroform	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Chloromethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Dibromomethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/22/18 00:12	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/22/18 00:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Iodomethane	ND		2.0	1.0	ug/L			06/22/18 00:12	1
Isobutyl alcohol	ND		25	13	ug/L			06/22/18 00:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/22/18 00:12	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/22/18 00:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/22/18 00:12	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/22/18 00:12	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Naphthalene	ND		1.0	0.40	ug/L			06/22/18 00:12	1
o-Xylene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Propionitrile	ND		20	10	ug/L			06/22/18 00:12	1
Styrene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
t-Butanol	ND		10	5.0	ug/L			06/22/18 00:12	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/22/18 00:12	1
Toluene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/22/18 00:12	1
Trichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/22/18 00:12	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/22/18 00:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/22/18 00:12	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/22/18 00:12	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/22/18 00:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/22/18 00:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	T J	ug/L		7.25			06/22/18 00:12	1
Unknown	13	T J	ug/L		17.46			06/22/18 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		06/16/18 15:19	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 15:19	1
Toluene-d8 (Surr)	102		80 - 128		06/22/18 00:12	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/22/18 00:12	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: QCAB

Lab Sample ID: 440-213374-12

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	114		76 - 132		06/16/18 15:19	1
Dibromofluoromethane (Surr)	102		76 - 132		06/22/18 00:12	1

Client Sample ID: QCTB

Lab Sample ID: 440-213374-13

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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			06/22/18 00:38	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Acrolein	ND		50	2.5	ug/L			06/16/18 15:41	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 15:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/22/18 00:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/22/18 00:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/22/18 00:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/22/18 00:38	1
2-Hexanone	ND		5.0	2.5	ug/L			06/22/18 00:38	1
Acetone	ND		20	10	ug/L			06/22/18 00:38	1
Acetonitrile	ND		20	10	ug/L			06/22/18 00:38	1
Acrolein	ND		5.0	2.5	ug/L			06/22/18 00:38	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/22/18 00:38	1
Benzene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Allyl chloride	ND		1.0	0.50	ug/L			06/22/18 00:38	1
Bromoform	ND		1.0	0.40	ug/L			06/22/18 00:38	1
Bromomethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/22/18 00:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Chloroethane	ND		1.0	0.40	ug/L			06/22/18 00:38	1
Chloroform	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Chloromethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Dibromomethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: QCTB

Lab Sample ID: 440-213374-13

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

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			06/22/18 00:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/22/18 00:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/22/18 00:38	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Iodomethane	ND		2.0	1.0	ug/L			06/22/18 00:38	1
Isobutyl alcohol	ND		25	13	ug/L			06/22/18 00:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/22/18 00:38	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/22/18 00:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/22/18 00:38	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/22/18 00:38	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Naphthalene	ND		1.0	0.40	ug/L			06/22/18 00:38	1
o-Xylene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Propionitrile	ND		20	10	ug/L			06/22/18 00:38	1
Styrene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
t-Butanol	ND		10	5.0	ug/L			06/22/18 00:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/22/18 00:38	1
Toluene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/22/18 00:38	1
Trichloroethene	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/22/18 00:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/22/18 00:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/22/18 00:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/22/18 00:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/22/18 00:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/22/18 00:38	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	T J	ug/L		7.25			06/22/18 00:38	1
Unknown	5.6	T J	ug/L		16.04			06/22/18 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		06/16/18 15:41	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 15:41	1
Toluene-d8 (Surr)	102		80 - 128		06/22/18 00:38	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/22/18 00:38	1
Dibromofluoromethane (Surr)	116		76 - 132		06/16/18 15:41	1
Dibromofluoromethane (Surr)	102		76 - 132		06/22/18 00:38	1

Method Summary

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

TestAmerica Job ID: 440-213374-1

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
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 NH3 B	Distillation, Ammonia	SM	TAL IRV

Protocol References:

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

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

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

Laboratory References:

TAL IRV = 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: 440-213374-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-213374-1

Date Collected: 06/12/18 11:05

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 11:05	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 09:45	RM	TAL IRV
Total/NA	Prep	3520C			1040 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 11:48	HN	TAL IRV
Total/NA	Analysis	300.0		5			481559	06/13/18 01:34	NTN	TAL IRV
Total/NA	Analysis	300.0		5			481560	06/13/18 01:34	NTN	TAL IRV
Total/NA	Analysis	300.0		200			481560	06/13/18 01:53	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 17:35	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:44	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 05:31	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			25 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:08	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	482280	06/14/18 10:38	YZ	TAL IRV

Client Sample ID: CM-10R

Lab Sample ID: 440-213374-2

Date Collected: 06/12/18 09:35

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 11:28	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 14:20	RM	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 12:11	HN	TAL IRV
Total/NA	Analysis	300.0		2			481559	06/13/18 02:11	NTN	TAL IRV
Total/NA	Analysis	300.0		2			481560	06/13/18 02:11	NTN	TAL IRV
Total/NA	Analysis	300.0		100			481560	06/13/18 02:30	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 17:48	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:44	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 05:42	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		5	7.5 mL	7.5 mL	482451	06/15/18 17:08	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	482280	06/14/18 16:43	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: CM-11R

Lab Sample ID: 440-213374-3

Date Collected: 06/12/18 12:50

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 11:51	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 14:48	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 12:33	HN	TAL IRV
Total/NA	Analysis	300.0		5			481559	06/13/18 03:26	NTN	TAL IRV
Total/NA	Analysis	300.0		5			481560	06/13/18 03:26	NTN	TAL IRV
Total/NA	Analysis	300.0		200			481560	06/13/18 03:44	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 17:51	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:44	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 05:48	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:08	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	482280	06/14/18 11:03	YZ	TAL IRV

Client Sample ID: MW-5

Lab Sample ID: 440-213374-4

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 12:14	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 15:15	RM	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 12:56	HN	TAL IRV
Total/NA	Analysis	300.0		5			481559	06/13/18 04:03	NTN	TAL IRV
Total/NA	Analysis	300.0		5			481560	06/13/18 04:03	NTN	TAL IRV
Total/NA	Analysis	300.0		200			481560	06/13/18 04:21	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		2			483660	06/21/18 17:53	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:44	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 06:01	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:08	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	482280	06/14/18 12:22	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-213374-5

Date Collected: 06/12/18 11:30

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 12:37	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 15:43	RM	TAL IRV
Total/NA	Prep	3520C			985 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 13:18	HN	TAL IRV
Total/NA	Analysis	300.0		2			481559	06/13/18 04:40	NTN	TAL IRV
Total/NA	Analysis	300.0		2			481560	06/13/18 04:40	NTN	TAL IRV
Total/NA	Analysis	300.0		100			481560	06/13/18 04:59	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 19:54	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 06:18	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	482280	06/14/18 17:37	YZ	TAL IRV

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-213374-6

Date Collected: 06/12/18 12:18

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 13:00	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 16:10	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 13:40	HN	TAL IRV
Total/NA	Analysis	300.0		2			481559	06/13/18 05:17	NTN	TAL IRV
Total/NA	Analysis	300.0		2			481560	06/13/18 05:17	NTN	TAL IRV
Total/NA	Analysis	300.0		100			481560	06/13/18 05:36	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 19:57	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 06:27	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	482280	06/14/18 13:17	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: Duplicate

Lab Sample ID: 440-213374-7

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 13:23	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	483066	06/20/18 16:38	RM	TAL IRV
Total/NA	Prep	3520C			915 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 14:03	HN	TAL IRV
Total/NA	Analysis	300.0		2			481559	06/13/18 05:54	NTN	TAL IRV
Total/NA	Analysis	300.0		2			481560	06/13/18 05:54	NTN	TAL IRV
Total/NA	Analysis	300.0		100			481560	06/13/18 06:13	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 19:59	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 06:37	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		5	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	482280	06/14/18 13:28	YZ	TAL IRV

Client Sample ID: MW-13R

Lab Sample ID: 440-213374-8

Date Collected: 06/12/18 13:20

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	483526	06/21/18 22:53	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 13:46	WK	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 14:25	HN	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	481559	06/13/18 07:09	NTN	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	481560	06/13/18 07:09	NTN	TAL IRV
Total/NA	Analysis	300.0		50			481560	06/13/18 07:27	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 20:02	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 07:03	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		20	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	482280	06/14/18 13:42	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: PZ-2

Lab Sample ID: 440-213374-9

Date Collected: 06/12/18 11:46

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	483526	06/21/18 21:07	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 14:09	WK	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 14:48	HN	TAL IRV
Total/NA	Analysis	300.0		10			481557	06/13/18 00:32	NTN	TAL IRV
Total/NA	Analysis	300.0		10			481558	06/13/18 00:32	NTN	TAL IRV
Total/NA	Analysis	300.0		200			481558	06/13/18 00:48	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 18:16	VS	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		2			483660	06/21/18 20:04	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 07:11	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	482280	06/14/18 13:55	YZ	TAL IRV

Client Sample ID: MW-6

Lab Sample ID: 440-213374-10

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	483526	06/21/18 23:19	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 14:32	WK	TAL IRV
Total/NA	Prep	3520C			970 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 15:10	HN	TAL IRV
Total/NA	Analysis	300.0		2			481557	06/13/18 01:04	NTN	TAL IRV
Total/NA	Analysis	300.0		2			481558	06/13/18 01:04	NTN	TAL IRV
Total/NA	Analysis	300.0		100			481558	06/13/18 01:20	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 20:07	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 07:22	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	482601	06/18/18 09:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		20	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-213374-1

Client Sample ID: MW-6

Lab Sample ID: 440-213374-10

Date Collected: 06/12/18 10:35

Matrix: Water

Date Received: 06/12/18 16:50

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	482280	06/14/18 14:08	YZ	TAL IRV

Client Sample ID: MW-14

Lab Sample ID: 440-213374-11

Date Collected: 06/12/18 09:14

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	483526	06/21/18 23:45	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 14:55	WK	TAL IRV
Total/NA	Prep	3520C			1050 mL	1.0 mL	482586	06/18/18 07:21	JAA	TAL IRV
Total/NA	Analysis	8270C		1			482841	06/19/18 15:33	HN	TAL IRV
Total/NA	Analysis	300.0		5			481557	06/13/18 02:08	NTN	TAL IRV
Total/NA	Analysis	300.0		5			481558	06/13/18 02:08	NTN	TAL IRV
Total/NA	Analysis	300.0		200			481558	06/13/18 02:24	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	483135	06/20/18 10:09	MN1	TAL IRV
Total Recoverable	Analysis	6010B		1			483660	06/21/18 20:09	VS	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	482976	06/19/18 14:45	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			481855	06/13/18 07:33	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	482327	06/15/18 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	483440	06/21/18 11:48	KYP	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	482836	06/19/18 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			482861	06/19/18 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	482451	06/15/18 17:09	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	482280	06/14/18 14:23	YZ	TAL IRV

Client Sample ID: QCAB

Lab Sample ID: 440-213374-12

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	483526	06/22/18 00:12	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 15:19	WK	TAL IRV

Client Sample ID: QCTB

Lab Sample ID: 440-213374-13

Date Collected: 06/12/18 00:01

Matrix: Water

Date Received: 06/12/18 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	483526	06/22/18 00:38	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	482498	06/16/18 15:41	WK	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-213374-1

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

1

2

3

4

5

6

7

8

9

10

11

12

13

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-482498/4

Matrix: Water

Analysis Batch: 482498

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			06/16/18 09:09	1
Acrylonitrile	ND		50	1.0	ug/L			06/16/18 09:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	113		80 - 128		06/16/18 09:09	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/16/18 09:09	1
Dibromofluoromethane (Surr)	114		76 - 132		06/16/18 09:09	1

Lab Sample ID: LCS 440-482498/5

Matrix: Water

Analysis Batch: 482498

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	19.3	J	ug/L		77	10 - 145
Acrylonitrile	250	263		ug/L		105	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	106		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	114		76 - 132

Lab Sample ID: 440-213075-A-8 MS

Matrix: Water

Analysis Batch: 482498

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		250	209	J	ug/L		84	10 - 147
Acrylonitrile	ND		2500	2630		ug/L		105	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	110		80 - 128
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	113		76 - 132

Lab Sample ID: 440-213075-A-8 MSD

Matrix: Water

Analysis Batch: 482498

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		250	218	J	ug/L		87	10 - 147	4	40
Acrylonitrile	ND		2500	2570		ug/L		103	38 - 144	2	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	109		80 - 128
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	111		76 - 132

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-483066/4

Matrix: Water

Analysis Batch: 483066

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			06/20/18 07:55	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/20/18 07:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/20/18 07:55	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/20/18 07:55	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/20/18 07:55	1
2-Hexanone	ND		5.0	2.5	ug/L			06/20/18 07:55	1
Acetone	ND		20	10	ug/L			06/20/18 07:55	1
Acetonitrile	ND		20	10	ug/L			06/20/18 07:55	1
Acrolein	ND		5.0	2.5	ug/L			06/20/18 07:55	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/20/18 07:55	1
Benzene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Allyl chloride	ND		1.0	0.50	ug/L			06/20/18 07:55	1
Bromoform	ND		1.0	0.40	ug/L			06/20/18 07:55	1
Bromomethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/20/18 07:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Chloroethane	ND		1.0	0.40	ug/L			06/20/18 07:55	1
Chloroform	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Chloromethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Dibromomethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/20/18 07:55	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 07:55	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Iodomethane	ND		2.0	1.0	ug/L			06/20/18 07:55	1
Isobutyl alcohol	ND		25	13	ug/L			06/20/18 07:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/20/18 07:55	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/20/18 07:55	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/20/18 07:55	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/20/18 07:55	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-483066/4

Matrix: Water

Analysis Batch: 483066

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Naphthalene	ND		1.0	0.40	ug/L			06/20/18 07:55	1
o-Xylene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Propionitrile	ND		20	10	ug/L			06/20/18 07:55	1
Styrene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
t-Butanol	ND		10	5.0	ug/L			06/20/18 07:55	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/20/18 07:55	1
Toluene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/20/18 07:55	1
Trichloroethene	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/20/18 07:55	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/20/18 07:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/20/18 07:55	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/20/18 07:55	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/20/18 07:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/18 07:55	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	38.5	TJ	ug/L		1.51			06/20/18 07:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		06/20/18 07:55	1
4-Bromofluorobenzene (Surr)	94		80 - 120		06/20/18 07:55	1
Dibromofluoromethane (Surr)	101		76 - 132		06/20/18 07:55	1

Lab Sample ID: LCS 440-483066/5

Matrix: Water

Analysis Batch: 483066

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	24.1		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	24.6		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.7		ug/L		103	63 - 130
1,1,2-Trichloroethane	25.0	25.9		ug/L		104	70 - 130
1,1-Dichloroethane	25.0	25.4		ug/L		102	64 - 130
1,1-Dichloroethene	25.0	24.1		ug/L		97	70 - 130
1,1-Dichloropropene	25.0	25.0		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	25.0	25.0		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	25.5		ug/L		102	52 - 140
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	25.6		ug/L		103	57 - 138
1,2-Dichloropropane	25.0	26.6		ug/L		106	67 - 130
1,3-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-483066/5

Matrix: Water

Analysis Batch: 483066

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	24.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	25.0	24.6		ug/L		99	70 - 130
2,2-Dichloropropane	25.0	22.7		ug/L		91	68 - 141
2-Hexanone	25.0	29.4		ug/L		118	10 - 150
Acetone	25.0	30.9		ug/L		124	10 - 150
Acrolein	25.0	20.0		ug/L		80	10 - 145
Acrylonitrile	25.0	275		ug/L		110	48 - 140
Benzene	25.0	24.1		ug/L		97	68 - 130
Bromoform	25.0	25.0		ug/L		100	60 - 148
Bromomethane	25.0	23.3		ug/L		93	64 - 139
Carbon disulfide	25.0	23.0		ug/L		92	52 - 136
Carbon tetrachloride	25.0	24.7		ug/L		99	60 - 150
Chlorobenzene	25.0	23.8		ug/L		95	70 - 130
Bromochloromethane	25.0	24.0		ug/L		96	70 - 130
Chloroethane	25.0	22.6		ug/L		91	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	21.0		ug/L		84	47 - 140
cis-1,2-Dichloroethene	25.0	25.5		ug/L		102	70 - 133
cis-1,3-Dichloropropene	25.0	24.1		ug/L		96	70 - 133
Dibromochloromethane	25.0	24.7		ug/L		99	69 - 145
Dibromomethane	25.0	25.5		ug/L		102	70 - 130
Bromodichloromethane	25.0	24.5		ug/L		98	70 - 132
Dichlorodifluoromethane	25.0	19.6		ug/L		78	29 - 150
Ethylbenzene	25.0	23.9		ug/L		96	70 - 130
m,p-Xylene	25.0	23.8		ug/L		95	70 - 130
Methylene Chloride	25.0	22.9		ug/L		92	52 - 130
Methyl tert-butyl ether	25.0	23.3		ug/L		93	63 - 131
Naphthalene	25.0	24.0		ug/L		96	60 - 140
o-Xylene	25.0	24.4		ug/L		98	70 - 130
Styrene	25.0	23.4		ug/L		94	70 - 134
t-Butanol	25.0	267		ug/L		107	70 - 130
Tetrachloroethene	25.0	24.6		ug/L		98	70 - 130
Toluene	25.0	24.2		ug/L		97	70 - 130
trans-1,2-Dichloroethene	25.0	24.6		ug/L		99	70 - 130
trans-1,3-Dichloropropene	25.0	23.4		ug/L		94	70 - 132
Trichloroethene	25.0	25.3		ug/L		101	70 - 130
Trichlorofluoromethane	25.0	23.1		ug/L		92	60 - 150
Vinyl acetate	25.0	27.8		ug/L		111	48 - 140
Vinyl chloride	25.0	24.8		ug/L		99	59 - 133
1,2-Dibromoethane (EDB)	25.0	25.0		ug/L		100	70 - 130
2-Butanone (MEK)	25.0	25.6		ug/L		102	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	29.5		ug/L		118	59 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-213374-1 MS

Matrix: Water

Analysis Batch: 483066

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		25.0	25.7		ug/L		103	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.9		ug/L		103	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.8		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		109	70 - 130
1,1-Dichloroethane	ND		25.0	27.1		ug/L		108	65 - 130
1,1-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130
1,1-Dichloropropene	ND		25.0	26.3		ug/L		105	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.2		ug/L		109	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	25.4		ug/L		102	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
1,2-Dichloroethane	ND		25.0	27.8		ug/L		111	56 - 146
1,2-Dichloropropane	ND		25.0	28.6		ug/L		114	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.9		ug/L		103	70 - 130
1,3-Dichloropropane	ND		25.0	25.9		ug/L		103	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	24.2		ug/L		97	69 - 138
2-Hexanone	ND		25.0	30.4		ug/L		121	10 - 150
Acetone	ND		25.0	30.7		ug/L		123	10 - 150
Acrolein	ND		25.0	21.1		ug/L		85	10 - 147
Acrylonitrile	ND		250	273		ug/L		109	38 - 144
Benzene	ND		25.0	25.7		ug/L		103	66 - 130
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150
Bromomethane	ND		25.0	24.8		ug/L		99	62 - 131
Carbon disulfide	ND		25.0	24.3		ug/L		97	49 - 140
Carbon tetrachloride	ND		25.0	26.0		ug/L		104	60 - 150
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	25.3		ug/L		101	70 - 130
Chloroethane	ND		25.0	23.7		ug/L		95	68 - 130
Chloroform	ND		25.0	27.0		ug/L		108	70 - 130
Chloromethane	ND		25.0	23.0		ug/L		92	39 - 144
cis-1,2-Dichloroethene	ND		25.0	26.8		ug/L		107	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.8		ug/L		103	70 - 133
Dibromochloromethane	ND		25.0	26.6		ug/L		106	70 - 148
Dibromomethane	ND		25.0	27.6		ug/L		110	70 - 130
Bromodichloromethane	ND		25.0	26.9		ug/L		108	70 - 138
Dichlorodifluoromethane	ND		25.0	20.4		ug/L		82	25 - 142
Ethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130
m,p-Xylene	ND		25.0	24.8		ug/L		99	70 - 133
Methylene Chloride	ND		25.0	24.8		ug/L		99	52 - 130
Methyl tert-butyl ether	ND		25.0	25.2		ug/L		101	70 - 130
Naphthalene	ND		25.0	25.2		ug/L		101	60 - 140
o-Xylene	ND		25.0	25.6		ug/L		103	70 - 133
Styrene	ND		25.0	24.6		ug/L		98	29 - 150
t-Butanol	ND		250	285		ug/L		114	70 - 130
Tetrachloroethene	ND		25.0	25.3		ug/L		101	70 - 137
Toluene	ND		25.0	25.0		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.3		ug/L		105	70 - 130

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-213374-1 MS

Matrix: Water

Analysis Batch: 483066

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	70 - 138
Trichloroethene	ND		25.0	26.3		ug/L		105	70 - 130
Trichlorofluoromethane	ND		25.0	24.2		ug/L		97	60 - 150
Vinyl acetate	ND		25.0	29.7		ug/L		119	23 - 150
Vinyl chloride	ND		25.0	26.0		ug/L		104	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	25.3		ug/L		101	70 - 131
2-Butanone (MEK)	ND		25.0	23.7		ug/L		95	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	30.0		ug/L		120	52 - 150
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	99		80 - 128						
4-Bromofluorobenzene (Surr)	92		80 - 120						
Dibromofluoromethane (Surr)	102		76 - 132						

Lab Sample ID: 440-213374-1 MSD

Matrix: Water

Analysis Batch: 483066

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		25.0	27.6		ug/L		110	60 - 130	7	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.3		ug/L		109	60 - 149	5	20
1,1,1-Trichloroethane	ND		25.0	26.7		ug/L		107	70 - 130	3	20
1,1,1,2-Tetrachloroethane	ND		25.0	28.6		ug/L		114	63 - 130	8	30
1,1,2-Trichloroethane	ND		25.0	29.3		ug/L		117	70 - 130	8	25
1,1-Dichloroethane	ND		25.0	28.4		ug/L		113	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	26.3		ug/L		105	70 - 130	3	20
1,1-Dichloropropene	ND		25.0	26.8		ug/L		107	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		25.0	28.9		ug/L		116	60 - 140	6	20
1,2-Dibromo-3-Chloropropane	ND		25.0	27.8		ug/L		111	48 - 140	9	30
1,2-Dichlorobenzene	ND		25.0	27.9		ug/L		111	70 - 130	7	20
1,2-Dichloroethane	ND		25.0	29.9		ug/L		120	56 - 146	7	20
1,2-Dichloropropane	ND		25.0	30.3		ug/L		121	69 - 130	6	20
1,3-Dichlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130	5	20
1,3-Dichloropropane	ND		25.0	27.8		ug/L		111	70 - 130	7	25
1,4-Dichlorobenzene	ND		25.0	27.3		ug/L		109	70 - 130	4	20
2,2-Dichloropropane	ND		25.0	25.1		ug/L		100	69 - 138	4	25
2-Hexanone	ND		25.0	32.0		ug/L		128	10 - 150	5	35
Acetone	ND		25.0	35.0		ug/L		140	10 - 150	13	35
Acrolein	ND		25.0	23.3		ug/L		93	10 - 147	10	40
Acrylonitrile	ND		25.0	29.1		ug/L		116	38 - 144	6	40
Benzene	ND		25.0	26.7		ug/L		107	66 - 130	4	20
Bromoform	ND		25.0	28.3		ug/L		113	59 - 150	8	25
Bromomethane	ND		25.0	26.2		ug/L		105	62 - 131	6	25
Carbon disulfide	ND		25.0	24.8		ug/L		99	49 - 140	2	20
Carbon tetrachloride	ND		25.0	26.5		ug/L		106	60 - 150	2	25
Chlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	6	20
Bromochloromethane	ND		25.0	27.0		ug/L		108	70 - 130	6	25
Chloroethane	ND		25.0	24.5		ug/L		98	68 - 130	4	25

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-213374-1 MSD

Matrix: Water

Analysis Batch: 483066

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroform	ND		25.0	28.2		ug/L		113	70 - 130	4	20
Chloromethane	ND		25.0	23.8		ug/L		95	39 - 144	4	25
cis-1,2-Dichloroethene	ND		25.0	28.0		ug/L		112	70 - 130	4	20
cis-1,3-Dichloropropene	ND		25.0	27.5		ug/L		110	70 - 133	7	20
Dibromochloromethane	ND		25.0	28.0		ug/L		112	70 - 148	5	25
Dibromomethane	ND		25.0	29.5		ug/L		118	70 - 130	7	25
Bromodichloromethane	ND		25.0	28.9		ug/L		115	70 - 138	7	20
Dichlorodifluoromethane	ND		25.0	20.6		ug/L		82	25 - 142	1	30
Ethylbenzene	ND		25.0	25.4		ug/L		102	70 - 130	3	20
m,p-Xylene	ND		25.0	26.2		ug/L		105	70 - 133	5	25
Methylene Chloride	ND		25.0	26.1		ug/L		105	52 - 130	5	20
Methyl tert-butyl ether	ND		25.0	27.1		ug/L		108	70 - 130	7	25
Naphthalene	ND		25.0	27.6		ug/L		110	60 - 140	9	30
o-Xylene	ND		25.0	26.5		ug/L		106	70 - 133	3	20
Styrene	ND		25.0	25.6		ug/L		102	29 - 150	4	35
t-Butanol	ND		250	301		ug/L		120	70 - 130	6	25
Tetrachloroethene	ND		25.0	26.3		ug/L		105	70 - 137	4	20
Toluene	ND		25.0	26.0		ug/L		104	70 - 130	4	20
trans-1,2-Dichloroethene	ND		25.0	27.1		ug/L		108	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	26.8		ug/L		107	70 - 138	7	25
Trichloroethene	ND		25.0	27.2		ug/L		109	70 - 130	3	20
Trichlorofluoromethane	ND		25.0	24.8		ug/L		99	60 - 150	3	25
Vinyl acetate	ND		25.0	32.0		ug/L		128	23 - 150	7	30
Vinyl chloride	ND		25.0	26.6		ug/L		107	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	27.8		ug/L		111	70 - 131	9	25
2-Butanone (MEK)	ND		25.0	26.2		ug/L		105	48 - 140	10	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	31.9		ug/L		128	52 - 150	6	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

Lab Sample ID: MB 440-483526/5

Matrix: Water

Analysis Batch: 483526

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			06/21/18 19:48	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/21/18 19:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/21/18 19:48	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-483526/5

Matrix: Water

Analysis Batch: 483526

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/21/18 19:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/21/18 19:48	1
2-Hexanone	ND		5.0	2.5	ug/L			06/21/18 19:48	1
Acetone	ND		20	10	ug/L			06/21/18 19:48	1
Acetonitrile	ND		20	10	ug/L			06/21/18 19:48	1
Acrolein	ND		5.0	2.5	ug/L			06/21/18 19:48	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/21/18 19:48	1
Benzene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Allyl chloride	ND		1.0	0.50	ug/L			06/21/18 19:48	1
Bromoform	ND		1.0	0.40	ug/L			06/21/18 19:48	1
Bromomethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/21/18 19:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Chloroethane	ND		1.0	0.40	ug/L			06/21/18 19:48	1
Chloroform	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Chloromethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Dibromomethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/21/18 19:48	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 19:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Iodomethane	ND		2.0	1.0	ug/L			06/21/18 19:48	1
Isobutyl alcohol	ND		25	13	ug/L			06/21/18 19:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/21/18 19:48	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/21/18 19:48	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/21/18 19:48	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/18 19:48	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Naphthalene	ND		1.0	0.40	ug/L			06/21/18 19:48	1
o-Xylene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Propionitrile	ND		20	10	ug/L			06/21/18 19:48	1
Styrene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
t-Butanol	ND		10	5.0	ug/L			06/21/18 19:48	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/21/18 19:48	1
Toluene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/21/18 19:48	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-483526/5

Matrix: Water

Analysis Batch: 483526

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/21/18 19:48	1
Trichloroethene	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/21/18 19:48	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/21/18 19:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/21/18 19:48	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/21/18 19:48	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/21/18 19:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/21/18 19:48	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					06/21/18 19:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		06/21/18 19:48	1
4-Bromofluorobenzene (Surr)	94		80 - 120		06/21/18 19:48	1
Dibromofluoromethane (Surr)	99		76 - 132		06/21/18 19:48	1

Lab Sample ID: LCS 440-483526/6

Matrix: Water

Analysis Batch: 483526

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	26.3		ug/L		105	63 - 130
1,1,1,2-Tetrachloroethane	25.0	26.5		ug/L		106	60 - 141
1,1,1-Trichloroethane	25.0	25.6		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	63 - 130
1,1,2-Trichloroethane	25.0	25.2		ug/L		101	70 - 130
1,1-Dichloroethane	25.0	24.3		ug/L		97	64 - 130
1,1-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloropropene	25.0	24.8		ug/L		99	70 - 130
1,2,4-Trichlorobenzene	25.0	27.8		ug/L		111	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	26.0		ug/L		104	52 - 140
1,2-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	25.3		ug/L		101	57 - 138
1,2-Dichloropropane	25.0	23.5		ug/L		94	67 - 130
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
1,3-Dichloropropane	25.0	23.2		ug/L		93	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	25.4		ug/L		102	68 - 141
2-Hexanone	25.0	27.1		ug/L		109	10 - 150
Acetone	25.0	27.0		ug/L		108	10 - 150
Acrolein	25.0	19.0		ug/L		76	10 - 145
Acrylonitrile	25.0	26.4		ug/L		105	48 - 140
Benzene	25.0	24.5		ug/L		98	68 - 130
Bromoform	25.0	26.5		ug/L		106	60 - 148
Bromomethane	25.0	19.6		ug/L		79	64 - 139

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-483526/6

Matrix: Water

Analysis Batch: 483526

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	25.0	21.3		ug/L		85	52 - 136
Carbon tetrachloride	25.0	25.7		ug/L		103	60 - 150
Chlorobenzene	25.0	24.9		ug/L		99	70 - 130
Bromochloromethane	25.0	24.9		ug/L		100	70 - 130
Chloroethane	25.0	20.0		ug/L		80	64 - 135
Chloroform	25.0	24.6		ug/L		98	70 - 130
Chloromethane	25.0	14.9		ug/L		59	47 - 140
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	24.8		ug/L		99	70 - 133
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 145
Dibromomethane	25.0	24.3		ug/L		97	70 - 130
Bromodichloromethane	25.0	25.2		ug/L		101	70 - 132
Dichlorodifluoromethane	25.0	9.17		ug/L		37	29 - 150
Ethylbenzene	25.0	25.5		ug/L		102	70 - 130
m,p-Xylene	25.0	24.6		ug/L		98	70 - 130
Methylene Chloride	25.0	20.8		ug/L		83	52 - 130
Methyl tert-butyl ether	25.0	24.0		ug/L		96	63 - 131
Naphthalene	25.0	26.9		ug/L		107	60 - 140
o-Xylene	25.0	24.1		ug/L		96	70 - 130
Styrene	25.0	25.2		ug/L		101	70 - 134
t-Butanol	250	259		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	24.0		ug/L		96	70 - 130
trans-1,3-Dichloropropene	25.0	24.8		ug/L		99	70 - 132
Trichloroethene	25.0	25.4		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	21.8		ug/L		87	60 - 150
Vinyl acetate	25.0	22.6		ug/L		90	48 - 140
Vinyl chloride	25.0	16.0		ug/L		64	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.9		ug/L		100	70 - 130
2-Butanone (MEK)	25.0	24.3		ug/L		97	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	26.0		ug/L		104	59 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132

Lab Sample ID: 440-213374-9 MS

Matrix: Water

Analysis Batch: 483526

Client Sample ID: PZ-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	23.6		ug/L		94	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	26.2		ug/L		105	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.0		ug/L		100	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	23.0		ug/L		92	63 - 130
1,1,2-Trichloroethane	ND		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: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-213374-9 MS

Matrix: Water

Analysis Batch: 483526

Client Sample ID: PZ-2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethane	ND		25.0	23.6		ug/L		94	65 - 130
1,1-Dichloroethene	ND		25.0	22.2		ug/L		89	70 - 130
1,1-Dichloropropene	ND		25.0	23.9		ug/L		96	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	28.0		ug/L		112	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	23.3		ug/L		93	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
1,2-Dichloroethane	ND		25.0	25.4		ug/L		101	56 - 146
1,2-Dichloropropane	ND		25.0	25.0		ug/L		100	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	ND		25.0	23.3		ug/L		93	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	25.9		ug/L		103	69 - 138
2-Hexanone	ND		25.0	23.4		ug/L		94	10 - 150
Acetone	ND		25.0	21.6		ug/L		87	10 - 150
Acrolein	ND		25.0	15.5		ug/L		62	10 - 147
Acrylonitrile	ND		250	244		ug/L		98	38 - 144
Benzene	ND		25.0	24.1		ug/L		96	66 - 130
Bromoform	ND		25.0	27.1		ug/L		108	59 - 150
Bromomethane	ND		25.0	19.4		ug/L		78	62 - 131
Carbon disulfide	ND		25.0	20.7		ug/L		83	49 - 140
Carbon tetrachloride	ND		25.0	25.2		ug/L		101	60 - 150
Chlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130
Bromochloromethane	ND		25.0	25.5		ug/L		102	70 - 130
Chloroethane	ND		25.0	19.6		ug/L		78	68 - 130
Chloroform	ND		25.0	25.2		ug/L		101	70 - 130
Chloromethane	ND		25.0	14.8		ug/L		59	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.4		ug/L		101	70 - 133
Dibromochloromethane	ND		25.0	25.9		ug/L		104	70 - 148
Dibromomethane	ND		25.0	24.1		ug/L		97	70 - 130
Bromodichloromethane	ND		25.0	25.3		ug/L		101	70 - 138
Dichlorodifluoromethane	ND		25.0	8.08		ug/L		32	25 - 142
Ethylbenzene	ND		25.0	25.5		ug/L		102	70 - 130
m,p-Xylene	ND		25.0	24.3		ug/L		97	70 - 133
Methylene Chloride	ND		25.0	21.0		ug/L		84	52 - 130
Methyl tert-butyl ether	ND		25.0	24.7		ug/L		99	70 - 130
Naphthalene	ND		25.0	25.8		ug/L		103	60 - 140
o-Xylene	ND		25.0	24.2		ug/L		97	70 - 133
Styrene	ND		25.0	25.3		ug/L		101	29 - 150
t-Butanol	ND		250	275		ug/L		110	70 - 130
Tetrachloroethene	ND		25.0	25.0		ug/L		100	70 - 137
Toluene	ND		25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	ND		25.0	23.9		ug/L		95	70 - 130
trans-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 138
Trichloroethene	ND		25.0	24.2		ug/L		97	70 - 130
Trichlorofluoromethane	ND		25.0	21.1		ug/L		84	60 - 150
Vinyl acetate	ND		25.0	24.3		ug/L		97	23 - 150
Vinyl chloride	ND		25.0	15.5		ug/L		62	50 - 137

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-213374-9 MS

Matrix: Water

Analysis Batch: 483526

Client Sample ID: PZ-2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2-Dibromoethane (EDB)	ND		25.0	24.9		ug/L		100	70 - 131
2-Butanone (MEK)	ND		25.0	21.6		ug/L		86	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.7		ug/L		99	52 - 150
Surrogate	%Recovery	MS Qualifier	Limits						
<i>Toluene-d8 (Surr)</i>	101		80 - 128						
<i>4-Bromofluorobenzene (Surr)</i>	94		80 - 120						
<i>Dibromofluoromethane (Surr)</i>	101		76 - 132						

Lab Sample ID: 440-213374-9 MSD

Matrix: Water

Analysis Batch: 483526

Client Sample ID: PZ-2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier					RPD	Limit
1,2,3-Trichloropropane	ND		25.0	23.7		ug/L		95	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	25.8		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	24.5		ug/L		98	70 - 130	2	20
1,1,1,2-Tetrachloroethane	ND		25.0	22.9		ug/L		92	63 - 130	0	30
1,1,2-Trichloroethane	ND		25.0	24.9		ug/L		100	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	24.1		ug/L		97	65 - 130	2	20
1,1-Dichloroethene	ND		25.0	21.9		ug/L		87	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	23.3		ug/L		93	64 - 130	3	20
1,2,4-Trichlorobenzene	ND		25.0	28.0		ug/L		112	60 - 140	0	20
1,2-Dibromo-3-Chloropropane	ND		25.0	23.0		ug/L		92	48 - 140	1	30
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	25.6		ug/L		103	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	24.7		ug/L		99	69 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130	0	20
1,3-Dichloropropane	ND		25.0	23.1		ug/L		92	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	26.4		ug/L		106	69 - 138	2	25
2-Hexanone	ND		25.0	25.1		ug/L		100	10 - 150	7	35
Acetone	ND		25.0	19.9	J	ug/L		80	10 - 150	8	35
Acrolein	ND		25.0	18.0		ug/L		72	10 - 147	15	40
Acrylonitrile	ND		250	246		ug/L		99	38 - 144	1	40
Benzene	ND		25.0	24.0		ug/L		96	66 - 130	0	20
Bromoform	ND		25.0	26.7		ug/L		107	59 - 150	1	25
Bromomethane	ND		25.0	19.9		ug/L		80	62 - 131	2	25
Carbon disulfide	ND		25.0	19.7		ug/L		79	49 - 140	5	20
Carbon tetrachloride	ND		25.0	24.9		ug/L		100	60 - 150	1	25
Chlorobenzene	ND		25.0	24.4		ug/L		97	70 - 130	3	20
Bromochloromethane	ND		25.0	25.7		ug/L		103	70 - 130	1	25
Chloroethane	ND		25.0	19.2		ug/L		77	68 - 130	2	25
Chloroform	ND		25.0	25.3		ug/L		101	70 - 130	0	20
Chloromethane	ND		25.0	15.3		ug/L		61	39 - 144	3	25
cis-1,2-Dichloroethene	ND		25.0	24.9		ug/L		100	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 133	2	20
Dibromochloromethane	ND		25.0	25.2		ug/L		101	70 - 148	3	25

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-213374-9 MSD

Matrix: Water

Analysis Batch: 483526

Client Sample ID: PZ-2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Dibromomethane	ND		25.0	24.9		ug/L		100	70 - 130	3	25
Bromodichloromethane	ND		25.0	25.4		ug/L		102	70 - 138	1	20
Dichlorodifluoromethane	ND		25.0	8.62		ug/L		34	25 - 142	6	30
Ethylbenzene	ND		25.0	24.3		ug/L		97	70 - 130	5	20
m,p-Xylene	ND		25.0	23.6		ug/L		94	70 - 133	3	25
Methylene Chloride	ND		25.0	21.0		ug/L		84	52 - 130	0	20
Methyl tert-butyl ether	ND		25.0	24.7		ug/L		99	70 - 130	0	25
Naphthalene	ND		25.0	25.7		ug/L		103	60 - 140	0	30
o-Xylene	ND		25.0	23.2		ug/L		93	70 - 133	4	20
Styrene	ND		25.0	24.6		ug/L		98	29 - 150	3	35
t-Butanol	ND		250	269		ug/L		108	70 - 130	2	25
Tetrachloroethene	ND		25.0	24.5		ug/L		98	70 - 137	2	20
Toluene	ND		25.0	25.1		ug/L		100	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	22.9		ug/L		92	70 - 130	4	20
trans-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	70 - 138	2	25
Trichloroethene	ND		25.0	24.0		ug/L		96	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	21.0		ug/L		84	60 - 150	1	25
Vinyl acetate	ND		25.0	24.2		ug/L		97	23 - 150	0	30
Vinyl chloride	ND		25.0	15.1		ug/L		60	50 - 137	3	30
1,2-Dibromoethane (EDB)	ND		25.0	24.0		ug/L		96	70 - 131	4	25
2-Butanone (MEK)	ND		25.0	22.6		ug/L		90	48 - 140	5	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.0		ug/L		96	52 - 150	3	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-482586/1-A

Matrix: Water

Analysis Batch: 482841

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 482586

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		1.0	0.26	ug/L		06/18/18 07:21	06/19/18 10:41	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,4-Dioxane-d8 (Surr)	76		30 - 120	06/18/18 07:21	06/19/18 10:41	1

Lab Sample ID: LCS 440-482586/2-A

Matrix: Water

Analysis Batch: 482841

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 482586

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
1,4-Dioxane	2.09	1.64		ug/L		78	35 - 120

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-482586/2-A
Matrix: Water
Analysis Batch: 482841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 482586

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	72		30 - 120

Lab Sample ID: LCSD 440-482586/3-A
Matrix: Water
Analysis Batch: 482841

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 482586

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.09	1.75		ug/L		84	35 - 120	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	79		30 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-481557/6
Matrix: Water
Analysis Batch: 481557

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			06/12/18 11:11	1

Lab Sample ID: LCS 440-481557/5
Matrix: Water
Analysis Batch: 481557

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: 440-213289-A-5 MS
Matrix: Water
Analysis Batch: 481557

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	14	E	1.13	15.8	E 4	mg/L		123	80 - 120

Lab Sample ID: 440-213289-A-5 MSD
Matrix: Water
Analysis Batch: 481557

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	14	E	1.13	15.8	E 4	mg/L		125	80 - 120	0	20

Lab Sample ID: MB 440-481558/6
Matrix: Water
Analysis Batch: 481558

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			06/12/18 11:11	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-481558/6

Matrix: Water

Analysis Batch: 481558

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			06/12/18 11:11	1
Fluoride	ND		0.50	0.25	mg/L			06/12/18 11:11	1
Sulfate	ND		0.50	0.25	mg/L			06/12/18 11:11	1

Lab Sample ID: LCS 440-481558/5

Matrix: Water

Analysis Batch: 481558

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	5.06		mg/L		101	90 - 110
Chloride	5.00	5.06		mg/L		101	90 - 110
Fluoride	5.00	4.64		mg/L		93	90 - 110
Sulfate	5.00	4.88		mg/L		98	90 - 110

Lab Sample ID: 440-213289-A-5 MS

Matrix: Water

Analysis Batch: 481558

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		5.00	5.35		mg/L		107	80 - 120
Chloride	26	E	5.00	32.4	E 4	mg/L		121	80 - 120
Fluoride	0.44	J	5.00	5.05		mg/L		92	80 - 120
Sulfate	32		5.00	37.3	4	mg/L		109	80 - 120

Lab Sample ID: 440-213289-A-5 MSD

Matrix: Water

Analysis Batch: 481558

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
Bromide	ND		5.00	5.36		mg/L		107	80 - 120	0	20
Chloride	26	E	5.00	32.4	E 4	mg/L		121	80 - 120	0	20
Fluoride	0.44	J	5.00	5.03		mg/L		92	80 - 120	0	20
Sulfate	32		5.00	37.4	4	mg/L		111	80 - 120	0	20

Lab Sample ID: MB 440-481559/6

Matrix: Water

Analysis Batch: 481559

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			06/12/18 11:15	1

Lab Sample ID: LCS 440-481559/5

Matrix: Water

Analysis Batch: 481559

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	1.09		mg/L		97	90 - 110

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-213231-D-1 MS

Matrix: Water

Analysis Batch: 481559

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	77	E	1.13	78.0	E 4	mg/L		101	80 - 120

Lab Sample ID: 440-213231-D-1 MSD

Matrix: Water

Analysis Batch: 481559

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	77	E	1.13	78.2	E 4	mg/L		114	80 - 120	0	20

Lab Sample ID: MB 440-481560/6

Matrix: Water

Analysis Batch: 481560

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			06/12/18 11:15	1
Chloride	ND		0.50	0.25	mg/L			06/12/18 11:15	1
Fluoride	ND		0.50	0.25	mg/L			06/12/18 11:15	1
Sulfate	ND		0.50	0.25	mg/L			06/12/18 11:15	1

Lab Sample ID: LCS 440-481560/5

Matrix: Water

Analysis Batch: 481560

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.90		mg/L		98	90 - 110
Chloride	5.00	4.78		mg/L		96	90 - 110
Fluoride	5.00	4.86		mg/L		97	90 - 110
Sulfate	5.00	4.97		mg/L		99	90 - 110

Lab Sample ID: 440-213231-D-1 MS

Matrix: Water

Analysis Batch: 481560

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.25	J	5.00	5.45		mg/L		104	80 - 120
Chloride	220	E	5.00	228	E 4	mg/L		112	80 - 120
Fluoride	ND		5.00	4.67		mg/L		93	80 - 120
Sulfate	60	E	5.00	65.7	E 4	mg/L		118	80 - 120

Lab Sample ID: 440-213231-D-1 MSD

Matrix: Water

Analysis Batch: 481560

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	0.25	J	5.00	5.77		mg/L		110	80 - 120	6	20
Chloride	220	E	5.00	229	E 4	mg/L		123	80 - 120	0	20
Fluoride	ND		5.00	4.80		mg/L		96	80 - 120	3	20
Sulfate	60	E	5.00	65.6	E 4	mg/L		117	80 - 120	0	20

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-483135/1-A
Matrix: Water
Analysis Batch: 483660

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 483135

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		06/20/18 10:09	06/21/18 17:30	1
Manganese	ND		0.020	0.015	mg/L		06/20/18 10:09	06/21/18 17:30	1
Magnesium	ND		0.020	0.010	mg/L		06/20/18 10:09	06/21/18 17:30	1
Boron	ND		0.050	0.025	mg/L		06/20/18 10:09	06/21/18 17:30	1
Sodium	ND		0.50	0.26	mg/L		06/20/18 10:09	06/21/18 17:30	1
Calcium	0.0577	J	0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:30	1
Iron	ND		0.10	0.050	mg/L		06/20/18 10:09	06/21/18 17:30	1

Lab Sample ID: LCS 440-483135/2-A
Matrix: Water
Analysis Batch: 483660

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483135

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	10.7		mg/L		107	80 - 120
Manganese	1.00	1.03		mg/L		103	80 - 120
Magnesium	5.00	5.14		mg/L		103	80 - 120
Boron	1.00	1.02		mg/L		102	80 - 120
Sodium	10.0	10.5		mg/L		105	80 - 120
Calcium	5.00	5.15		mg/L		103	80 - 120
Iron	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: 440-213374-1 MS
Matrix: Water
Analysis Batch: 483660

Client Sample ID: CM-9R3
Prep Type: Total Recoverable
Prep Batch: 483135

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	14		10.0	23.6		mg/L		100	75 - 125
Manganese	2.9		1.00	3.84		mg/L		95	75 - 125
Magnesium	230		5.00	232	4	mg/L		52	75 - 125
Boron	2.1		1.00	3.08		mg/L		103	75 - 125
Sodium	480		10.0	481	4	mg/L		-11	75 - 125
Calcium	340	B	5.00	339	4	mg/L		-56	75 - 125
Iron	13		1.00	13.7	4	mg/L		70	75 - 125

Lab Sample ID: 440-213374-1 MSD
Matrix: Water
Analysis Batch: 483660

Client Sample ID: CM-9R3
Prep Type: Total Recoverable
Prep Batch: 483135

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	14		10.0	24.2		mg/L		106	75 - 125	2	20
Manganese	2.9		1.00	3.96		mg/L		107	75 - 125	3	20
Magnesium	230		5.00	233	4	mg/L		72	75 - 125	0	20
Boron	2.1		1.00	3.18		mg/L		113	75 - 125	3	20
Sodium	480		10.0	493	4	mg/L		108	75 - 125	2	20
Calcium	340	B	5.00	348	4	mg/L		116	75 - 125	3	20
Iron	13		1.00	14.0	4	mg/L		100	75 - 125	2	20

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: 410.4 - COD

Lab Sample ID: MB 440-482976/3
Matrix: Water
Analysis Batch: 482976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			06/19/18 14:43	1

Lab Sample ID: LCS 440-482976/4
Matrix: Water
Analysis Batch: 482976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	196		mg/L		98	90 - 110

Lab Sample ID: 440-213374-11 MS
Matrix: Water
Analysis Batch: 482976

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	ND		200	215		mg/L		108	70 - 120

Lab Sample ID: 440-213374-11 MSD
Matrix: Water
Analysis Batch: 482976

Client Sample ID: MW-14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chemical Oxygen Demand	ND		200	215		mg/L		107	70 - 120	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-481855/3
Matrix: Water
Analysis Batch: 481855

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/13/18 04:52	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/13/18 04:52	1

Lab Sample ID: LCS 440-481855/2
Matrix: Water
Analysis Batch: 481855

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	98.9	97.1		mg/L		98	80 - 120

Lab Sample ID: 440-213374-7 DU
Matrix: Water
Analysis Batch: 481855

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alkalinity as CaCO3	480		502		mg/L		4	20
Bicarbonate Alkalinity as CaCO3	480		502		mg/L		4	20

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-482327/1
Matrix: Water
Analysis Batch: 482327

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			06/15/18 08:35	1

Lab Sample ID: LCS 440-482327/2
Matrix: Water
Analysis Batch: 482327

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: 440-213374-11 DU
Matrix: Water
Analysis Batch: 482327

Client Sample ID: MW-14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3900		3900		mg/L		0.3	5

Lab Sample ID: MB 440-482601/1
Matrix: Water
Analysis Batch: 482601

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			06/18/18 09:05	1

Lab Sample ID: LCS 440-482601/2
Matrix: Water
Analysis Batch: 482601

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	994		mg/L		99	90 - 110

Lab Sample ID: 440-213374-1 DU
Matrix: Water
Analysis Batch: 482601

Client Sample ID: CM-9R3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4300		4190		mg/L		3	5

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-483440/1
Matrix: Water
Analysis Batch: 483440

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			06/21/18 11:48	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: SM 4500 CO2 C - Free Carbon Dioxide (Continued)

Lab Sample ID: 440-213374-1 DU
 Matrix: Water
 Analysis Batch: 483440

Client Sample ID: CM-9R3
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Carbon Dioxide, Free	70		68.6		mg/L		3	20

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-482836/2-A
 Matrix: Water
 Analysis Batch: 482861

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 482836

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		06/19/18 04:30	06/19/18 08:00	1

Lab Sample ID: LCS 440-482836/1-A
 Matrix: Water
 Analysis Batch: 482861

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 482836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.25		mg/L		90	85 - 115

Lab Sample ID: 440-213806-A-3-B MS
 Matrix: Water
 Analysis Batch: 482861

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 482836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		2.50	2.51		mg/L		100	75 - 125

Lab Sample ID: 440-213806-A-3-C MSD
 Matrix: Water
 Analysis Batch: 482861

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 482836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Ammonia (as N)	ND		2.50	2.42		mg/L		97	75 - 125	4	15

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-482451/4
 Matrix: Water
 Analysis Batch: 482451

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Sulfide	ND		0.050	0.027	mg/L			06/15/18 17:07	1

Lab Sample ID: LCS 440-482451/5
 Matrix: Water
 Analysis Batch: 482451

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Sulfide	0.460	0.483		mg/L		105	80 - 120

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: LCSD 440-482451/6
 Matrix: Water
 Analysis Batch: 482451

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	0.460	0.528		mg/L		115	80 - 120	9	20

Lab Sample ID: MRL 440-482451/15
 Matrix: Water
 Analysis Batch: 482451

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	0.0460	0.0477	J	mg/L		104	50 - 150		

Lab Sample ID: MRL 440-482451/2
 Matrix: Water
 Analysis Batch: 482451

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	0.0460	0.0500		mg/L		109	50 - 150		

Lab Sample ID: 550-104253-D-1 MS
 Matrix: Water
 Analysis Batch: 482451

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		0.460	0.377		mg/L		82	70 - 130		

Lab Sample ID: 550-104253-D-1 MSD
 Matrix: Water
 Analysis Batch: 482451

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		0.460	0.362		mg/L		79	70 - 130	4	30

Lab Sample ID: 440-213535-B-1 DU
 Matrix: Water
 Analysis Batch: 482451

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	Prepared	Analyzed	Dil Fac	RPD	RPD Limit
Total Sulfide	ND		ND		mg/L					NC	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-482280/8
 Matrix: Water
 Analysis Batch: 482280

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			06/14/18 10:23	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-482280/7

Matrix: Water

Analysis Batch: 482280

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.83		mg/L		98	90 - 110

Lab Sample ID: MRL 440-482280/4

Matrix: Water

Analysis Batch: 482280

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	0.0761	J	mg/L		76	50 - 150

Lab Sample ID: 440-213374-1 MS

Matrix: Water

Analysis Batch: 482280

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	6.5		10.0	16.9		mg/L		105	80 - 120

Lab Sample ID: 440-213374-1 MSD

Matrix: Water

Analysis Batch: 482280

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	6.5		10.0	16.9		mg/L		105	80 - 120	0	20

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

GC/MS VOA

Analysis Batch: 482498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	8260B	
440-213374-2	CM-10R	Total/NA	Water	8260B	
440-213374-3	CM-11R	Total/NA	Water	8260B	
440-213374-4	MW-5	Total/NA	Water	8260B	
440-213374-5	Subdrain (N)	Total/NA	Water	8260B	
440-213374-6	Combined Subdrains	Total/NA	Water	8260B	
440-213374-7	Duplicate	Total/NA	Water	8260B	
440-213374-8	MW-13R	Total/NA	Water	8260B	
440-213374-9	PZ-2	Total/NA	Water	8260B	
440-213374-10	MW-6	Total/NA	Water	8260B	
440-213374-11	MW-14	Total/NA	Water	8260B	
440-213374-12	QCAB	Total/NA	Water	8260B	
440-213374-13	QCTB	Total/NA	Water	8260B	
MB 440-482498/4	Method Blank	Total/NA	Water	8260B	
LCS 440-482498/5	Lab Control Sample	Total/NA	Water	8260B	
440-213075-A-8 MS	Matrix Spike	Total/NA	Water	8260B	
440-213075-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 483066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	8260B	
440-213374-2	CM-10R	Total/NA	Water	8260B	
440-213374-3	CM-11R	Total/NA	Water	8260B	
440-213374-4	MW-5	Total/NA	Water	8260B	
440-213374-5	Subdrain (N)	Total/NA	Water	8260B	
440-213374-6	Combined Subdrains	Total/NA	Water	8260B	
440-213374-7	Duplicate	Total/NA	Water	8260B	
MB 440-483066/4	Method Blank	Total/NA	Water	8260B	
LCS 440-483066/5	Lab Control Sample	Total/NA	Water	8260B	
440-213374-1 MS	CM-9R3	Total/NA	Water	8260B	
440-213374-1 MSD	CM-9R3	Total/NA	Water	8260B	

Analysis Batch: 483526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-8	MW-13R	Total/NA	Water	8260B	
440-213374-9	PZ-2	Total/NA	Water	8260B	
440-213374-10	MW-6	Total/NA	Water	8260B	
440-213374-11	MW-14	Total/NA	Water	8260B	
440-213374-12	QCAB	Total/NA	Water	8260B	
440-213374-13	QCTB	Total/NA	Water	8260B	
MB 440-483526/5	Method Blank	Total/NA	Water	8260B	
LCS 440-483526/6	Lab Control Sample	Total/NA	Water	8260B	
440-213374-9 MS	PZ-2	Total/NA	Water	8260B	
440-213374-9 MSD	PZ-2	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 482586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	3520C	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

GC/MS Semi VOA (Continued)

Prep Batch: 482586 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-2	CM-10R	Total/NA	Water	3520C	
440-213374-3	CM-11R	Total/NA	Water	3520C	
440-213374-4	MW-5	Total/NA	Water	3520C	
440-213374-5	Subdrain (N)	Total/NA	Water	3520C	
440-213374-6	Combined Subdrains	Total/NA	Water	3520C	
440-213374-7	Duplicate	Total/NA	Water	3520C	
440-213374-8	MW-13R	Total/NA	Water	3520C	
440-213374-9	PZ-2	Total/NA	Water	3520C	
440-213374-10	MW-6	Total/NA	Water	3520C	
440-213374-11	MW-14	Total/NA	Water	3520C	
MB 440-482586/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-482586/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-482586/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 482841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	8270C	482586
440-213374-2	CM-10R	Total/NA	Water	8270C	482586
440-213374-3	CM-11R	Total/NA	Water	8270C	482586
440-213374-4	MW-5	Total/NA	Water	8270C	482586
440-213374-5	Subdrain (N)	Total/NA	Water	8270C	482586
440-213374-6	Combined Subdrains	Total/NA	Water	8270C	482586
440-213374-7	Duplicate	Total/NA	Water	8270C	482586
440-213374-8	MW-13R	Total/NA	Water	8270C	482586
440-213374-9	PZ-2	Total/NA	Water	8270C	482586
440-213374-10	MW-6	Total/NA	Water	8270C	482586
440-213374-11	MW-14	Total/NA	Water	8270C	482586
MB 440-482586/1-A	Method Blank	Total/NA	Water	8270C	482586
LCS 440-482586/2-A	Lab Control Sample	Total/NA	Water	8270C	482586
LCSD 440-482586/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	482586

HPLC/IC

Analysis Batch: 481557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-9	PZ-2	Total/NA	Water	300.0	
440-213374-10	MW-6	Total/NA	Water	300.0	
440-213374-11	MW-14	Total/NA	Water	300.0	
MB 440-481557/6	Method Blank	Total/NA	Water	300.0	
LCS 440-481557/5	Lab Control Sample	Total/NA	Water	300.0	
440-213289-A-5 MS	Matrix Spike	Total/NA	Water	300.0	
440-213289-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 481558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-9	PZ-2	Total/NA	Water	300.0	
440-213374-9	PZ-2	Total/NA	Water	300.0	
440-213374-10	MW-6	Total/NA	Water	300.0	
440-213374-10	MW-6	Total/NA	Water	300.0	
440-213374-11	MW-14	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

HPLC/IC (Continued)

Analysis Batch: 481558 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-11	MW-14	Total/NA	Water	300.0	
MB 440-481558/6	Method Blank	Total/NA	Water	300.0	
LCS 440-481558/5	Lab Control Sample	Total/NA	Water	300.0	
440-213289-A-5 MS	Matrix Spike	Total/NA	Water	300.0	
440-213289-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 481559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	300.0	
440-213374-2	CM-10R	Total/NA	Water	300.0	
440-213374-3	CM-11R	Total/NA	Water	300.0	
440-213374-4	MW-5	Total/NA	Water	300.0	
440-213374-5	Subdrain (N)	Total/NA	Water	300.0	
440-213374-6	Combined Subdrains	Total/NA	Water	300.0	
440-213374-7	Duplicate	Total/NA	Water	300.0	
440-213374-8	MW-13R	Total/NA	Water	300.0	
MB 440-481559/6	Method Blank	Total/NA	Water	300.0	
LCS 440-481559/5	Lab Control Sample	Total/NA	Water	300.0	
440-213231-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-213231-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 481560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	300.0	
440-213374-1	CM-9R3	Total/NA	Water	300.0	
440-213374-2	CM-10R	Total/NA	Water	300.0	
440-213374-2	CM-10R	Total/NA	Water	300.0	
440-213374-3	CM-11R	Total/NA	Water	300.0	
440-213374-3	CM-11R	Total/NA	Water	300.0	
440-213374-4	MW-5	Total/NA	Water	300.0	
440-213374-4	MW-5	Total/NA	Water	300.0	
440-213374-5	Subdrain (N)	Total/NA	Water	300.0	
440-213374-5	Subdrain (N)	Total/NA	Water	300.0	
440-213374-6	Combined Subdrains	Total/NA	Water	300.0	
440-213374-6	Combined Subdrains	Total/NA	Water	300.0	
440-213374-7	Duplicate	Total/NA	Water	300.0	
440-213374-7	Duplicate	Total/NA	Water	300.0	
440-213374-8	MW-13R	Total/NA	Water	300.0	
440-213374-8	MW-13R	Total/NA	Water	300.0	
MB 440-481560/6	Method Blank	Total/NA	Water	300.0	
LCS 440-481560/5	Lab Control Sample	Total/NA	Water	300.0	
440-213231-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-213231-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 483135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total Recoverable	Water	3005A	
440-213374-2	CM-10R	Total Recoverable	Water	3005A	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

Metals (Continued)

Prep Batch: 483135 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-3	CM-11R	Total Recoverable	Water	3005A	
440-213374-4	MW-5	Total Recoverable	Water	3005A	
440-213374-5	Subdrain (N)	Total Recoverable	Water	3005A	
440-213374-6	Combined Subdrains	Total Recoverable	Water	3005A	
440-213374-7	Duplicate	Total Recoverable	Water	3005A	
440-213374-8	MW-13R	Total Recoverable	Water	3005A	
440-213374-9	PZ-2	Total Recoverable	Water	3005A	
440-213374-10	MW-6	Total Recoverable	Water	3005A	
440-213374-11	MW-14	Total Recoverable	Water	3005A	
MB 440-483135/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-483135/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-213374-1 MS	CM-9R3	Total Recoverable	Water	3005A	
440-213374-1 MSD	CM-9R3	Total Recoverable	Water	3005A	

Analysis Batch: 483660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total Recoverable	Water	6010B	483135
440-213374-2	CM-10R	Total Recoverable	Water	6010B	483135
440-213374-3	CM-11R	Total Recoverable	Water	6010B	483135
440-213374-4	MW-5	Total Recoverable	Water	6010B	483135
440-213374-5	Subdrain (N)	Total Recoverable	Water	6010B	483135
440-213374-6	Combined Subdrains	Total Recoverable	Water	6010B	483135
440-213374-7	Duplicate	Total Recoverable	Water	6010B	483135
440-213374-8	MW-13R	Total Recoverable	Water	6010B	483135
440-213374-9	PZ-2	Total Recoverable	Water	6010B	483135
440-213374-9	PZ-2	Total Recoverable	Water	6010B	483135
440-213374-10	MW-6	Total Recoverable	Water	6010B	483135
440-213374-11	MW-14	Total Recoverable	Water	6010B	483135
MB 440-483135/1-A	Method Blank	Total Recoverable	Water	6010B	483135
LCS 440-483135/2-A	Lab Control Sample	Total Recoverable	Water	6010B	483135
440-213374-1 MS	CM-9R3	Total Recoverable	Water	6010B	483135
440-213374-1 MSD	CM-9R3	Total Recoverable	Water	6010B	483135

General Chemistry

Analysis Batch: 481855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 2320B	
440-213374-2	CM-10R	Total/NA	Water	SM 2320B	
440-213374-3	CM-11R	Total/NA	Water	SM 2320B	
440-213374-4	MW-5	Total/NA	Water	SM 2320B	
440-213374-5	Subdrain (N)	Total/NA	Water	SM 2320B	
440-213374-6	Combined Subdrains	Total/NA	Water	SM 2320B	
440-213374-7	Duplicate	Total/NA	Water	SM 2320B	
440-213374-8	MW-13R	Total/NA	Water	SM 2320B	
440-213374-9	PZ-2	Total/NA	Water	SM 2320B	
440-213374-10	MW-6	Total/NA	Water	SM 2320B	
440-213374-11	MW-14	Total/NA	Water	SM 2320B	
MB 440-481855/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-481855/2	Lab Control Sample	Total/NA	Water	SM 2320B	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

General Chemistry (Continued)

Analysis Batch: 481855 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-7 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 482280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 5310C	
440-213374-2	CM-10R	Total/NA	Water	SM 5310C	
440-213374-3	CM-11R	Total/NA	Water	SM 5310C	
440-213374-4	MW-5	Total/NA	Water	SM 5310C	
440-213374-5	Subdrain (N)	Total/NA	Water	SM 5310C	
440-213374-6	Combined Subdrains	Total/NA	Water	SM 5310C	
440-213374-7	Duplicate	Total/NA	Water	SM 5310C	
440-213374-8	MW-13R	Total/NA	Water	SM 5310C	
440-213374-9	PZ-2	Total/NA	Water	SM 5310C	
440-213374-10	MW-6	Total/NA	Water	SM 5310C	
440-213374-11	MW-14	Total/NA	Water	SM 5310C	
MB 440-482280/8	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-482280/7	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-482280/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-213374-1 MS	CM-9R3	Total/NA	Water	SM 5310C	
440-213374-1 MSD	CM-9R3	Total/NA	Water	SM 5310C	

Analysis Batch: 482327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-11	MW-14	Total/NA	Water	SM 2540C	
MB 440-482327/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-482327/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-213374-11 DU	MW-14	Total/NA	Water	SM 2540C	

Analysis Batch: 482451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 4500 S2 D	
440-213374-2	CM-10R	Total/NA	Water	SM 4500 S2 D	
440-213374-3	CM-11R	Total/NA	Water	SM 4500 S2 D	
440-213374-4	MW-5	Total/NA	Water	SM 4500 S2 D	
440-213374-5	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	
440-213374-6	Combined Subdrains	Total/NA	Water	SM 4500 S2 D	
440-213374-7	Duplicate	Total/NA	Water	SM 4500 S2 D	
440-213374-8	MW-13R	Total/NA	Water	SM 4500 S2 D	
440-213374-9	PZ-2	Total/NA	Water	SM 4500 S2 D	
440-213374-10	MW-6	Total/NA	Water	SM 4500 S2 D	
440-213374-11	MW-14	Total/NA	Water	SM 4500 S2 D	
MB 440-482451/4	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-482451/5	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 440-482451/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 440-482451/15	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 440-482451/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
550-104253-D-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
550-104253-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	
440-213535-B-1 DU	Duplicate	Total/NA	Water	SM 4500 S2 D	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

General Chemistry (Continued)

Analysis Batch: 482601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 2540C	
440-213374-2	CM-10R	Total/NA	Water	SM 2540C	
440-213374-3	CM-11R	Total/NA	Water	SM 2540C	
440-213374-4	MW-5	Total/NA	Water	SM 2540C	
440-213374-5	Subdrain (N)	Total/NA	Water	SM 2540C	
440-213374-6	Combined Subdrains	Total/NA	Water	SM 2540C	
440-213374-7	Duplicate	Total/NA	Water	SM 2540C	
440-213374-8	MW-13R	Total/NA	Water	SM 2540C	
440-213374-9	PZ-2	Total/NA	Water	SM 2540C	
440-213374-10	MW-6	Total/NA	Water	SM 2540C	
MB 440-482601/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-482601/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-213374-1 DU	CM-9R3	Total/NA	Water	SM 2540C	

Prep Batch: 482836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 4500 NH3 B	
440-213374-2	CM-10R	Total/NA	Water	SM 4500 NH3 B	
440-213374-3	CM-11R	Total/NA	Water	SM 4500 NH3 B	
440-213374-4	MW-5	Total/NA	Water	SM 4500 NH3 B	
440-213374-5	Subdrain (N)	Total/NA	Water	SM 4500 NH3 B	
440-213374-6	Combined Subdrains	Total/NA	Water	SM 4500 NH3 B	
440-213374-7	Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-213374-8	MW-13R	Total/NA	Water	SM 4500 NH3 B	
440-213374-9	PZ-2	Total/NA	Water	SM 4500 NH3 B	
440-213374-10	MW-6	Total/NA	Water	SM 4500 NH3 B	
440-213374-11	MW-14	Total/NA	Water	SM 4500 NH3 B	
MB 440-482836/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-482836/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-213806-A-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-213806-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 482861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-2	CM-10R	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-3	CM-11R	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-4	MW-5	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-5	Subdrain (N)	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-6	Combined Subdrains	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-7	Duplicate	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-8	MW-13R	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-9	PZ-2	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-10	MW-6	Total/NA	Water	SM 4500 NH3 D	482836
440-213374-11	MW-14	Total/NA	Water	SM 4500 NH3 D	482836
MB 440-482836/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	482836
LCS 440-482836/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	482836
440-213806-A-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	482836
440-213806-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	482836

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-213374-1

General Chemistry (Continued)

Analysis Batch: 482976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	410.4	
440-213374-2	CM-10R	Total/NA	Water	410.4	
440-213374-3	CM-11R	Total/NA	Water	410.4	
440-213374-4	MW-5	Total/NA	Water	410.4	
440-213374-5	Subdrain (N)	Total/NA	Water	410.4	
440-213374-6	Combined Subdrains	Total/NA	Water	410.4	
440-213374-7	Duplicate	Total/NA	Water	410.4	
440-213374-8	MW-13R	Total/NA	Water	410.4	
440-213374-9	PZ-2	Total/NA	Water	410.4	
440-213374-10	MW-6	Total/NA	Water	410.4	
440-213374-11	MW-14	Total/NA	Water	410.4	
MB 440-482976/3	Method Blank	Total/NA	Water	410.4	
LCS 440-482976/4	Lab Control Sample	Total/NA	Water	410.4	
440-213374-11 MS	MW-14	Total/NA	Water	410.4	
440-213374-11 MSD	MW-14	Total/NA	Water	410.4	

Analysis Batch: 483440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213374-1	CM-9R3	Total/NA	Water	SM 4500 CO2 C	
440-213374-2	CM-10R	Total/NA	Water	SM 4500 CO2 C	
440-213374-3	CM-11R	Total/NA	Water	SM 4500 CO2 C	
440-213374-4	MW-5	Total/NA	Water	SM 4500 CO2 C	
440-213374-5	Subdrain (N)	Total/NA	Water	SM 4500 CO2 C	
440-213374-6	Combined Subdrains	Total/NA	Water	SM 4500 CO2 C	
440-213374-7	Duplicate	Total/NA	Water	SM 4500 CO2 C	
440-213374-8	MW-13R	Total/NA	Water	SM 4500 CO2 C	
440-213374-9	PZ-2	Total/NA	Water	SM 4500 CO2 C	
440-213374-10	MW-6	Total/NA	Water	SM 4500 CO2 C	
440-213374-11	MW-14	Total/NA	Water	SM 4500 CO2 C	
MB 440-483440/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-213374-1 DU	CM-9R3	Total/NA	Water	SM 4500 CO2 C	