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Project No.: 1302576 02
Company: Florida Dept of Environmental Protection
Address: Solid Waste Section
2600 Blair Stone RD, MS 4565
Tallahassee, FL 32399-2400

RE: **SEMI-ANNUAL GW & SW MONITORING REPORT – AUGUST 2016 – TRAIL RIDGE**

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1	Report	SEMI-ANNUAL GROUNDWATER AND SURFACE WATER MONITORING REPORT AUGUST 2016 EVENT TRAIL RIDGE LANDFILL FDEP PERMIT NO 0013493-017-SO WACS ID NO NED/16100033628

Notes

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ACKNOWLEDGEMENT REQUIRED:

☐ Yes ☒ No

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SEMI-ANNUAL GROUNDWATER AND SURFACE WATER MONITORING REPORT AUGUST 2016 EVENT

Trail Ridge Landfill

5110 U.S. Highway 301

Duval County, Baldwin, Florida 32234

WACS Facility ID 33628

FDEP Permit Number 0013493-025-SO-01

Submitted To: Florida Department of Environmental Protection
Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, FL 32256-7590

Florida Department of Environmental Protection
Solid Waste Section
2600 Blair Stone Road, MS 4565
Tallahassee, FL 32399-2400

Submitted By: Golder Associates Inc
3730 Chamblee Tucker Road
Atlanta, GA 30341

Distribution:

1 Copy – Florida Department of Environmental Protection Northeast District Office
1 Copy – Florida Department of Environmental Protection Solid Waste Section
1 Copy – Trail Ridge Landfill, Inc
1 Copy – Waste Management of Florida
2 Copies – Golder Associates Inc

October 2016 **1302576-02**

A world of capabilities delivered locally

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October 27, 2016 1302576-02

Mr Brian Durden
Florida Department of Environmental Protection
Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, FL 32256-7590

RE: SEMI-ANNUAL GROUNDWATER AND SURFACE WATER MONITORING REPORT FOR THE AUGUST 2016 MONITORING EVENT TRAIL RIDGE LANDFILL, DUVAL COUNTY, FLORIDA PERMIT NO. 0013493-025-SO-01

Dear Mr Durden

Golder Associates Inc (Golder) has prepared this report summarizing the August 2016 semi-annual detection monitoring event for the Trail Ridge Landfill owned by the City of Jacksonville and operated by Trail Ridge Landfill, Inc (a Waste Management Company) under Florida Department of Environmental Protection Permit Number 0013493-025-SO-01 and WACS Facility ID Number 33628 This semi-annual report is submitted in accordance with monitoring and reporting requirements of Chapters 62-160, 62-520, and 62-701 of the Florida Administrative Code (F A C) and the Facility Permit If you have any questions regarding this report please contact the undersigned at (770) 496-1893

Sincerely,

GOLDER ASSOCIATES INC.

Lizmarie Steel, EIT
Staff Environmental Engineer

Robert M Wojcik, PG
Associate and Senior Consultant

cc Trail Ridge Landfill
Eric Parker, Waste Management of Florida
Rachel P Kirkman, Golder Associates (electronic)
Seth Ramaley, Waste Management (electronic)

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 INTRODUCTION

The Trail Ridge Landfill (Site) is owned by the City of Jacksonville and operated by Trail Ridge Landfill, Inc (a Waste Management Company) in accordance with Florida Department of Environmental Protection (FDEP) Operation Permit Number 0013493-025-SO-01 issued June 16, 2014 The Site is an active municipal solid waste landfill that serves the City of Jacksonville, Duval County, and Northeast Florida

Golder Associates Inc (Golder) has been retained to report the results of semi-annual groundwater and surface water monitoring at the Site in accordance with the Water Quality Monitoring Plan (Appendix 3) of the referenced permit This report presents the methods and findings of the second 2016 semi-annual groundwater and surface water monitoring event conducted on August 23 through August 24, 2016 The following sections include general information concerning the Site history and setting, an evaluation of surficial aquifer groundwater flow, and groundwater and surface water quality conditions at the Site Laboratory analytical data are summarized, evaluated, and compared to historical data where appropriate

2.0 BACKGROUND

2.1 Site Location and Description

The Site is located in the town of Baldwin approximately five miles southwest of the intersection of US-301 and I-10 in southwestern Duval County along the border with Baker County, Florida (Figure 1) The Facility is an active municipal solid waste landfill with a disposal area of approximately 144 acres that accepts waste from the City of Jacksonville and Duval County The Facility operates a waste tire processing facility and active gas collection system, and the Facility design includes wetland mitigation, a stormwater management system, and environmental monitoring systems for groundwater, surface water, and methane gas

2.2 Groundwater and Surface Water Monitoring Systems

Groundwater and surface water monitoring events are conducted concurrently on a semi-annual basis prior to March 30th and September 30th of each year Figure 2 shows the Site layout and groundwater monitoring well and surface water sampling locations The current Site groundwater monitoring system consists of twenty-two (22) groundwater monitoring wells screened at shallow (S) and intermediate (I) depths within the uppermost, surficial aquifer These include

- Thirteen (13) shallow wells MWB-2(S), MWB-3(S), MWB-11(S), MWB-12(S), MWB-13(S), MWB-20(S), MWB-21(S), MWB-22(S), MWB-27(S), MWB-29(S), MWB-32(S), MWB-33(S), MWB-34(S)
- Nine (9) intermediate wells MWB-2(I), MWB-3(I), MWB-11(IR), MWB-12(I), MWB-13(I), MWB-27(I), MWB-29(I), MWB-32(I), MWB-34(I)

In addition, the following wells installed within the surficial aquifer are used to monitor groundwater levels at the Site

- One (1) shallow well MWB-7(S)
- One (1) intermediate well MWB-7(I)
- Seven (7) deep wells MWB-7(D), MWB-12(D), MWB-27(D), MWB-29(D), MWB-31(D), MWB-32(D), and MWB-34(D)

Background wells MWB-2(S), MWB-3(S), MWB-2(I), and MWB-3(I) demonstrate background water quality for the facility due to their location upgradient from landfill waste The remaining shallow and intermediate wells listed above are utilized for compliance or detection monitoring purposes associated with various phases of landfill development

As indicated in the Site Permit, MWB-14(S), MWB-14(I), MWB-14(D), MWB-23(S), MWB-24(S), MWB-25(S), MWB-25(I), MWB-25(D), and MWB-26(S) are maintained but are not currently utilized for routine monitoring The Site surface water monitoring system consists of two surface water monitoring locations SW-1 and SW-3 (Figure 1)

3.0 DATA COLLECTION METHODS

3.1 Groundwater Elevation Measurements

ProTech field personnel measured water levels in Site monitoring wells on August 23, 2016 prior to purging and sampling activities in accordance with procedures described in the facility permit Water levels were measured at active groundwater monitoring wells at the Site within a 24-hour period to evaluate static groundwater conditions across the entire Site Field personnel opened the monitoring wells to allow groundwater levels to equilibrate to atmospheric conditions, and then measured the depth to groundwater to within 0 01 feet relative to the top of the inner PVC well casing using an electronic water level indicator Golder calculated water table elevations at each well to evaluate the general direction of groundwater flow in the uppermost aquifer underlying the Site The calculations were performed by taking the difference between the measured depth to groundwater and the top of casing elevation surveyed for each well Table 1 provides a summary of groundwater elevation data collected during the August 2016 monitoring event

3.2 Sample Collection and Analysis

Groundwater and surface water sampling was conducted in accordance with F A C Chapter 62-160 and FDEP's Standard Operating Procedures for Field Activities (DEP-SOP-001/01) ProTech field personnel collected groundwater samples for laboratory analysis from the twenty-two monitoring wells listed in Section 2 2 between March 1 through 3, 2016 Groundwater monitoring wells were purged with dedicated QED bladder pumps with Teflon-lined tubing extending to the top of the well casing Wells were purged using low-flow sampling methods, a minimum of one well volume was purged prior to stabilization for wells where the water table is located within the well screen Field parameters including static water level, pH, specific conductance, temperature, turbidity, dissolved oxygen, oxidation-reduction potential and color/sheen (by observation) were recorded during purging and prior to sampling Once purging was complete, ProTech field personnel collected groundwater samples from the dedicated pumps and tubing in laboratory-provided containers, and placed the samples in coolers with ice Groundwater wells MWB-2(S) and MWB-13(S) were dry during the sampling event, thus samples were unable to be collected for these wells On August 24, 2016, surface water samples were collected from two surface water monitoring points using a laboratory-provided container Instrument calibration records (FD 9000-8) are included in Appendix A, and completed groundwater sampling logs (FD 9000-24) are provided along with the laboratory report in Appendix B

TestAmerica –Savannah (TestAmerica), a Florida-certified laboratory (NELAP certification ID E87052), analyzed groundwater and surface water samples collected in August 2016 for the parameters identified in Section II and Section III, respectively, of the facility permit Water Quality Monitoring Plan

4.0 GROUNDWATER FLOW RATE AND DIRECTION EVALUATION

4.1 Groundwater Elevations and Flow Direction

Golder calculated groundwater elevations based on water levels measured on August 23, 2016, and top of well casing elevations surveyed relative to the National Geodetic Vertical Datum (NGVD) (Table 1) Figures 3, 4, and 5 show shallow, intermediate, and deep potentiometric contours for the surficial aquifer, respectively Groundwater flow beneath the Site in the uppermost aquifer is to the east at shallow, intermediate, and deep depths The direction of groundwater flow is consistent with measurements from previous monitoring events

4.2 Horizontal Hydraulic Gradients

Input parameters and hydraulic gradient calculations for the August 2016 monitoring event shallow, intermediate, and deep wells within the surficial aquifer are shown in Appendix C The shallow average horizontal hydraulic gradient was calculated between the 140-foot potentiometric contour and MWB-22(S), the intermediate average horizontal hydraulic gradient was calculated between the 135-foot potentiometric contour and MWB-12(I), and the deep average horizontal hydraulic gradient was calculated between the 130-foot contour and MWB-12 (D) Gradients were calculated along a flow path oriented perpendicular to the potentiometric contours The average Site hydraulic gradient, calculated as the mean of the shallow, intermediate, and deep hydraulic gradients is 0 010 ft/ft The results are generally consistent with historical gradient values for the Site

5.0 WATER QUALITY MONITORING RESULTS

5.1 Quality Assurance and Quality Control (QA/QC) Results

ProTech field personnel collected two field blanks during the August 2016 sampling event and submitted the samples with trip blanks in coolers containing volatile organic compound (VOC) samples to TestAmerica for analysis The samples were received in good condition, properly preserved, and at proper temperatures The laboratory provided additional QA/QC including analysis of method blanks, surrogates, laboratory control samples/laboratory control sample duplicates (LCS/LCSD), and matrix spike/matrix spike duplicates (MS/MSD) The laboratory did not qualify data based on field detections The QA/QC results for the laboratory reports associated with groundwater and surface water monitoring points from TestAmerica Laboratory Report 680-129072-1 are summarized below

- Several analytes were detected between method detection limits (MDLs) and practical quantitation limits (PQLs), these detections were qualified with an "I"
- Orthophosphate was analyzed outside of holding time for SW-1 and SW-3, the analytes are qualified with an "H"
- Re-analysis of Field Blank-1 was preformed outside of holding time due to the analyst inadvertently adding spiking solution to the sample on the first extraction, analytes EDM and DBCP are qualified with an "H"
- Surrogate compounds were inadvertently omitted during the extraction process for Field Blank-1 There was insufficient sample remaining to preform re-extraction and or re-analysis
- Surrogate recovery was biased high for MWB-20S, associated results were non-detect therefore no qualifications were required
- LCS and LCSD were biased high for bromoform and bromomethane in batch 447885 and LCS was biased high for bromomethane in batch 448234, associated results were non-detect and qualified with a "UJ"
- The % RPD for LCS/LCSD preparation batch 448234 recovered outside control limits for bromomethane, trichlorofluoromethane, and vinyl chloride, associated results were non-detect and qualified with a "UJ"
- The surrogate recovery for the method blank associated with analytical batch 448234 was biased high There were no detections in the method blank therefore no qualifications were required

Other QA/QC issues were not identified, therefore, the remaining results from the August 2016 event are considered acceptable without qualification

5.2 Laboratory Analysis Results

Tables 2A and 2B summarize laboratory analytical results for shallow and intermediate groundwater samples, respectively, Table 3 summarizes surface water samples Copies of the laboratory analytical reports are provided in Appendix B An electronic copy of the ADaPT software results is provided in Appendix D Groundwater Monitoring Report Certification is included as Appendix E

5.3 Field Parameter Measurement Results

Table 4 summarizes field parameter measurements for groundwater and surface water samples collected during this event Original field forms with parameter measurements are included at the end of the laboratory report in Appendix B

Groundwater field parameter readings and observations are consistent with those from previous semi-annual monitoring events Historically, the average pH increases with depth between the shallow and intermediate zones of the aquifer Turbidity values were lower than 12 nephelometric turbidity units (NTUs) with the exception of well MWB-29(I) and MWB-32(I), which had turbidity values of 17 22 NTU and 44 88 NTU respectively Surface water field parameter readings and observations are comparable to historical surface water measurements

6.0 COMPARISON TO ESTABLISHED STANDARDS

F A C Chapter 62-701 510 and the facility permit require comparison of water quality monitoring data to water quality standards specified in F A C Chapter 62-520 (Ground Water Classes, Standards, and Exemptions) and F A C Chapter 62-302 (Surface Water Quality Standards) The following sections present a description of the established standards and comparison of results for groundwater and surface water

6.1 Groundwater

6.1.1 Established Standards

F A C Chapter 62-520 establishes classes and standards for groundwater The primary maximum contaminant levels (MCLs) and secondary maximum contaminant levels (SMCLs) for parameters included in laboratory analysis are listed on Tables 2A and 2B The only field parameter with an established drinking water standard under F A C Rule 62-550 310 and 62 550 320 is pH, with an SMCL in the range of 6 5 to 8 5 Standard Units (S U) F A C Chapter 62-520 420 indicates that "if the concentration for any constituent listed in subsection (1) above in the natural background quality of the groundwater is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative natural background quality shall be the prevailing standard for Class G-I and Class G-II ground water "

6.1.2 Comparison of Groundwater Data to Established Standards

The groundwater monitoring results from the August 2106 event met minimum criteria established under F A C Chapter 62-520 400 and primary MCLs established under F A C Chapter 62-550 310 SMCL exceedances were measured for iron and pH These exceedances are summarized below

Iron (SMCL 0.3 milligrams per liter (mg/L))

- Shallow wells MWB-3(S), MWB-11(S), MWB-29(S), MWB-32(S), and MWB-34(S)
- Intermediate wells MWB-2(I), MWB-3(I), MWB-11(IR), MWB-12(I), MWB-27(I), MWB-29(I), MWB-32(I), and MWB-34(I)

pH (SMCL 6.5 to 8.5 S.U.)

- Shallow wells All measured background, compliance, and detection well values were below 6 5 S U
- Intermediate wells All background, compliance, and detection well values were below 6 5 S U

The above SMCL exceedances have been historically detected and reported to FDEP, no new SMCL exceedances require reporting under F A C Chapter 62-701 510 Iron and pH have also been detected in background wells at concentrations greater than (or, in the case of pH, less than) the associated SMCL

These SMCL exceedances, therefore, appear to be related to natural subsurface conditions rather than landfill impacts

6.2 Surface Water

6.2.1 Established Standards

Surface water analytical results were compared to Class I and Class III criteria Standards for these two classes are provided in Table 3 for laboratory parameters and Table 4 for field parameters In some cases, F A C Chapter 62-302 530 requires calculations for Class I and III standards based on sample hardness Table 5 provides equations and calculation results for analytes that require standard calculation, including cadmium, chromium, copper, lead, nickel, and zinc

6.2.2 Comparison of Surface Water Data to Established Standards

The following detections exceeded Class I/III surface water quality standards (WQS) identified in Table 3 (laboratory parameters), Table 4 (field parameters), and/or Table 5 (calculated standards)

Mercury (Class I/III -0.012 ug/L)

- SW-3

pH (SMCL 6.5 to 8.5 S.U.)

- SW-1

All exceedances have been historically detected at surface water locations at comparable concentrations exceeding the applicable WQS, and likely does not represent a landfill impact Ongoing efforts to reduce total suspended solids and metals concentrations have been successful Only mercury exceeded applicable WQS during the August 2016 event The Trail Ridge Landfill developed and submitted standard operating procedures (SOP) under separate cover that addresses remedial action for SW-3 exceedances The Trail Ridge Landfill has initiated select activities from the SOP, including flocculation to reduce metals concentrations at the surface water location

7.0 DISCUSSION AND RECOMMENDATIONS

Analyte detections and exceedances observed during this event for both groundwater and surface water are consistent with historical conditions and/or background water quality No new exceedances require reporting under F A C Chapter 62-701 510 Based on these findings, Golder recommends continued semi-annual detection monitoring in accordance with F A C Chapter 62-701 and the facility permit The next groundwater and surface water monitoring event should be conducted prior to March 30, 2017

Elevated turbidity readings have been observed at well MWB-2(S) since the July 2014 semi-annual event The well was unsuccessfully redeveloped in February 2015 During the S1 2016 event a 1 micron field filtered sample was collected in addition to the total metals sample, and Golder provided recommendations for improvement of the well, including the redevelopment of MWB-2(S) (according to the procedures in Section 4 0 of the FDEP Monitoring Well Design Construction Manual and outlined in the S1 2016 report) if turbidity remains elevated MWB-2(S) was dry during the August 2016 sampling event and samples were not able to be collected, thus readings are unavailable Pending results for the S1 2017 monitoring event for MWB-2(S), redevelopment of the well shall be re-evaluated

8.0 PROFESSIONAL CERTIFICATION

I hereby certify that I have supervised the current field work and preparation of this report, in accordance with Chapter 62-701, Florida Solid Waste Management Facility Regulations As a registered professional geologist, I certify that I am a qualified professional with knowledge and experience in water quality assessment To the best of my knowledge, the information and laboratory data summarized in this report (including the applicable attachments) are true, accurate, complete, and in accordance with applicable State Rules and Regulations

GOLDER ASSOCIATES INC.

Robert M Wojcik, PG
Associate and Senior Consultant
Florida Professional Geologist No 2257

October 27, 2016

ROBERT M. WOJCIK
LICENSE
NO 2257
STATE OF
FLORIDA
PROFESSIONAL GEOLOGIST

9.0 REFERENCES

Florida Administrative Code (F A C) Rules 62-160, 62-302, 62-520, 62-550, 62-701, and 62-711

Florida Department of Environmental Protection, DEP-SOP-001/01

Florida Department of Environmental Protection, Notice of Permit, June 16, 2014, Permit Number 0013493-025-SO-01

TABLES

TABLE 1
Water Level Measurements
Trail Ridge Landfill, Jacksonville, Florida

Well ID	TOC Elevation	Screened Interval	Depth to Water	Groundwater Elevation
	(ft MSL)	(ft BTOC)	(ft BTOC)	(ft MSL)
Shallow Wells				
MWB-2(S)	146 64	10 00 to 20 00	DRY	<126 64
MWB-3(S)	154 38	10 00 to 20 00	10 38	144 00
MWB-7(S)	123 29	10 00 to 20 00	11 17	112 12
MWB-11(S)	120 81	9 50 to 19 50	DRY	<101 31
MWB-12(S)	124 63	14 50 to 24 50	11 73	112 90
MWB-13(S)	126 05	16 56 to 26 56	DRY	<99 49
MWB-20(S)	121 01	10 00 to 20 00	10 55	110 46
MWB-21(S)	122 84	13 00 to 18 00	11 34	111 50
MWB-22(S)	126 97	16 00 to 26 00	12 92	114 05
MWB-27(S)	128 42	10 50 to 15 50	10 09	118 33
MWB-29(S)	138 02	10 00 to 20 00	9 41	128 61
MWB-32(S)	124 64	14 90 to 19 90	10 65	113 99
MWB-33(S)	125 90	10 30 to 20 30	11 65	114 25
MWB-34(S)	125 78	13 36 to 18 36	10 57	115 21
Intermediate Wells				
MWB-2(I)	145 73	51 50 to 61 50	14 23	131 50
MWB-3(I)	151 86	52 00 to 62 00	16 18	135 68
MWB-7(I)	121 53	55 00 to 65 00	9 40	112 13
MWB-11(IR)	120 43	45 00 to 55 00	16 59	103 84
MWB-12(I)	124 62	61 50 to 71 50	11 65	112 97
MWB-13(I)	125 98	50 40 to 60 40	19 62	106 36
MWB-27(I)	128 63	52 50 to 62 50	11 47	117 16
MWB-29(I)	138 08	53 50 to 63 50	10 58	127 50
MWB-32(I)	124 79	54 56 to 64 56	11 54	113 25
MWB-34(I)	125 80	43 95 to 53 95	12 32	113 48
Deep Wells				
MWB-7(D)	121 65	107 00 to 117 00	5 80	115 85
MWB-12(D)	124 56	102 00 to 112 00	9 37	115 19
MWB-27(D)	128 88	110 00 to 110 00	11 85	117 03
MWB-29(D)	138 18	100 50 to 110 50	10 70	127 48
MWB-31(D)	156 15	119 00 to 129 00	21 16	134 99
MWB-32(D)	124 93	98 81 to 108 81	11 78	113 15
MWB-34(D)	125 92	90 78 to 100 78	12 54	113 38

Notes

TOC - top of casing, ft BTOC - feet below top of casing, ft MSL - feet above mean sea level, NM - Not Measured

Depth to water measurements collected by ProTech on August 23, 2016 Top of casing elevations based on groundwater well survey data provided in October 2010 potentiometric maps (HDR Engineering)

Table 2A
Summary of Groundwater Analytical Results - Shallow
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	MCL	SMCL	MWB-2S	MWB-3S	MWB-11S	MWB-12S	MWB-13S	MWB-20S	MWB-21S
Laboratory Method EPA 8260										
1,1,1,2-Tetrachloroethane	ug/L			NA	< 0 37	< 0 37	< 0 37	NA	< 0 37	< 0 37
1,1,1-Trichloroethane	ug/L	200		NA	< 0 37	< 0 37	< 0 37	NA	< 0 37	< 0 37
1,1,2,2-Tetrachloroethane	ug/L			NA	< 0 62	< 0 62	< 0 62	NA	< 0 62	< 0 62
1,1,2-Trichloroethane	ug/L	5		NA	< 0 33	< 0 33	< 0 33	NA	< 0 33	< 0 33
1,1-Dichloroethane	ug/L			NA	< 0 38	< 0 38	< 0 38	NA	< 0 38	< 0 38
1,1-Dichloroethene	ug/L	7		NA	< 0 36	< 0 36	< 0 36	NA	< 0 36	< 0 36
1,2,3-Trichloropropane	ug/L			NA	< 0 39	< 0 39	< 0 39	NA	< 0 39	< 0 39
1,2-Dibromo-3-Chloropropane	ug/L	0 2		NA	< 1 1	< 1 1	< 1 1	NA	< 1 1	< 1 1
1,2-Dibromoethane	ug/L	0 02		NA	< 0 44	< 0 44	< 0 44	NA	< 0 44	< 0 44
1,2-Dichlorobenzene	ug/L	600		NA	< 0 37	< 0 37	< 0 37	NA	< 0 37	< 0 37
1,2-Dichloroethane	ug/L	3		NA	< 0 5	< 0 5	< 0 5	NA	< 0 5	< 0 5
1,2-Dichloropropane	ug/L	5		NA	< 0 67	< 0 67	< 0 67	NA	< 0 67	< 0 67
1,4-Dichlorobenzene	ug/L	75		NA	< 0 46	< 0 46	< 0 46	NA	< 0 46	< 0 46
2-Butanone	ug/L			NA	< 3 4	< 3 4	< 3 4	NA	< 3 4	< 3 4
2-Hexanone	ug/L			NA	< 2	< 2	< 2	NA	< 2	< 2
4-Methyl-2-pentanone	ug/L			NA	< 2 1	< 2 1	< 2 1	NA	< 2 1	< 2 1
Acetone	ug/L			NA	< 7	< 7	< 7	NA	< 7	< 7
Acrylonitrile	ug/L			NA	< 10	< 10	< 10	NA	< 10	< 10
Benzene	ug/L	1		NA	< 0 43	< 0 43	< 0 43	NA	< 0 43	< 0 43
Bromochloromethane	ug/L			NA	< 0 45	< 0 45	< 0 45	NA	< 0 45	< 0 45
Bromodichloromethane	ug/L			NA	< 0 44	< 0 44	< 0 44	NA	< 0 44	< 0 44
Bromoform	ug/L			NA	< 0 43	< 0 43	< 0 43	NA	< 0 43	< 0 43
Bromomethane	ug/L			NA	< 2 5	< 2 5	< 2 5	NA	< 2 5	< 2 5
Carbon disulfide	ug/L			NA	< 1	< 1	< 1	NA	< 1	< 1
Carbon tetrachloride	ug/L	3		NA	< 0 33	< 0 33	< 0 33	NA	< 0 33	< 0 33
Chlorobenzene	ug/L	100		NA	< 0 26	< 0 26	< 0 26	NA	< 0 26	< 0 26
Chloroethane	ug/L			NA	< 2 5	< 2 5	< 2 5	NA	< 2 5	< 2 5
Chloroform	ug/L			NA	< 0 5	< 0 5	< 0 5	NA	< 0 5	< 0 5
Chloromethane	ug/L			NA	< 0 4	< 0 4	< 0 4	NA	< 0 4	< 0 4
cis-1,2-Dichloroethene	ug/L	70		NA	< 0 41	< 0 41	< 0 41	NA	< 0 41	< 0 41
cis-1,3-Dichloropropene	ug/L			NA	< 0 4	< 0 4	< 0 4	NA	< 0 4	< 0 4
Dibromochloromethane	ug/L			NA	< 0 32	< 0 32	< 0 32	NA	< 0 32	< 0 32
Dibromomethane	ug/L			NA	< 0 35	< 0 35	< 0 35	NA	< 0 35	< 0 35
Ethylbenzene	ug/L	700		NA	< 0 33	< 0 33	< 0 33	NA	< 0 33	< 0 33
Iodomethane	ug/L			NA	< 5	< 5	< 5	NA	< 5	< 5
Methylene chloride	ug/L	5		NA	< 2 5	< 2 5	< 2 5	NA	< 2 5	< 2 5
Styrene	ug/L	100		NA	< 0 27	< 0 27	< 0 27	NA	< 0 27	< 0 27
Tetrachloroethene	ug/L	3		NA	< 0 74	< 0 74	< 0 74	NA	< 0 74	< 0 74
Toluene	ug/L	1000		NA	< 0 48	< 0 48	< 0 48	NA	< 0 48	< 0 48
trans-1,2-Dichloroethene	ug/L	100		NA	< 0 37	< 0 37	< 0 37	NA	< 0 37	< 0 37
trans-1,3-Dichloropropene	ug/L			NA	< 0 42	< 0 42	< 0 42	NA	< 0 42	< 0 42
trans-1,4-Dichloro-2-butene	ug/L			NA	< 0 51	< 0 51	< 0 51	NA	< 0 51	< 0 51
Trichloroethene	ug/L	3		NA	< 0 48	< 0 48	< 0 48	NA	< 0 48	< 0 48
Trichlorofluoromethane	ug/L			NA	< 0 42	< 0 42	< 0 42	NA	< 0 42	< 0 42
Vinyl acetate	ug/L			NA	< 0 81	< 0 81	< 0 81	NA	< 0 81	< 0 81
Vinyl chloride	ug/L	1		NA	< 0 5	< 0 5	< 0 5	NA	< 0 5	< 0 5
Xylenes, Total	ug/L	10000		NA	< 0 23	< 0 23	< 0 23	NA	< 0 23	< 0 23
Laboratory Method EPA 8011										
1,2-Dibromo-3-Chloropropane	ug/L	0 2		NA	< 0 0049	< 0 0048	< 0 0049	NA	< 0 0048	< 0 0049
1,2-Dibromoethane	ug/L	0 02		NA	< 0 0021	< 0 0021	< 0 0022	NA	< 0 0021	< 0 0022

Notes

ug/L - micrograms per liter, mg/L - milligrams per liter, NA - not analyzed

MCL - Maximum Contaminant Level, SMCL - Secondary Contaminant Level (FDEP Chapter 62-550)

I - Reported value between method detection limit and practical quantitation limit

Bold values indicate detections above the laboratory detection limit Greyed cells indicate an MCL/SMCL exceedance

Golder Associates

Table 2A
Summary of Groundwater Analytical Results - Shallow
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	MCL	SMCL	MWB-22S	MWB-27S	MWB-29S	MWB-32S	MWB-33S	MWB-34S
Laboratory Method EPA 8260									
1,1,1,2-Tetrachloroethane	ug/L			< 0 37	< 0 37	< 0 37	< 0 37	< 0 37	< 0 37
1,1,1-Trichloroethane	ug/L	200		< 0 37	< 0 37	< 0 37	< 0 37	< 0 37	< 0 37
1,1,2,2-Tetrachloroethane	ug/L			< 0 62	< 0 62	< 0 62	< 0 62	< 0 62	< 0 62
1,1,2-Trichloroethane	ug/L	5		< 0 33	< 0 33	< 0 33	< 0 33	< 0 33	< 0 33
1,1-Dichloroethane	ug/L			< 0 38	< 0 38	< 0 38	< 0 38	< 0 38	< 0 38
1,1-Dichloroethene	ug/L	7		< 0 36	< 0 36	< 0 36	< 0 36	< 0 36	< 0 36
1,2,3-Trichloropropane	ug/L			< 0 39	< 0 39	< 0 39	< 0 39	< 0 39	< 0 39
1,2-Dibromo-3-Chloropropane	ug/L	0 2		< 1 1	< 1 1	< 1 1	< 1 1	< 1 1	< 1 1
1,2-Dibromoethane	ug/L	0 02		< 0 44	< 0 44	< 0 44	< 0 44	< 0 44	< 0 44
1,2-Dichlorobenzene	ug/L	600		< 0 37	< 0 37	< 0 37	< 0 37	< 0 37	< 0 37
1,2-Dichloroethane	ug/L	3		< 0 5	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
1,2-Dichloropropane	ug/L	5		< 0 67	< 0 67	< 0 67	< 0 67	< 0 67	< 0 67
1,4-Dichlorobenzene	ug/L	75		< 0 46	< 0 46	< 0 46	< 0 46	< 0 46	< 0 46
2-Butanone	ug/L			< 3 4	< 3 4	< 3 4	< 3 4	< 3 4	< 3 4
2-Hexanone	ug/L			< 2	< 2	< 2	< 2	< 2	< 2
4-Methyl-2-pentanone	ug/L			< 2 1	< 2 1	< 2 1	< 2 1	< 2 1	< 2 1
Acetone	ug/L			< 7	< 7	< 7	< 7	< 7	< 7
Acrylonitrile	ug/L			< 10	< 10	< 10	< 10	< 10	< 10
Benzene	ug/L	1		< 0 43	< 0 43	< 0 43	< 0 43	< 0 43	< 0 43
Bromochloromethane	ug/L			< 0 45	< 0 45	< 0 45	< 0 45	< 0 45	< 0 45
Bromodichloromethane	ug/L			< 0 44	< 0 44	< 0 44	< 0 44	< 0 44	< 0 44
Bromoform	ug/L			< 0 43	< 0 43	< 0 43	< 0 43	< 0 43	< 0 43
Bromomethane	ug/L			< 2 5	< 2 5	< 2 5	< 2 5	< 2 5	< 2 5
Carbon disulfide	ug/L			< 1	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	ug/L	3		< 0 33	< 0 33	< 0 33	< 0 33	< 0 33	< 0 33
Chlorobenzene	ug/L	100		< 0 26	< 0 26	< 0 26	< 0 26	< 0 26	< 0 26
Chloroethane	ug/L			< 2 5	< 2 5	< 2 5	< 2 5	< 2 5	< 2 5
Chloroform	ug/L			< 0 5	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Chloromethane	ug/L			< 0 4	< 0 4	< 0 4	< 0 4	< 0 4	< 0 4
cis-1,2-Dichloroethene	ug/L	70		< 0 41	< 0 41	< 0 41	< 0 41	< 0 41	< 0 41
cis-1,3-Dichloropropene	ug/L			< 0 4	< 0 4	< 0 4	< 0 4	< 0 4	< 0 4
Dibromochloromethane	ug/L			< 0 32	< 0 32	< 0 32	< 0 32	< 0 32	< 0 32
Dibromomethane	ug/L			< 0 35	< 0 35	< 0 35	< 0 35	< 0 35	< 0 35
Ethylbenzene	ug/L	700		< 0 33	< 0 33	< 0 33	< 0 33	< 0 33	< 0 33
Iodomethane	ug/L			< 5	< 5	< 5	< 5	< 5	< 5
Methylene chloride	ug/L	5		< 2 5	< 2 5	< 2 5	< 2 5	< 2 5	< 2 5
Styrene	ug/L	100		< 0 27	< 0 27	< 0 27	< 0 27	< 0 27	< 0 27
Tetrachloroethene	ug/L	3		< 0 74	< 0 74	< 0 74	< 0 74	< 0 74	< 0 74
Toluene	ug/L	1000		< 0 48	< 0 48	< 0 48	< 0 48	< 0 48	< 0 48
trans-1,2-Dichloroethene	ug/L	100		< 0 37	< 0 37	< 0 37	< 0 37	< 0 37	< 0 37
trans-1,3-Dichloropropene	ug/L			< 0 42	< 0 42	< 0 42	< 0 42	< 0 42	< 0 42
trans-1,4-Dichloro-2-butene	ug/L			< 0 51	< 0 51	< 0 51	< 0 51	< 0 51	< 0 51
Trichloroethene	ug/L	3		< 0 48	< 0 48	< 0 48	< 0 48	< 0 48	< 0 48
Trichlorofluoromethane	ug/L			< 0 42	< 0 42	< 0 42	< 0 42	< 0 42	< 0 42
Vinyl acetate	ug/L			< 0 81	< 0 81	< 0 81	< 0 81	< 0 81	< 0 81
Vinyl chloride	ug/L	1		< 0 5	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Xylenes, Total	ug/L	10000		< 0 23	< 0 23	< 0 23	< 0 23	< 0 23	< 0 23
Laboratory Method EPA 8011									
1,2-Dibromo-3-Chloropropane	ug/L	0 2		< 0 0049	< 0 0048	< 0 0049	< 0 0049	< 0 0049	< 0 0049
1,2-Dibromoethane	ug/L	0 02		< 0 0021	< 0 0021	< 0 0022	< 0 0022	< 0 0021	< 0 0021

Notes

ug/L - micrograms per liter mg/L - milligrams per liter, NA - not analyzed

MCL - Maximum Contaminant Level, SMCL - Secondary Contaminant Level (FDEP Chapter 62-550)

I - Reported value between method detection limit and practical quantitation limit

Bold values indicate detections above the laboratory detection limit Greyed cells indicate an MCL/SMCL exceedance

Golder Associates

Table 2A
Summary of Groundwater Analytical Results - Shallow
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	MCL	SMCL	MWB-2S	MWB-3S	MWB-11S	MWB-12S	MWB-13S	MWB-20S	MWB-21S
Laboratory Method EPA 300.0										
Chloride	**mg/L**		250	NA	**7.6**	**16**	**44**	NA	**280**	**25**
Laboratory Method EPA 350.1										
Ammonia (N)	mg/L			NA	< 0.10	<0.10	**0.22 I**	NA	**3.8**	<0.10
Laboratory Method EPA 353.2 (Nitrate (N))										
Nitrate (N)	mg/L	10		NA	<0.010	**0.018 I**	**0.038 I**	NA	**0.072**	**7.0**
Laboratory Method EPA 6020										
Antimony	ug/L	6		NA	< 0.50	< 0.50	< 0.50	NA	< 0.50	**0.50 I**
Arsenic	ug/L	10		NA	< 1.5	< 1.5	< 1.5	NA	< 1.5	< 1.5
Barium	ug/L	2000		NA	**15**	**68**	**5.8**	NA	**26**	**19**
Beryllium	ug/L	4		NA	< 0.17	<0.17	< 0.17	NA	< 0.17	< 0.17
Cadmium	ug/L	5		NA	< 0.15	< 0.15	< 0.15	NA	< 0.15	< 0.15
Chromium	ug/L	100		NA	< 1.6	< 1.6	<1.6	NA	**1.9 I**	**2.4 I**
Cobalt	ug/L			NA	< 0.12	**0.53**	<0.12	NA	**0.22 I**	**0.17 I**
Copper	ug/L		1000	NA	< 1.7	< 1.7	<1.7	NA	< 1.7	**4.8 I**
Iron	ug/L		300	NA	**2700**	**1400**	**200**	NA	**280**	**190**
Lead	ug/L	15		NA	< 0.98	< 0.98	<0.98	NA	< 0.98	< 0.98
Nickel	ug/L	100		NA	< 1.9	< 1.9	< 1.9	NA	< 1.9	< 1.9
Selenium	ug/L	50		NA	< 1	< 1	**2.4 I**	NA	< 1	**7.4**
Silver	ug/L		100	NA	< 0.10	< 0.10	< 0.10	NA	< 0.10	< 0.10
Sodium	ug/L	160000		NA	**4100**	**11000**	**25000**	NA	**120000**	**15000**
Thallium	ug/L	2		NA	< 0.49	< 0.49	< 0.49	NA	< 0.49	< 0.49
Vanadium	ug/L			NA	< 3.8	< 3.8	**15**	NA	**5.7 I**	**16**
Zinc	ug/L		5000	NA	< 9.6	< 9.6	< 9.6	NA	< 9.6	< 9.6
Laboratory Method SM18 2540 C										
Total Dissolved Solids (TDS)	mg/L		500	NA	**35**	**87**	**200**	NA	**560**	**210**
Laboratory Method EPA 7470										
Mercury	ug/L	2		NA	< 0.080	< 0.080	< 0.080	NA	< 0.080	< 0.080

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter; NA - not analyzed

MCL - Maximum Contaminant Level; SMCL - Secondary Contaminant Level (FDEP Chapter 62-550)

I - Reported value between method detection limit and practical quantitation limit

Bold values indicate detections above the laboratory detection limit; Greyed cells indicate an MCL/SMCL exceedance.

Table 2A
Summary of Groundwater Analytical Results - Shallow
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	MCL	SMCL	MWB-22S	MWB-27S	MWB-29S	MWB-32S	MWB-33S	MWB-34S
Laboratory Method EPA 300.0									
Chloride	mg/L		250	**10**	**33**	**17**	**12**	**6.8**	**21**
Laboratory Method EPA 350.1									
Ammonia (N)	mg/L			**0.11 I**	**1.1**	**0.35**	**0.68**	**0.72**	**1.1**
Laboratory Method EPA 353.2 (Nitrate (N))									
Nitrate (N)	mg/L	10		<0.10	<0.10	**0.037 I**	<0.10	<0.10	**0.099**
Laboratory Method EPA 6020									
Antimony	ug/L	6		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Arsenic	ug/L	10		< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Barium	ug/L	2000		**4.8 I**	**7.5**	**20**	**27**	**8.3**	**6.8**
Beryllium	ug/L	4		< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
Cadmium	ug/L	5		< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Chromium	ug/L	100		< 1.6	**1.7 I**	< 1.6	< 1.6	< 1.6	**1.7 I**
Cobalt	ug/L			< 0.12	**0.18 I**	**0.22 I**	**0.35 I**	< 0.12	**0.35 I**
Copper	ug/L		1000	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	**1.7 I**
Iron	ug/L		300	**120**	**250**	**420**	**790**	**130**	**430**
Lead	ug/L	15		< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98
Nickel	ug/L	100		< 1.9	**2.4 I**	< 1.9	< 1.9	< 1.9	< 1.9
Selenium	ug/L	50		<1	<1	<1	< 1	<1	**2.4 I**
Silver	ug/L		100	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sodium	ug/L	160000		**9100**	**26000**	**13000**	**8400**	**4000**	**18000**
Thallium	ug/L	2		< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49
Vanadium	ug/L			< 5.3	**6.1 I**	< 5.3	< 5.3	< 5.3	**13**
Zinc	ug/L		5000	< 9.6	< 9.6	< 9.6	< 9.6	< 9.6	**10 I**
Laboratory Method SM18 2540 C									
Residues- Filterable (TDS)	mg/L		500	**180**	**160**	**84**	**99**	**120**	**220**
Laboratory Method EPA 7470									
Mercury	ug/L	2		< 0.080	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter; NA - not analyzed

MCL - Maximum Contaminant Level; SMCL - Secondary Contaminant Level (FDEP Chapter 62-550)

I - Reported value between method detection limit and practical quantitation limit

Bold values indicate detections above the laboratory detection limit; Greyed cells indicate an MCL/SMCL exceedance.

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Table 2B
Summary of Groundwater Analytical Results - Intermediate
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	MCL	SMCL	MWB2I	MWB3I	MWB11(IR)	MWB12I	MWB13I	MWB27I	MWB29I	MWB32I	MWB34I
Laboratory Method EPA 300.0												
Chloride	mg/L		250	**6.2**	**6.1**	**5.1**	**5.0**	**5.0**	**5.2**	**5.8**	**5.0**	**5.2**
Laboratory Method EPA 350.1												
Ammonia (N)	mg/L			< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Laboratory Method EPA 353.2 (Nitrate (N))												
Nitrate (N)	mg/L	10		< 0.01	< 0.01	**0.018 I**	< 0.01	< 0.01	**0.018 I**	< 0.01	< 0.01	< 0.01
Laboratory Method EPA 6020												
Iron	ug/L		300	**320**	**860**	**440**	**350**	**290**	**440**	**410**	**380**	**380**
Sodium	ug/L	160000		**4300**	**3800**	**3100**	**3100**	**3000**	**3400**	**3900**	**3400**	**3400**
Laboratory Method SM18 2540 C												
Total Dissolved Solids (TDS)	mg/L		500	**38**	**51**	**56.0**	**85**	**54**	**63**	**41**	**47**	**47**

Notes:

ug/L - micrograms per liter; mg/L - milligrams per liter; NA- Not analyzed

MCL - Maximum Contaminant Level; SMCL - Secondary Contaminant Level (FDEP Chapter 62-550)

I - Reported value between method detection limit and practical quantitation limit;

Bold values indicate detections above the laboratory detection limit; Greyed cells indicate an MCL/SMCL exceedance.

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Table 3
Summary of Surface Water Analytical Results
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	ClassIWQS	ClassIIIWQS	SW-1	SW-3
Laboratory Method EPA 353.2 (Nitrate (N))					
Nitrate (N)	mg/L	10		< 0.010	**0.35**
Laboratory Method EPA 365.4					
Phosphorus- Total	mg/L			**0.079 I**	**0.13**
Laboratory Method EPA 6020					
Antimony	ug/L	14	4300	< 0.5	**0.80 I**
Arsenic	ug/L	10	50	< 1.5	**2.3 I**
Barium	ug/L	1000		**19**	**41**
Beryllium	ug/L	0.0077	0.13	< 0.17	< 0.17
Cadmium	ug/L	Calc	Calc	< 0.15	< 0.15
Chromium	ug/L	Calc	Calc	<1.6	**4.9 I**
Cobalt	ug/L			< 0.12	**0.63**
Copper	ug/L	Calc	Calc	**2.3 I**	**1.9 I**
Iron	ug/L	1000	1000	**300**	**600**
Lead	ug/L	Calc	Calc	**1.1 I**	**4.6**
Nickel	ug/L	Calc	Calc	< 1.9	**5.6**
Selenium	ug/L	5	5	< 1.0	**1.1 I**
Silver	ug/L	0.07	0.07	< 0.1	< 0.1
Thallium	ug/L	1.7	6.3	< 0.49	< 0.49
Vanadium	ug/L			< 5.3	**7.2 I**
Zinc	ug/L	Calc	Calc	< 9.6	< 9.6
Laboratory Method EPA 1631					
Mercury	ug/L	0.012	0.012	**0.0042**	**0.020**
Laboratory Method FDEP DEP-SOP					
Ammonia- Un-ionized (NH3)	ug/L	20	20	< 0.017	**0.0099**
Laboratory Method SM18 10200 H					
Chlorophyll a	mg/L			**25**	**7.2**
Laboratory Method SM18 2340 B					
Hardness- Calculated	mg/L			**87**	**150**
Laboratory Method SM18 2540 C					
Residues- Filterable (TDS)	mg/L			**140**	**420**
Laboratory Method SM18 2540 D					
Residues- Nonfilterable (TSS)	mg/L			**14**	**13**
Laboratory Method SM18 5210 B					
BOD	mg/L			**4.4**	**4.3**
Laboratory Method SM18 5220 D					
Chemical Oxygen Demand	mg/L			**43**	**82**
Laboratory Method SM18 5310 C					
Carbon- Total Organic	mg/L			**10**	**28**
Laboratory Method SM18 9222 D (MF)					
Coliform Fecal	CFU/100 mL	800	800	**480**	**420**
Laboratory Method Total Nitrogen					
Nitrogen- Total	mg/L			**0.93**	**4.5**
Laboratory Method SM18 4500 P F					
Orthophosphate	mg/L			< 0.016 Q	< 0.016 Q

Notes:

ug/L = micrograms per liter; mg/L = milligrams per liter; I = Reported value between method detection limit and practical quantitation limit; Q=Sample held beyond the accepted holding time.

Calc. indicates standard calculated based on sample hardness (see Table 5 for calculated values and comparison).

Bold values indicate detections above the laboratory detection limit

WQS = Water Quality Standard, Class I (potable) and Class III (freshwater) (FDEP Chapter 62-302)

Greyed cell indicates a WQS exceedance.

Golder Associates

Table 3
Summary of Surface Water Analytical Results
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	ClassIWQS	ClassIIIWQS	SW-1	SW-3
Laboratory Method EPA 8011					
1,2-Dibromo-3-Chloropropane	ug/L			< 0.0049	< 0.0050
1,2-Dibromoethane	ug/L			< 0.0022	< 0.0022
Laboratory Method EPA 8260					
1,1,1,2-Tetrachloroethane	ug/L			< 0.37	< 0.37
1,1,1-Trichloroethane	ug/L			< 0.37	< 0.37
1,1,2,2-Tetrachloroethane	ug/L	0.17	10.8	< 0.62	< 0.62
1,1,2-Trichloroethane	ug/L			< 0.33	< 0.33
1,1-Dichloroethane	ug/L			< 0.38	< 0.38
1,1-Dichloroethene	ug/L	7	3.2	< 0.36	< 0.36
1,2,3-Trichloropropane	ug/L			< 0.39	< 0.39
1,2-Dibromo-3-Chloropropane	ug/L			< 1.1	< 1.1
1,2-Dibromoethane	ug/L			< 0.44	< 0.44
1,2-Dichlorobenzene	ug/L			< 0.37	< 0.37
1,2-Dichloroethane	ug/L			< 0.50	< 0.50
1,2-Dichloropropane	ug/L			< 0.67	< 0.67
1,4-Dichlorobenzene	ug/L			< 0.46	< 0.46
2-Butanone	ug/L			< 3.4	< 3.4
2-Hexanone	ug/L			< 2.0	< 2.0
4-Methyl-2-pentanone	ug/L			< 2.1	< 2.1
Acetone	ug/L			< 7.0	< 7.0
Acrylonitrile	ug/L			< 10	< 10
Benzene	ug/L	1.18	71.28	< 0.43	< 0.43
Bromochloromethane	ug/L			< 0.45	< 0.45
Bromodichloromethane	ug/L	0.27	22	< 0.32	< 0.32
Bromoform	ug/L	4.3	360	< 0.43	< 0.43
Bromomethane	ug/L			< 2.5	< 2.5
Carbon disulfide	ug/L			< 1.0	< 1.0
Carbon tetrachloride	ug/L	3	4.42	< 0.33	< 0.33
Chlorobenzene	ug/L			< 0.26	< 0.26
Chloroethane	ug/L			< 2.5	< 2.5
Chloroform	ug/L	5.67	470.8	< 0.50	< 0.50
Chloromethane	ug/L	5.67	470.8	< 0.40	< 0.40
cis-1,2-Dichloroethene	ug/L			< 0.41	< 0.41
cis-1,3-Dichloropropene	ug/L			< 0.40	< 0.40
Dibromochloromethane	ug/L	0.41	34	< 0.32	< 0.32
Dibromomethane	ug/L			< 0.35	< 0.35
Ethylbenzene	ug/L			< 0.33	< 0.33
Iodomethane	ug/L			< 5.0	< 5.0
Methylene chloride	ug/L	4.65	1580	< 2.5	< 2.5
Styrene	ug/L			< 0.27	< 0.27
Tetrachloroethene	ug/L	3	8.85	< 0.74	< 0.74
Toluene	ug/L			< 0.48	< 0.48
trans-1,2-Dichloroethene	ug/L			< 0.37	< 0.37
trans-1,3-Dichloropropene	ug/L			< 0.42	< 0.42
trans-1,4-Dichloro-2-butene	ug/L			< 0.51	< 0.51
Trichloroethene	ug/L	3	80.7	< 0.48	< 0.48
Trichlorofluoromethane	ug/L			< 0.42	< 0.42
Vinyl acetate	ug/L			< 0.81	< 0.81
Vinyl chloride	ug/L			< 0.50	< 0.50
Xylenes, Total	ug/L			< 0.23	< 0.23

Notes:

ug/L = micrograms per liter; mg/L = milligrams per liter; I = Reported value between method detection limit and practical quantitation limit

Golder Associates

Table 3
Summary of Surface Water Analytical Results
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Unit	ClassIWQS	ClassIIIWQS	SW-1	SW-3

Calc. indicates standard calculated based on sample hardness (see Table 5 for calculated values and comparison).

Bold values indicate detections above the laboratory detection limit

WQS = Water Quality Standard, Class I (potable) and Class III (freshwater) (FDEP Chapter 62-302)

Greyed cell indicates a WQS exceedance.

TABLE 4
Groundwater and Surface Water Field Parameter Summary
Trail Ridge Landfill, Jacksonville, Florida

Well ID	pH	Dissolved Oxygen	Specific Conductivity	Temperature	Turbidity	Color	Sheen
	(SU)	(mg/L)	(uS/cm)	(°C)	(NTU)	(by observation)	
Drinking Water SMCL:	6.5 to 8.5	--	--	--	--	--	--
Class I/III WQS:	Vary 1 Unit	<5.0	1,275 or 50%	--	29 > BG	--	--
Shallow Wells							
MWB-2(S)	NA	NA	NA	NA	NA	NA	NA
MWB-3(S)	4.55	0.2	61	25.7	3.81	None	None
MWB-11(S)	4.10	0.5	159	26.5	3.27	None	None
MWB-12(S)	5.65	1.4	296	27.3	11.96	Lt. Brown	None
MWB-13(S)	NA	NA	NA	NA	NA	NA	NA
MWB-20(S)	4.01	0.4	691	36.4	5.19	None	None
MWB-21(S)	4.96	0.3	265	27.1	4.02	Slt. Yellow	None
MWB-22(S)	5.87	0.2	274	27.2	3.08	None	None
MWB-27(S)	5.18	0.0	353	26.1	4.74	None	None
MWB-29(S)	4.44	0.0	101	28.7	1.98	None	None
MWB-32(S)	4.74	0.0	72	25.6	7.24	None	None
MWB-33(S)	5.48	0.2	163	26.8	3.83	Slt. Yellow	None
MWB-34(S)	5.88	0.0	283	26.4	4.56	None	None
Intermediate Wells							
MWB-2(I)	4.56	0.2	35	22.0	2.42	None	None
MWB-3(I)	4.62	0.1	41	23.1	2.52	None	None
MWB-11(IR)	4.71	0.0	38	25.7	4.87	None	None
MWB-12(I)	4.84	0.2	42	25.4	2.48	None	None
MWB-13(I)	5.06	0.2	40	27.2	4.04	None	None
MWB-27(I)	5.32	0.0	41	23.6	3.97	None	None
MWB-29(I)	4.93	0.0	31	26.1	17.22	None	None
MWB-32(I)	5.36	0.0	22	23.6	44.88	Whitish Tint	None
MWB-34(I)	5.07	0.0	23	26.3	8.24	None	None
Surface Water February 2015 Event							
SW-1	6.34	3.2	221	28.6	12.30	Slt. Yellow	None
SW-3	6.85	3.7	696	29.4	53.57	Brown	None

Notes:

SU - standard units; mg/L - milligrams per liter; uS/cm - microSiemens per centimeter ; NTU - nephelometric turbidity unit; BG - background level

SMCL - secondary maximum contaminant level drinking water standard provided in F.A.C. Chapter 62-550

Class I and III surface water quality standards provided in F.A.C. Chapter 62-302

Grey cells indicate a WQS exceedance.

Measurements collected by ProTech in August 2016.

TABLE 5
Surface Water Quality Standard Calculations
Trail Ridge Landfill, Jacksonville, Florida

Parameter	Units	WQS Class I & Class III	SW-1		SW-3		
			87		150		Total Hardness [1]
			4.47		5.01		lnH [2]
			Result (total)	Standard	Result (total)	Standard	
Cadmium	ug/L	Measured ≤ $e^{(0.7409[\ln H]-4.719)}$	< 0.15	0.2	< 0.15	0.4	
Chromium	ug/L	Measured ≤ $e^{(0.819[\ln H]+0.6848)}$	< 1.6	77	**4.9 I**	120	
Copper	ug/L	Measured ≤ $e^{(0.8545[\ln H]-1.702)}$	**2.3 I**	8.3	**1.9 I**	13	
Lead	ug/L	Measured ≤ $e^{(1.273[\ln H]-4.705)}$	**1.1 I**	2.7	**4.6**	5.3	
Nickel	ug/L	Measured ≤ $e^{(0.846[\ln H]+0.0584)}$	< 1.9	46	**5.6**	74	
Zinc	ug/L	Measured ≤ $e^{(0.8473[\ln H]+0.884)}$	< 9.6	106	< 9.6	169	

Notes:

ug/L - micrograms per liter

WQS - Water Quality Standard, Class I (potable), Class III (freshwater) provided in FDEP Chapter 62-302

*- According to FDEP Rule 62-302.530, if H is less than 25 than 25 shall be used in the calculations

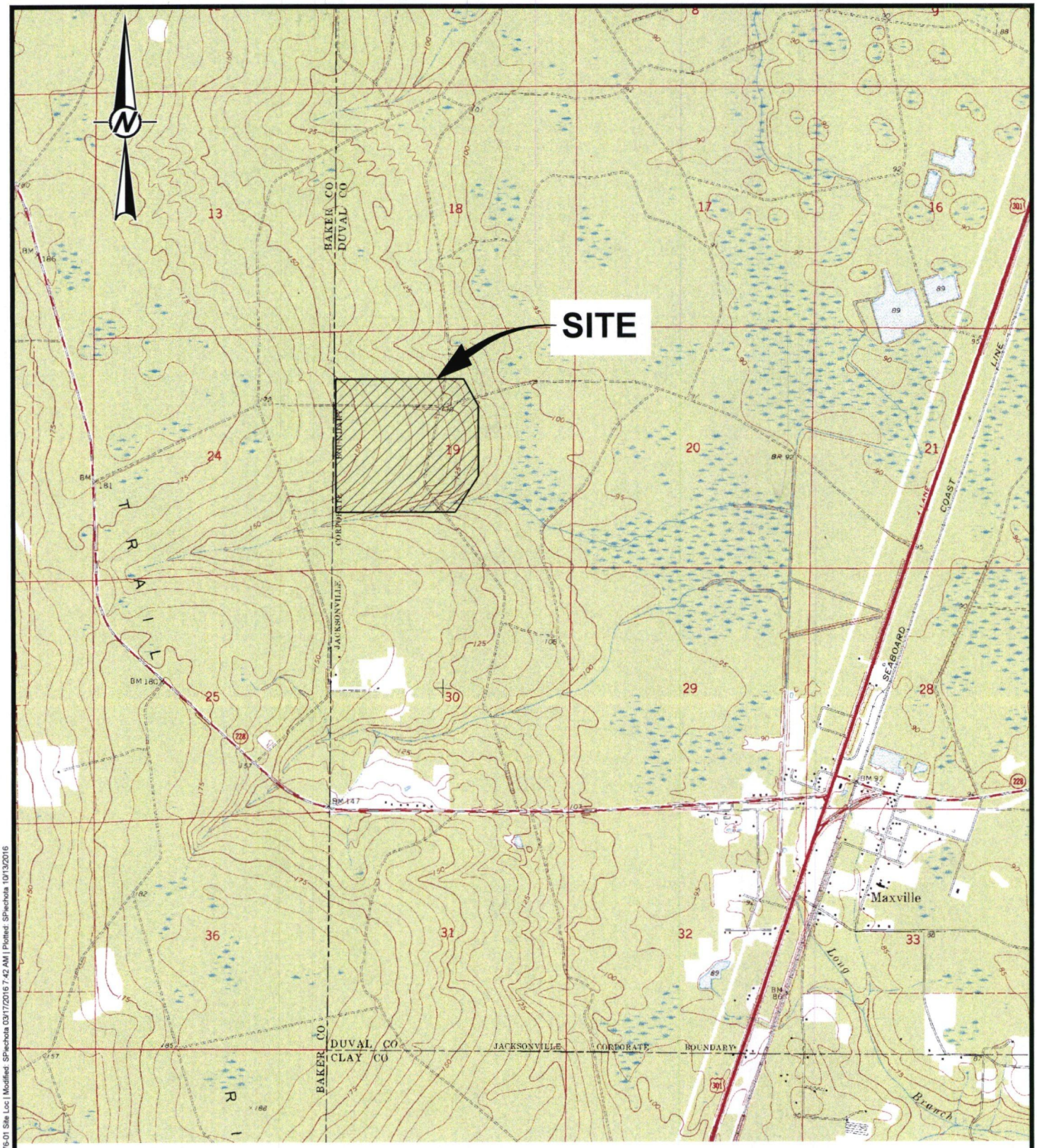
[1] - Total mesured total hardness (H) is reported in mg/L of $CaCO_3$ in the Test America laboratory report

[2] - "ln H" means the natural logarithm of total hardness expressed as mg/L of $CaCO_3$

I - result is qualified because the detection was between method detection limits and practical quantitation limits.

Bold values indicate detections above the laboratory detection limit; greyed cells indicate a WQS exceedance.

FIGURES



REFERENCES

USGS 7.5 MINUTE QUADRANGLE; MAXVILLE, FL 1970
(PHOTOINSPECTED 1984).

0 1500 3000 4500
SCALE FEET

PROJECT

WASTE MANAGEMENT
TRAIL RIDGE LANDFILL / JACKSONVILLE, FL

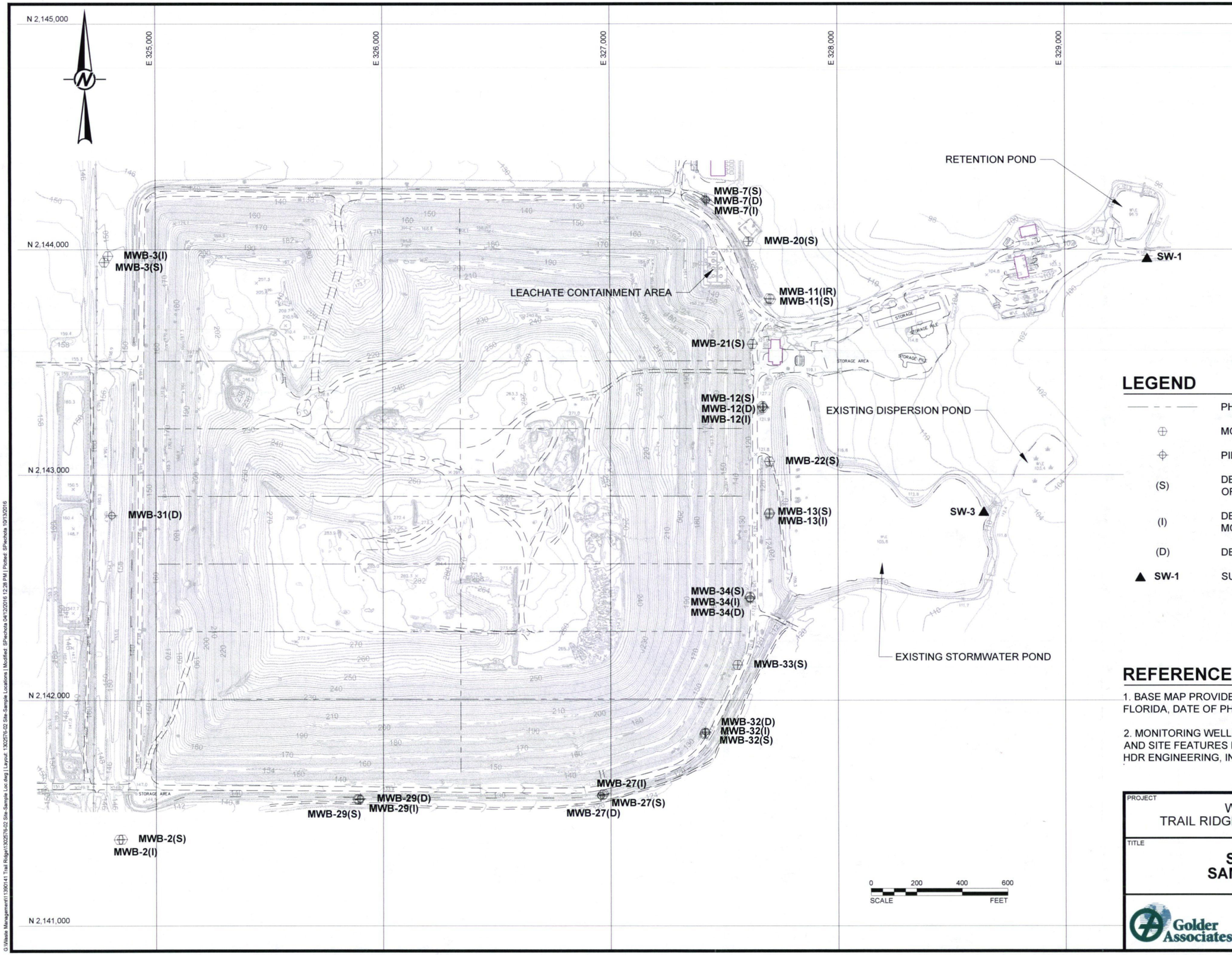
TITLE

SITE LOCATION

Golder Associates

PROJECT No.		130257602	FILE No.	1302576-01 Site Loc
DESIGN	-	-	SCALE	AS SHOWN
CADD	SEP	2016/10/05	FIGURE	1
CHECK	LS	2016/10/05		
REVIEW	RMW	2016/10/05		

G:\Waste Management\11390141 Trail Ridge\1302576-01 Site Loc.dwg | Layout: 1302576-01 Site Loc | Modified: SPiechota 03/17/2016 7:42 AM | Plotted: SPiechota 10/13/2016



LEGEND

— — —	PHASE BOUNDARY
⊕	MONITORING WELL
⊕	PIEZOMETER
(S)	DESIGNATES A SHALLOW MONITORING WELL OR PIEZOMETER
(I)	DESIGNATES AN INTERMEDIATE MONITORING WELL OR PIEZOMETER
(D)	DESIGNATES A DEEP PIEZOMETER
▲ SW-1	SURFACE WATER MONITORING POINT

REFERENCES

1. BASE MAP PROVIDED BY WASTE MANAGEMENT, INC. OF FLORIDA, DATE OF PHOTOGRAPHY 01/12/11.

2. MONITORING WELLS, SURFACE WATER MONITORING POINTS AND SITE FEATURES FROM GROUNDWATER CONTOUR MAPS BY HDR ENGINEERING, INC., DATED 07/20/10.

PROJECT

WASTE MANAGEMENT
TRAIL RIDGE LANDFILL / JACKSONVILLE, FL

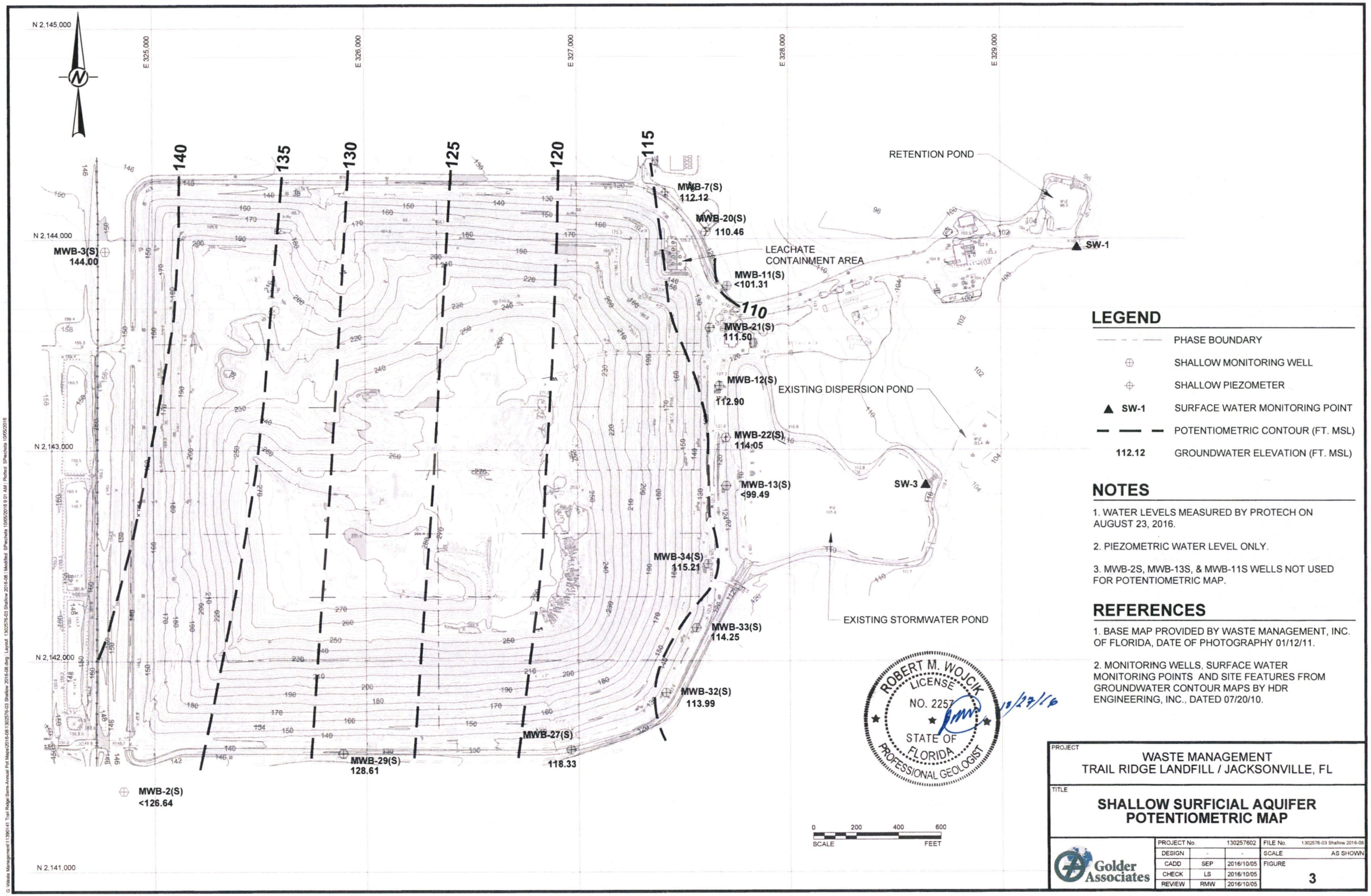
TITLE

SITE LAYOUT AND SAMPLING LOCATIONS

Golder Associates

PROJECT No.		130257602	FILE No. 1302576-02 Site-Sample Loc	
DESIGN	-	-	SCALE	AS SHOWN
CADD	SEP	2016/10/05	FIGURE	
CHECK	LS	2016/10/05	2	
REVIEW	RMW	2016/10/05		

G:\Waste Management\1130141 Trail Ridge\1302576-02 Site-Sample Loc.dwg | Layout: 1302576-02 Site-Sample Locations | Modified: SPiechota 04/12/2016 12:28 PM | Plotted: SPiechota 10/13/2016



LEGEND

— — —	PHASE BOUNDARY
⊕	SHALLOW MONITORING WELL
⊕	SHALLOW PIEZOMETER
▲ SW-1	SURFACE WATER MONITORING POINT
— — —	POTENTIOMETRIC CONTOUR (FT. MSL)
112.12	GROUNDWATER ELEVATION (FT. MSL)

NOTES

1. WATER LEVELS MEASURED BY PROTECH ON AUGUST 23, 2016.

2. PIEZOMETRIC WATER LEVEL ONLY.

3. MWB-2S, MWB-13S, & MWB-11S WELLS NOT USED FOR POTENTIOMETRIC MAP.

REFERENCES

1. BASE MAP PROVIDED BY WASTE MANAGEMENT, INC. OF FLORIDA, DATE OF PHOTOGRAPHY 01/12/11.

2. MONITORING WELLS, SURFACE WATER MONITORING POINTS AND SITE FEATURES FROM GROUNDWATER CONTOUR MAPS BY HDR ENGINEERING, INC., DATED 07/20/10.

PROJECT

WASTE MANAGEMENT
TRAIL RIDGE LANDFILL / JACKSONVILLE, FL

TITLE

SHALLOW SURFICIAL AQUIFER POTENTIOMETRIC MAP

Golder Associates

PROJECT No.		130257602	FILE No.	1302576-03 Shallow 2016-08
DESIGN	-	-	SCALE	AS SHOWN
CADD	SEP	2016/10/05	FIGURE	3
CHECK	LS	2016/10/05		
REVIEW	RMW	2016/10/05		

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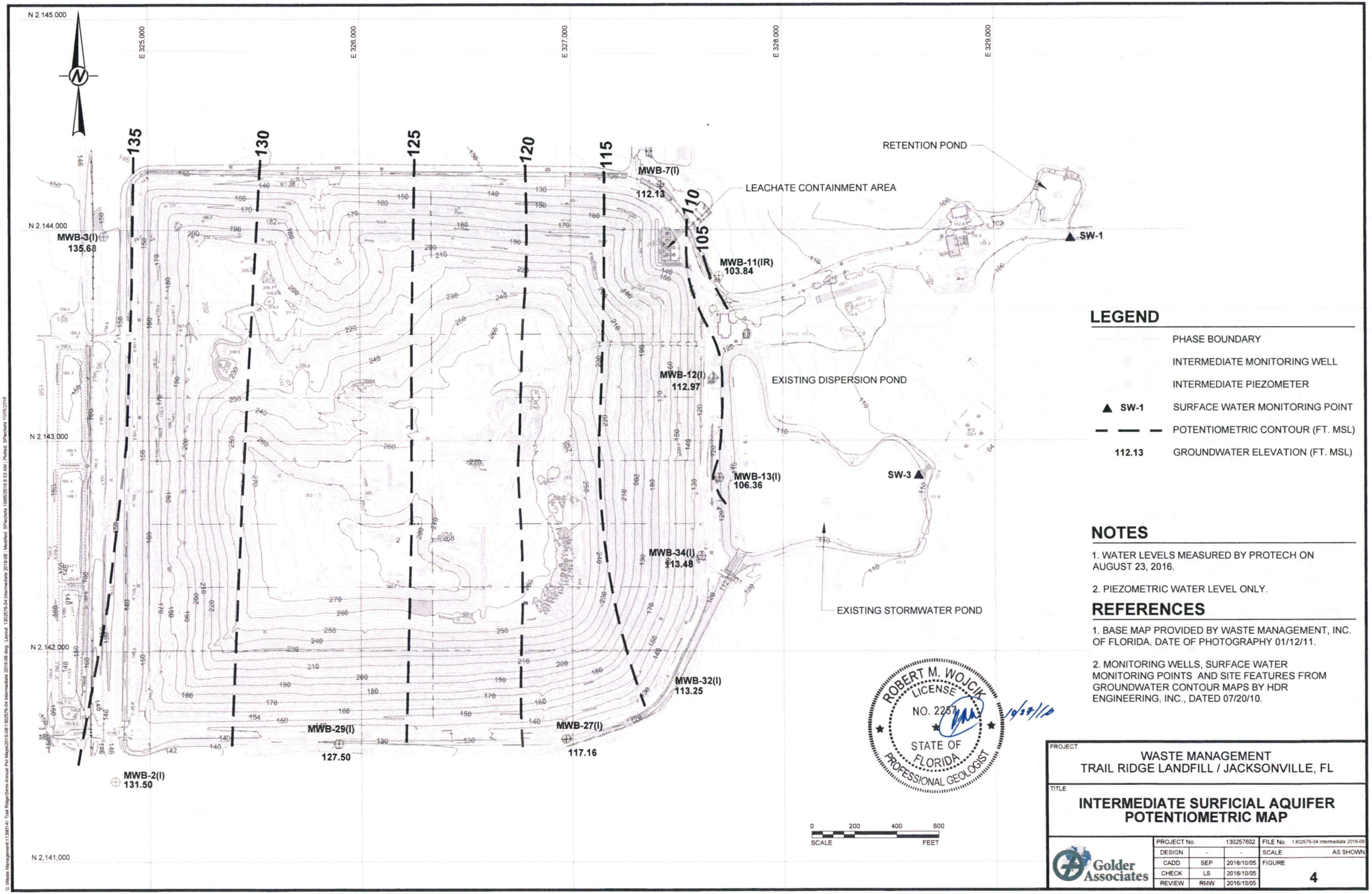

NOTES

1. WATER LEVELS MEASURED BY PROTECH ON AUGUST 23, 2016.

2. PIEZOMETRIC WATER LEVEL ONLY.

REFERENCES

1. BASE MAP PROVIDED BY WASTE MANAGEMENT, INC. OF FLORIDA, DATE OF PHOTOGRAPHY 01/12/11.

2. MONITORING WELLS, SURFACE WATER MONITORING POINTS AND SITE FEATURES FROM GROUNDWATER CONTOUR MAPS BY HDR ENGINEERING, INC., DATED 07/20/10.

PROJECT

WASTE MANAGEMENT
TRAIL RIDGE LANDFILL / JACKSONVILLE, FL

TITLE

INTERMEDIATE SURFICIAL AQUIFER POTENTIOMETRIC MAP

Golder Associates

PROJECT No.		130257602	FILE No.	1302576-04 Intermediate 2016-08
DESIGN	-	-	SCALE	AS SHOWN
CADD	SEP	2016/10/05	FIGURE	4
CHECK	LS	2016/10/05		
REVIEW	RMW	2016/10/05		

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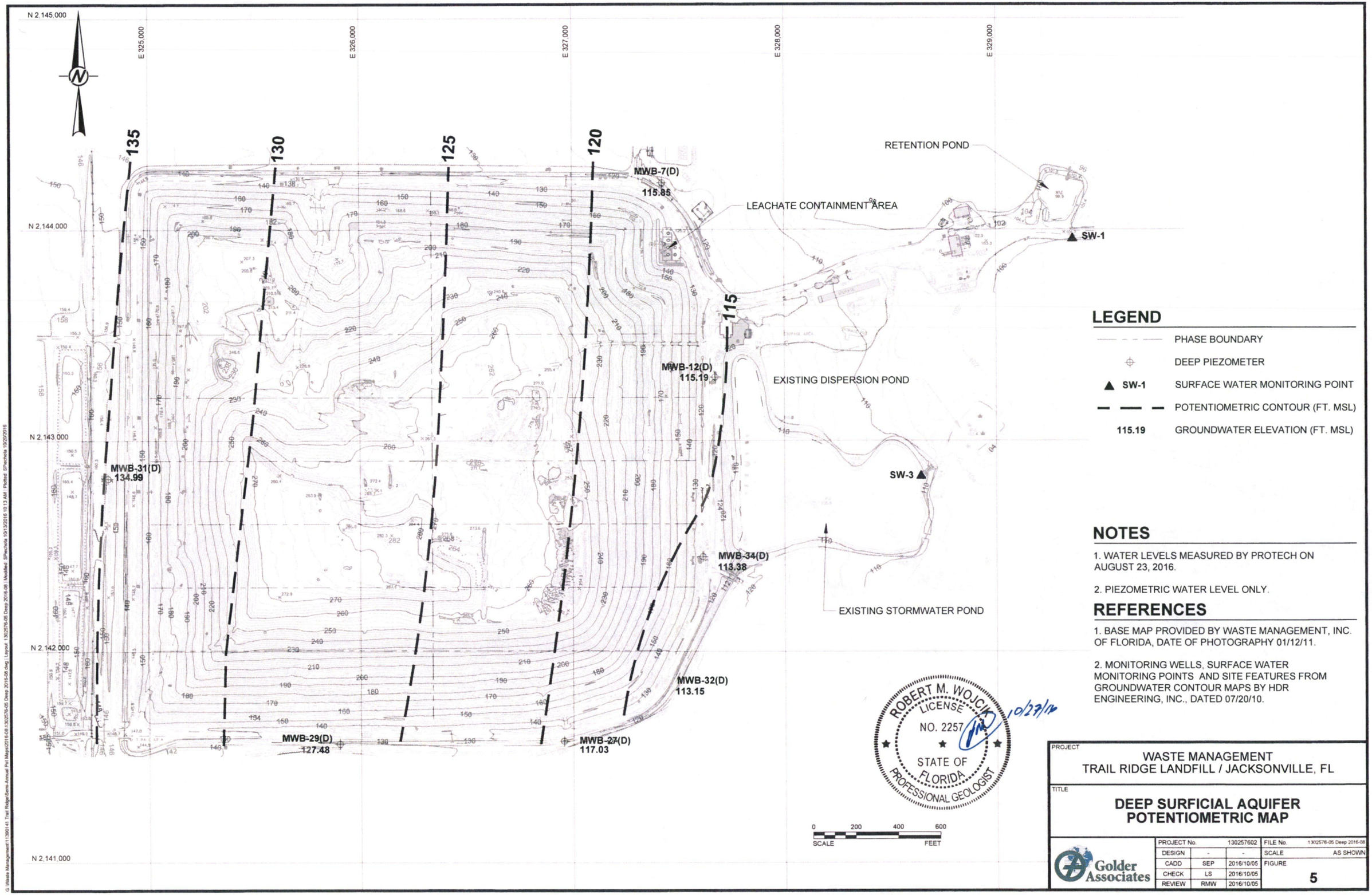
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E 325,000
E 326,000
E 327,000
E 328,000
E 329,000
135
130
125
120
115
RETENTION POND
LEACHATE CONTAINMENT AREA
EXISTING DISPERSION POND
EXISTING STORMWATER POND
MWB-7(D)
115.85
MWB-12(D)
115.19
MWB-31(D)
134.99
MWB-34(D)
113.38
MWB-32(D)
113.15
MWB-29(D)
127.48
MWB-27(D)
117.03
SW-1
SW-3
LEGEND
PHASE BOUNDARY
DEEP PIEZOMETER
SW-1 SURFACE WATER MONITORING POINT
POTENTIOMETRIC CONTOUR (FT. MSL)
115.19 GROUNDWATER ELEVATION (FT. MSL)
NOTES
1. WATER LEVELS MEASURED BY PROTECH ON AUGUST 23, 2016.
2. PIEZOMETRIC WATER LEVEL ONLY.
REFERENCES
1. BASE MAP PROVIDED BY WASTE MANAGEMENT, INC. OF FLORIDA, DATE OF PHOTOGRAPHY 01/12/11.
2. MONITORING WELLS, SURFACE WATER MONITORING POINTS AND SITE FEATURES FROM GROUNDWATER CONTOUR MAPS BY HDR ENGINEERING, INC., DATED 07/20/10.
ROBERT M. WOJCIK
LICENSE
NO. 2257
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST
10/27/16
0 200 400 600
SCALE FEET
PROJECT
WASTE MANAGEMENT
TRAIL RIDGE LANDFILL / JACKSONVILLE, FL
TITLE
DEEP SURFICIAL AQUIFER
POTENTIOMETRIC MAP
Golder Associates
PROJECT No. 130257602
FILE No. 1302576-05 Deep 2016-08
DESIGN - -
SCALE AS SHOWN
CADD SEP 2016/10/05
FIGURE
CHECK LS 2016/10/05
5
REVIEW RMW 2016/10/05

APPENDIX A
INSTRUMENT CALIBRATION FIELD RECORDS AND WELL DEVELOPMENT FORMS

PROFESSIONAL TECHNICAL SUPPORT SERVICES, INC.
Atlanta (770) 723-9219
Baton Rouge (504) 293-0136
Jacksonville (904) 693-3177
Houston (208) 441-7606
Pittsburgh (412) 746-8823

FACILITY NAME TRAIL RIDGE

DEPTH TO WATER MEASUREMENTS

DATE 8-23-16

MONITORING LOCATION	DEPTH TO WATER (ft TOC)
MWB27S	10.09
MWB29S	9.41
MWB29I	10.58
MWB27I	11.47
MWB3I	16.18
MWB11I(R)	16.59
MWB13I	19.62
MWB12I	11.65
MWB12S	11.73
MWB22S	~~13~~ 12.92
MWB13S	DRY
MWB11S	NA - WATER LEVEL IS BELOW DEDICATED PUMP
MWB20S	10.55
MWB3S	10.38
MWB2S	DRY
MWB34S	10.57
MWB33S	11.65

MONITORING LOCATION	DEPTH TO WATER (ft TOC)
MWB21S	11.34
MWB34I	12.32
MWB2I	14.23
MWB32S	10.65
MWB32I	11.54
MWB12D	9.37
MWB23S	17.65
MWB14I	13.61
MWB14D	13.65
MWB14S	DRY
MWB24S	8.81
MWB25S	10.98
MWB25I	9.97
MWB25D	10.59
MWB26S	10.00
MWB27D	11.85
MWB28S	9.02

PROFESSIONAL TECHNICAL SUPPORT SERVICES, INC.
Atlanta (770) 723-9229
Baton Rouge (504) 293-0136
Jacksonville (904) 693-0177
Houston (208) 441-7606
Pittsburgh (412) 746-8824

FACILITY NAME TRAIL RIDGE

DEPTH TO WATER
MEASUREMENTS

DATE 8-23-16

MONITORING LOCATION	DEPTH TO WATER (ft TOC)
MWB29D	10.70
MWB30S	10.90
MWB34D	12.54
MWB32D	11.78
MWB31D	21.16
MWB7S	11.17
MWB7I	9.40
MWB7D	5.80

MONITORING LOCATION	DEPTH TO WATER (ft TOC)

WELL CONDITION INSPECTION FORM

WASTE MANAGEMENT

Site: TRAIL RIDGE Personnel: DAN ARMOUR

Date: 8-23-16 Page 1 of 3

Well ID	Protective Casing	Well Casing	Label	Lock	Sample Equipment Type	General Turbidity	Well Yield	Comments/Observations *
MWB3S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	DEDICATED BLADDER PUMP	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB20S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB11S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB13S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☐ NA Clear ☐ Turbid	☐ OK ☒ Inadequate	DRY WELL
MWB22S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB12S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB29S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB27S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB12I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB13I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	

* Note ponding water, weep holes, or any other information pertaining to well condition. Provide additional details on listed items.

Return this form to Site Manager - FOR INTERNAL USE ONLY

WELL CONDITION INSPECTION FORM

WASTE MANAGEMENT

Site: TRAIL RIDGE Personnel: DAN ARMOUR

Date: 8-23-16 Page 2 of 3

Well ID	Protective Casing	Well Casing	Label	Lock	Sample Equipment Type	General Turbidity	Well Yield	Comments/Observations *
MWB11I(R)	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	DEDICATED BLADDER PUMP	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB3I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB27I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB29I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB2I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB34I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB32I	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB21S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB33S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB34S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	

* Note ponding water, weep holes, or any other information pertaining to well condition. Provide additional details on listed items.

Return this form to Site Manager - FOR INTERNAL USE ONLY.

WASTE MANAGEMENT

WELL CONDITION INSPECTION FORM

Site TRAIL RIDGE

Personnel DAN ARMOUR

Date 8-23-16

Page 3 of 3

Well ID	Protective Casing	Well Casing	Label	Lock	Sample Equipment Type	General Turbidity	Well Yield	Comments/Observations *
MWB32S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	DEDICATED BLADDER PUMP	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
MWB23	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	NA ☐ Clear ☐ Turbid	☐ OK ☒ Inadequate	DRY WELL
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	
	☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No		☐ Clear ☐ Turbid	☐ OK ☐ Inadequate	

* Note ponding water, weep holes, or any other information pertaining to well condition Provide additional details on listed items

Return this form to Site Manager - FOR INTERNAL USE ONLY.

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) HF SCIENTIFIC MICRO TPI INSTRUMENT # 20071032 9

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP

☒ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 1000 NTU HF SCIENTIFIC : LOT# 50191 EXP: JAN 2017

Standard B 10.0 NTU HF SCIENTIFIC : LOT# 50191 EXP: JAN 2017

Standard C 0.02 NTU HF SCIENTIFIC : LOT# 50191 EXP: JAN 2017

DATE (yy/mm/dd)	TIME (military)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT/CONT)	SAMPLER INITIALS
16/08/23	0630	A	1000	AUTO CAL	-	YES	INIT	DSA
|	|	B	10.0	|	-	YES	INIT	DSA
|	|	C	0.02	|	-	YES	INIT	DSA
16/08/24	0700	A	1000	AUTO CAL	-	YES	CONT	DSA
|	|	B	10.0	|	-	YES	CONT	DSA
|	|	C	0.02	|	-	YES	CONT	DSA

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) YSI PRO SERIES INSTRUMENT # 15D100782

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☒ pH ☐ ORP

☐ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 7.00 (std) ENVIRODEPOT LOT# 14L1S EXP: NOV 6, 2016

Standard B 4.00 (std) ENVIRODEPOT LOT# 14M1R EXP: DEC 3, 2016

Standard C 10.00 (std) ENVIRODEPOT LOT# 14L1T EXP NOV. 12, 2016

DATE (yy/mm/dd)	TIME (hr/min)	STD (A/B/C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT/CONT)	SAMPLER INITIALS
16/08/23	0630	A	7.00	AUTO CAL	-	YES	INIT	DSA
|	|	B	4.00	|	-	YES	INIT	DSA
		C	10.00	|	-	YES	INIT	DSA
16/08/24	0700	A	7.00	AUTO CAL	-	YES	CONT	DSA
|	|	B	4.00	|	-	YES	CONT	DSA
		C	10.00	|	-	YES	CONT	DSA

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) YSI PRO SERIES INSTRUMENT # 15D100782

PARAMETER: *[check only one]*

- ☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP
- ☐ TURBIDITY ☐ RESIDUAL Cl ☒ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A SATURATED AIR

Standard B _____

Standard C _____

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	%DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
16/08/23	0630	A	100% SAT	100%	—	Yes	INIT	DSA
16/08/24	0700	A	100% SAT	100%	-	Yes	Cont	DSA

Table FS 2200-2
Dissolved Oxygen Saturation

TEMP	D.O. mg/L		TEMP	D.O. mg/L		TEMP	D.O. mg/L		TEMP	D.O. mg/L	
deg C	SAT.	20%	deg C	SAT.	20%	deg C	SAT.	20%	deg C	SAT.	20%
15.0	10.084	2.017	19.0	9.276	1.855	23.0	8.578	1.716	27.0	7.968	1.594
15.1	10.062	2.012	19.1	9.258	1.852	23.1	8.562	1.712	27.1	7.954	1.591
15.2	10.040	2.008	19.2	9.239	1.848	23.2	8.546	1.709	27.2	7.940	1.588
15.3	10.019	2.004	19.3	9.220	1.844	23.3	8.530	1.706	27.3	7.926	1.585
15.4	9.997	1.999	19.4	9.202	1.840	23.4	8.514	1.703	27.4	7.912	1.582
15.5	9.976	1.995	19.5	9.184	1.837	23.5	8.498	1.700	27.5	7.898	1.580
15.6	9.955	1.991	19.6	9.165	1.833	23.6	8.482	1.696	27.6	7.884	1.577
15.7	9.934	1.987	19.7	9.147	1.829	23.7	8.466	1.693	27.7	7.870	1.574
15.8	9.912	1.982	19.8	9.129	1.826	23.8	8.450	1.690	27.8	7.856	1.571
15.9	9.891	1.978	19.9	9.111	1.822	23.9	8.434	1.687	27.9	7.842	1.568
16.0	9.870	1.974	20.0	9.092	1.818	24.0	8.418	1.684	28.0	7.828	1.566
16.1	9.849	1.970	20.1	9.074	1.815	24.1	8.403	1.681	28.1	7.814	1.563
16.2	9.829	1.966	20.2	9.056	1.811	24.2	8.387	1.677	28.2	7.800	1.560
16.3	9.808	1.962	20.3	9.039	1.808	24.3	8.371	1.674	28.3	7.786	1.557
16.4	9.787	1.957	20.4	9.021	1.804	24.4	8.356	1.671	28.4	7.773	1.555
16.5	9.767	1.953	20.5	9.003	1.801	24.5	8.340	1.668	28.5	7.759	1.552
16.6	9.746	1.949	20.6	8.985	1.797	24.6	8.325	1.665	28.6	7.745	1.549
16.7	9.726	1.945	20.7	8.968	1.794	24.7	8.309	1.662	28.7	7.732	1.546
16.8	9.705	1.941	20.8	8.950	1.790	24.8	8.294	1.659	28.8	7.718	1.544
16.9	9.685	1.937	20.9	8.932	1.786	24.9	8.279	1.656	28.9	7.705	1.541
17.0	9.665	1.933	21.0	8.915	1.783	25.0	8.263	1.653	29.0	7.691	1.538
17.1	9.645	1.929	21.1	8.898	1.780	25.1	8.248	1.650	29.1	7.678	1.536
17.2	9.625	1.925	21.2	8.880	1.776	25.2	8.233	1.647	29.2	7.664	1.533
17.3	9.605	1.921	21.3	8.863	1.773	25.3	8.218	1.644	29.3	7.651	1.530
17.4	9.585	1.917	21.4	8.846	1.769	25.4	8.203	1.641	29.4	7.638	1.528
17.5	9.565	1.913	21.5	8.829	1.766	25.5	8.188	1.638	29.5	7.625	1.525
17.6	9.545	1.909	21.6	8.812	1.762	25.6	8.173	1.635	29.6	7.611	1.522
17.7	9.526	1.905	21.7	8.794	1.759	25.7	8.158	1.632	29.7	7.598	1.520
17.8	9.506	1.901	21.8	8.777	1.755	25.8	8.143	1.629	29.8	7.585	1.517
17.9	9.486	1.897	21.9	8.761	1.752	25.9	8.128	1.626	29.9	7.572	1.514
18.0	9.467	1.893	22.0	8.744	1.749	26.0	8.114	1.623	30.0	7.559	1.512
18.1	9.448	1.890	22.1	8.727	1.745	26.1	8.099	1.620	30.1	7.546	1.509
18.2	9.428	1.886	22.2	8.710	1.742	26.2	8.084	1.617	30.2	7.533	1.507
18.3	9.409	1.882	22.3	8.693	1.739	26.3	8.070	1.614	30.3	7.520	1.504
18.4	9.390	1.878	22.4	8.677	1.735	26.4	8.055	1.611	30.4	7.507	1.501
18.5	9.371	1.874	22.5	8.660	1.732	26.5	8.040	1.608	30.5	7.494	1.499
18.6	9.352	1.870	22.6	8.644	1.729	26.6	8.026	1.605	30.6	7.481	1.496
18.7	9.333	1.867	22.7	8.627	1.725	26.7	8.012	1.602	30.7	7.468	1.494
18.8	9.314	1.863	22.8	8.611	1.722	26.8	7.997	1.599	30.8	7.456	1.491
18.9	9.295	1.859	22.9	8.595	1.719	26.9	7.983	1.597	30.9	7.443	1.489

Derived using the formula in Standard Methods for the Examination of Water and Wastewater, Page 4-101, 18th Edition, 1992

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) YSI PRO SERIES INSTRUMENT # 15D100782

PARAMETER: *[check only one]*

☐ TEMPERATURE ☒ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP

☐ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 1.413 mS/cm PINE ENVIRONMENTAL LOT# 6GD211 EXP: 04/30/2017

Standard B _____

Standard C _____

DATE (yr/mo/dd)	TIME (hr/min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
16/08/23	0630	A	1413	AUTO CAL	-	YES	INIT	DLA
16/08/24	0700	A	1413	AUTO CAL	-	YES	CONT	DLA

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) HF SCIENTIFIC MICRO TPI INSTRUMENT # 108086

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP

☒ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 1000 NTU HF SCIENTIFIC LOT# 50191 EXP: JAN 2017

Standard B 10.0 NTU HF SCIENTIFIC LOT# 50191 EXP: JAN 2017

Standard C 0.02 NTU HF SCIENTIFIC LOT# 50191 EXP: JAN 2017

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV.	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
16/08/23	0630	A	1000	AUTO CAL	–	YES	INIT	BG
|	|	B	10.0	|	–	YES	INIT	BG
		C	0.02		–	YES	INIT	BG
16/08/23	0700	A	1000	AUTO CAL	–	YES	CONT	BG
|	|	B	10.0	|	–	YES	CONT	BG
		C	0.02		–	YES	CONT	BG

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) HANNA HI 9828 INSTRUMENT # 725490

PARAMETER: *[check only one]*

- ☐ TEMPERATURE
- ☒ CONDUCTIVITY
- ☐ SALINITY
- ☐ pH
- ☐ ORP
- ☐ TURBIDITY
- ☐ RESIDUAL Cl
- ☐ DO
- ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 1.413ms/cm PINE ENVIRONMENTAL LOT# 6GD211 EXP: 04/30/2017

Standard B _____

Standard C _____

DATE (yy/mm/dd)	TIME (hr.min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
16/08/23	0630	A	1413	AUTO CAL	-	YES	INIT	BG
16/08/24	0700	A	1413	AUTO CAL	-	YES	CONT	BG

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) HANNA HI 9828 INSTRUMENT # 725490

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☒ pH ☐ ORP
☐ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 7.00 (std) ENVIRODEPOT LOT# 14LIS EXP: NOV. 6, 2016

Standard B 4.00 (std) ENVIRODEPOT LOT# 14M2R EXP: DEC 3, 2016

Standard C 10.00 (std) ENVIRODEPOT LOT# 14LIT EXP: NOV. 12, 2016

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
16/08/23	0630	A	7.00	AUTO CAL	-	YES	INIT	BG
|	|	B	4.00	|	-	YES	INIT	BG
|	|	C	10.00	|	-	YES	INIT	BG
16/08/24	0700	A	7.00	AUTO CAL	-	YES	CONT	BG
|	|	B	4.00	|	-	YES	CONT	BG
|	|	C	10.00	|	-	YES	CONT	BG

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKE/MODEL#) HANNA HI9828 INSTRUMENT # 725490

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP

☐ TURBIDITY ☐ RESIDUAL Cl ☒ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A SATURATED AIR

Standard B _____

Standard C _____

DATE (yy/mm/dd)	TIME (hr min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
16/08/03	0630	A	100% SAT	100%	–	YES	INIT	BG
16/08/24	0700	A	100% SAT	100%	✓	Yes	CONT	BG

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel· (912)354-7858

TestAmerica Job ID 680-129072-1
Client Project/Site Trail Ridge Landfill

For
Golder Associates Inc
3730 Chamblee Tucker Road
Atlanta, Georgia 30341

Attn Lizmarie Steel

Authorized for release by
9/22/2016 5.10:48 PM

Lisa Harvey, Project Manager II
(912)354-7858 e 3221
lisa harvey@testamericainc com

Job ID: 680-129072-1

Laboratory. TestAmerica Savannah

Narrative

Client: Golder Associates Inc.
Project: Trail Ridge Landfill
Report Number: 680-129072-1

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

RECEIPT

The samples were received on 8/24/2016 10 40 AM and 8/25/2016 9 17 AM, the samples arrived in good condition, properly preserved and, where required, on ice The temperatures of the 7 coolers at receipt time were 1 4° C, 1 8° C, 2 3° C, 2 4° C, 2 6° C, 2 8° C and 3 3° C

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), TRIP Blank - MW 129123 (680-129123-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), FIELD BLANK 01 129072 (680-129072-8), TRIP BLANK 129072 (680-129072-9), SW-1 (680-129123-11), SW-3 (680-129123-12) and TRIP Blank - SW 129123 (680-129123-13) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B The samples were analyzed on 08/31/2016 and 09/02/2016

Method(s) 8260B The continuing calibration verification (CCV) associated with batch 680-447885 recovered above the upper control limit for Iodomethane The samples associated with this CCV were non-detects for the affected analytes, therefore, the data have been reported The following sample is impacted CCVIS 680-447885/3

Method(s) 8260B The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-447885 recovered outside control limits for the following analytes Bromoform, Bromomethane, and Iodomethane These analytes were biased high in the LCS and were not detected in the associated samples, therefore, the data have been reported

Method(s) 8260B Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-447885

Method(s) 8260B The surrogate recovery for the blank associated with analytical batch 680-448234 was outside the upper control limits

Method(s) 8260B Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-448234

Method(s) 8260B The laboratory control sample (LCS) for analytical batch 680-448234 recovered outside control limits for bromomethane This analyte was biased high in the LCS and were not detected in the associated samples, therefore, the data have been reported

Method(s) 8260B The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 680-448234 recovered outside control limits for the following analytes Bromomethane, Trichlorofluoromethane and Vinyl chloride

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

1,2-DIBROMOETHANE AND 1,2-DIBROMO-3-CHLOROPROPANE BY MICROEXTRACTION AND GAS CHROMATOGRAPHY

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), FIELD BLANK 01 129072 (680-129072-8), SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for 1,2-dibromoethane and 1,2-dibromo-3-chloropropane by microextraction and gas chromatography in accordance with EPA SW-846 Method 8011 The samples were prepared on 08/25/2016, 08/29/2016 and 09/13/2016 and analyzed on 08/26/2016, 08/29/2016 and 09/13/2016

Job ID: 680-129072-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

Method(s) 8011 Surrogate compounds were inadvertently omitted during the extraction process for the following sample 680-129072-8 There was insufficient sample remaining to perform re-extraction and/or re-analysis, therefore, the data have been reported and qualified

Method(s) 8011 Surrogate recovery for the following sample was outside the upper control limit 680-129072-2 This sample did not contain any target analytes, therefore, re-extraction and/or re-analysis was not performed

Method(s) 8011 Re-analysis of the following sample was performed outside of the analytical holding time due to the analyst inadvertently adding spiking solution to the sample on the first extraction 680-129072-8 Client notified 09/13/2016

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

METALS (ICPMS)

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), MWB2I (680-129123-7), FIELD BLANK 01 129072 (680-129072-8), MWB34I (680-129123-8), MWB32I (680-129123-9), MWB12I (680-129072-10), MWB13I (680-129072-11), SW-1 (680-129123-11), MWB11I (R) (680-129072-12), SW-3 (680-129123-12), MWB3I (680-129072-13), MWB27I (680-129072-14) and MWB29I (680-129072-15) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Method 6020A The samples were prepared on 08/26/2016 and analyzed on 08/27/2016 and 08/29/2016

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

TOTAL MERCURY

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7) and FIELD BLANK 01 129072 (680-129072-8) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A The samples were prepared on 08/26/2016 and analyzed on 08/27/2016

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

TOTAL DISSOLVED SOLIDS

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), MWB2I (680-129123-7), FIELD BLANK 01 129072 (680-129072-8), MWB34I (680-129123-8), MWB32I (680-129123-9), MWB12I (680-129072-10), MWB13I (680-129072-11), SW-1 (680-129123-11), MWB11I (R) (680-129072-12), SW-3 (680-129123-12), MWB3I (680-129072-13), MWB27I (680-129072-14) and MWB29I (680-129072-15) were analyzed for total dissolved solids in accordance with SM 2540C The samples were analyzed on 08/24/2016 and 08/26/2016

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

TOTAL SUSPENDED SOLIDS

Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for total suspended solids in accordance with SM 2540D The samples were analyzed on 08/25/2016

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), MWB2I (680-129123-7), FIELD BLANK 01 129072 (680-129072-8), MWB34I (680-129123-8), MWB32I (680-129123-9), MWB12I (680-129072-10), MWB13I (680-129072-11), MWB11I (R) (680-129072-12), MWB3I (680-129072-13), MWB27I (680-129072-14) and MWB29I (680-129072-15) were analyzed for

Job ID: 680-129072-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

Anions by Ion Chromatography (28 Day) in accordance with EPA Method 300 0 The samples were analyzed on 09/01/2016, 09/02/2016 and 09/06/2016

Sample MWB20S (680-129072-2)[10X] required dilution prior to analysis The reporting limits have been adjusted accordingly

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

AMMONIA

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), MWB2I (680-129123-7), FIELD BLANK 01 129072 (680-129072-8), MWB34I (680-129123-8), MWB32I (680-129123-9), MWB12I (680-129072-10), MWB13I (680-129072-11), SW-1 (680-129123-11), MWB11I (R) (680-129072-12), SW-3 (680-129123-12), MWB3I (680-129072-13), MWB27I (680-129072-14) and MWB29I (680-129072-15) were analyzed for ammonia in accordance with EPA Method 350 1 The samples were analyzed on 08/25/2016, 08/26/2016 and 08/31/2016

Sample MWB20S (680-129072-2)[2X] required dilution prior to analysis The reporting limits have been adjusted accordingly

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

TOTAL KJELDAHL NITROGEN (TKN)

Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for total kjeldahl nitrogen (TKN) in accordance with EPA Method 351 2 The samples were prepared on 09/01/2016 and analyzed on 09/02/2016

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

NITRATE-NITRITE AS NITROGEN

Samples MWB3S (680-129072-1), MWB21S (680-129123-1), MWB20S (680-129072-2), MWB33S (680-129123-2), MWB11S (680-129072-3), MWB34S (680-129123-3), MWB22S (680-129072-4), FIELD BLANK 02 129123 (680-129123-4), MWB12S (680-129072-5), MWB29S (680-129072-6), MWB32S (680-129123-6), MWB27S (680-129072-7), MWB2I (680-129123-7), FIELD BLANK 01 129072 (680-129072-8), MWB34I (680-129123-8), MWB32I (680-129123-9), MWB12I (680-129072-10), MWB13I (680-129072-11), SW-1 (680-129123-11), MWB11I (R) (680-129072-12), SW-3 (680-129123-12), MWB3I (680-129072-13), MWB27I (680-129072-14) and MWB29I (680-129072-15) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353 2 The samples were analyzed on 08/24/2016 and 08/25/2016

Sample MWB21S (680-129072-1)[10X] required dilution prior to analysis The reporting limits have been adjusted accordingly

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

TOTAL PHOSPHORUS

Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for total phosphorus in accordance with EPA Method 365 4 The samples were prepared on 09/01/2016 and analyzed on 09/02/2016

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

ORTHOPHOSPHATE AS P

Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for orthophosphate as P in accordance with SM 4500P F The samples were analyzed on 08/26/2016

Method(s) 4500 P F The following samples were analyzed outside of analytical holding time since these samples were not logged in for Orthophosphate until after their holding times had expired 680-129123-11 and 680-129123-12 Client was notified 08/26/2016

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

BIOCHEMICAL OXYGEN DEMAND

Job ID: 680-129072-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for Biochemical Oxygen Demand in accordance with SM 5210B The samples were analyzed on 08/25/2016

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

CHEMICAL OXYGEN DEMAND
Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for chemical oxygen demand in accordance with SM 5220D The samples were analyzed on 09/02/2016

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

TOTAL NITROGEN BY CALCULATION
Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for total nitrogen by calculation in accordance with a calculated method The samples were analyzed on 09/06/2016

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

TOTAL HARDNESS (AS CACO3) BY CALCULATION
Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for total hardness (as CaCO3) by calculation in accordance with SM 2340B The samples were analyzed on 09/06/2016

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

TOTAL ORGANIC CARBON
Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for total organic carbon in accordance with SM 5310B The samples were analyzed on 08/30/2016

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

UNIONIZED AMMONIA
Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for unionized ammonia in accordance with FL DEP SOP The samples were analyzed on 09/06/2016

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

LOW LEVEL MERCURY
Samples SW-1 (680-129123-11) and SW-3 (680-129123-12) were analyzed for Low Level Mercury in accordance with EPA Method 1631 The samples were prepared on 08/26/2016 and analyzed on 08/30/2016

Method(s) 1631E The samples were received with labels already on the vials

Method(s) 1631E The following samples were diluted due to the nature of the sample matrix 680-129123-11, 680-129123-12, 680-129123-S-12 MS and 680-129123-S-12 MSD Elevated reporting limits (RLs) are provided The samples appear to be dirty

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

Sample Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-129072-1	MWB3S	Water	08/23/16 12 01	08/24/16 10 40
680-129072-2	MWB20S	Water	08/23/16 11 25	08/24/16 10 40
680-129072-3	MWB11S	Water	08/23/16 10 53	08/24/16 10 40
680-129072-4	MWB22S	Water	08/23/16 08 50	08/24/16 10 40
680-129072-5	MWB12S	Water	08/23/16 08 16	08/24/16 10 40
680-129072-6	MWB29S	Water	08/23/16 11 45	08/24/16 10 40
680-129072-7	MWB27S	Water	08/23/16 10 20	08/24/16 10 40
680-129072-8	FIELD BLANK 01 129072	Water	08/23/16 13 20	08/24/16 10 40
680-129072-9	TRIP BLANK 129072	Water	08/23/16 00 00	08/24/16 10 40
680-129072-10	MWB12I	Water	08/23/16 07 45	08/24/16 10 40
680-129072-11	MWB13I	Water	08/23/16 09 26	08/24/16 10 40
680-129072-12	MWB11I (R)	Water	08/23/16 10 21	08/24/16 10 40
680-129072-13	MWB3I	Water	08/23/16 12 35	08/24/16 10 40
680-129072-14	MWB27I	Water	08/23/16 11 05	08/24/16 10 40
680-129072-15	MWB29I	Water	08/23/16 12 21	08/24/16 10 40
680-129123-1	MWB21S	Water	08/24/16 09 32	08/25/16 09 17
680-129123-2	MWB33S	Water	08/24/16 10 45	08/25/16 09 17
680-129123-3	MWB34S	Water	08/24/16 09 05	08/25/16 09 17
680-129123-4	FIELD BLANK 02 129123	Water	08/24/16 11 30	08/25/16 09 17
680-129123-5	TRIP Blank - MW 129123	Water	08/24/16 00 00	08/25/16 09 17
680-129123-6	MWB32S	Water	08/24/16 10 50	08/25/16 09 17
680-129123-7	MWB2I	Water	08/24/16 10 06	08/25/16 09 17
680-129123-8	MWB34I	Water	08/24/16 09 48	08/25/16 09 17
680-129123-9	MWB32I	Water	08/24/16 11 58	08/25/16 09 17
680-129123-11	SW-1	Water	08/24/16 07 45	08/25/16 09 17
680-129123-12	SW-3	Water	08/24/16 08 15	08/25/16 09 17
680-129123-13	TRIP Blank - SW 129123	Water	08/24/16 00 00	08/25/16 09 17

Method Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL SAV
300 0-1993 R2 1	Anions, Ion Chromatography	MCAWW	TAL SAV
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN
2340B-2011	Total Hardness (as CaCO3) by calculation	SM	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
7470A	Mercury (CVAA)	SW846	TAL SAV
2540 D-2011	Total Suspended Solids (Dried at 103-105°C)	SM	TAL SAV
2540C-2011	Total Dissolved Solids (Dried at 180 °C)	SM	TAL SAV
350 1-1993 R2 0	Nitrogen, Ammonia	MCAWW	TAL SAV
351 2-1993 R2 0	Nitrogen, Total Nitrogen	MCAWW	TAL SAV
353 2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
365 4-1974	Phosphorus, Total	EPA	TAL SAV
4500 P F-2011	Orthophosphate, Automated Ascorbic Acid Method	SM	TAL SAV
5210B-2011	BOD, 5-Day	SM	TAL SAV
5220D-2011	Chemical Oxygen Demand	SM	TAL SAV
5310 B-2011	Organic Carbon, Total (TOC)	SM	TAL SAV
Total Nitrogen	Nitrogen, Total	EPA	TAL SAV
UnionizedNH3	Ammonia, Unionized	FL-DEP	TAL SAV
Field Sampling	Field Sampling	EPA	TAL SAV
9222D Fecal Coliform (Diversified)	General Sub Contract Method	NONE	
Chlorophyll a (ENCO)	General Sub Contract Method	NONE	ENCO

Protocol References

EPA = US Environmental Protection Agency
FL-DEP = State Of Florida Department Of Environmental Protection, Florida Administrative Code
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

= Diversified Environmental Laboratories, 3653 Regent Blvd Suite 509, Jacksonville, FL 32224
ENCO = ENCO-Orlando, 10775 Central Port Drive, Orlando, FL 32824, TEL (407)826-5314
TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected
J	Estimated value, value may not be accurate

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected
J	Estimated value, value may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

HPLC/IC

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
Q	Sample held beyond the accepted holding time

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB3S — Lab Sample ID: 680-129072-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7 6		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	15		5 0	0 61	ug/L	1		6020A	Total Recoverable
Iron	2700		100	25	ug/L	1		6020A	Total Recoverable
Sodium	4 1		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	35		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 55				SU	1		Field Sampling	Total/NA
Field Temperature	25 7				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	61				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3 81				NTU	1		Field Sampling	Total/NA
Water Level	144 00				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB20S — Lab Sample ID: 680-129072-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	280		5 0	2 0	mg/L	10		300 0-1993 R2 1	Total/NA
Barium	26		5 0	0 61	ug/L	1		6020A	Total Recoverable
Chromium	1 9	I	5 0	1 6	ug/L	1		6020A	Total Recoverable
Cobalt	0 22	I	0 50	0 12	ug/L	1		6020A	Total Recoverable
Iron	280		100	25	ug/L	1		6020A	Total Recoverable
Sodium	120		0 50	0 17	mg/L	1		6020A	Total Recoverable
Vanadium	5 7	I	10	5 3	ug/L	1		6020A	Total Recoverable
Total Dissolved Solids	560		10	10	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	3 8		0 50	0 20	mg/L	2		350 1-1993 R2 0	Total/NA
Nitrate as N	0 072		0 050	0 010	mg/L	1		353 2	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 01				SU	1		Field Sampling	Total/NA
Field Temperature	36 4				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 4				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	691				umhos/cm	1		Field Sampling	Total/NA
Turbidity	5 19				NTU	1		Field Sampling	Total/NA
Water Level	110 46				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB11S — Lab Sample ID: 680-129072-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	68		5 0	0 61	ug/L	1		6020A	Total Recoverable
Cobalt	0 53		0 50	0 12	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results

Client Sample ID: MWB11S (Continued) — Lab Sample ID: 680-129072-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1400		100	25	ug/L	1		6020A	Total Recoverable
Sodium	11		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	87		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Nitrate as N	0 018	I	0 050	0 010	mg/L	1		353 2	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 10				SU	1		Field Sampling	Total/NA
Field Temperature	26 5				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 5				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	159				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3 27				NTU	1		Field Sampling	Total/NA

Client Sample ID: MWB22S — Lab Sample ID: 680-129072-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	4 8	I	5 0	0 61	ug/L	1		6020A	Total Recoverable
Iron	120		100	25	ug/L	1		6020A	Total Recoverable
Sodium	9 1		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	180		10	10	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	0 11	I	0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	5 87				SU	1		Field Sampling	Total/NA
Field Temperature	27 2				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	274				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3 08				NTU	1		Field Sampling	Total/NA
Water Level	114 05				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB12S — Lab Sample ID: 680-129072-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	44		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	5 8		5 0	0 61	ug/L	1		6020A	Total Recoverable
Iron	200		100	25	ug/L	1		6020A	Total Recoverable
Selenium	2 4	I	2 5	1 0	ug/L	1		6020A	Total Recoverable
Sodium	25		0 50	0 17	mg/L	1		6020A	Total Recoverable
Vanadium	15		10	5 3	ug/L	1		6020A	Total Recoverable
Total Dissolved Solids	200		10	10	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	0 22	I	0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Nitrate as N	0 038	I	0 050	0 010	mg/L	1		353 2	Total/NA
Color	Lt Brown				PCU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results

Client Sample ID: MWB12S (Continued) — Lab Sample ID: 680-129072-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field pH	5 65				SU	1		Field Sampling	Total/NA
Field Temperature	27 3				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	1 4				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	296				umhos/cm	1		Field Sampling	Total/NA
Turbidity	11 96				NTU	1		Field Sampling	Total/NA
Water Level	112 90				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB29S — Lab Sample ID: 680-129072-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	20		5 0	0 61	ug/L	1		6020A	Total Recoverable
Cobalt	0 22	I	0 50	0 12	ug/L	1		6020A	Total Recoverable
Iron	420		100	25	ug/L	1		6020A	Total Recoverable
Sodium	13		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	84		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	0 35		0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Nitrate as N	0 037	I	0 050	0 010	mg/L	1		353 2	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 44				SU	1		Field Sampling	Total/NA
Field Temperature	28 7				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	101				umhos/cm	1		Field Sampling	Total/NA
Turbidity	1 98				NTU	1		Field Sampling	Total/NA
Water Level	128 61				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB27S — Lab Sample ID: 680-129072-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	33		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	7 5		5 0	0 61	ug/L	1		6020A	Total Recoverable
Chromium	1 7	I	5 0	1 6	ug/L	1		6020A	Total Recoverable
Cobalt	0 18	I	0 50	0 12	ug/L	1		6020A	Total Recoverable
Iron	250		100	25	ug/L	1		6020A	Total Recoverable
Nickel	2 4	I	5 0	1 9	ug/L	1		6020A	Total Recoverable
Sodium	26		0 50	0 17	mg/L	1		6020A	Total Recoverable
Vanadium	6 1	I	10	5 3	ug/L	1		6020A	Total Recoverable
Total Dissolved Solids	160		10	10	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	1 1		0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results

Client Sample ID: MWB27S (Continued) — Lab Sample ID: 680-129072-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field pH	5 18				SU	1		Field Sampling	Total/NA
Field Temperature	26 1				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	353				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4 74				NTU	1		Field Sampling	Total/NA
Water Level	118 33				ft	1		Field Sampling	Total/NA

Client Sample ID: FIELD BLANK 01 129072 — Lab Sample ID: 680-129072-8

No Detections

Client Sample ID: TRIP BLANK 129072 — Lab Sample ID: 680-129072-9

No Detections

Client Sample ID: MWB12I — Lab Sample ID: 680-129072-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 0		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	350		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 1		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	85		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 84				SU	1		Field Sampling	Total/NA
Field Temperature	25 4				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	42				umhos/cm	1		Field Sampling	Total/NA
Turbidity	2 48				NTU	1		Field Sampling	Total/NA
Water Level	112 97				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB13I — Lab Sample ID: 680-129072-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 0		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	290		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 0		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	54		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	5 06				SU	1		Field Sampling	Total/NA
Field Temperature	27 2				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	40				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4 04				NTU	1		Field Sampling	Total/NA
Water Level	106 36				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results

Detection Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB11I (R) — Lab Sample ID: 680-129072-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 1		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	440		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 1		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	56		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Nitrate as N	0 018	I	0 050	0 010	mg/L	1		353 2	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 71				SU	1		Field Sampling	Total/NA
Field Temperature	25 7				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	38				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4 87				NTU	1		Field Sampling	Total/NA
Water Level	103 84				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB3I — Lab Sample ID: 680-129072-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6 1		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	860		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 8		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	51		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 62				SU	1		Field Sampling	Total/NA
Field Temperature	23 1				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 1				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	41				umhos/cm	1		Field Sampling	Total/NA
Turbidity	2 52				NTU	1		Field Sampling	Total/NA
Water Level	135 68				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB27I — Lab Sample ID: 680-129072-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 2		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	440		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 4		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	63		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Nitrate as N	0 018	I	0 050	0 010	mg/L	1		353 2	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	5 32				SU	1		Field Sampling	Total/NA
Field Temperature	23 6				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	41				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3 97				NTU	1		Field Sampling	Total/NA
Water Level	117 16				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results

Detection Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB29I — Lab Sample ID: 680-129072-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 8		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	410		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 9		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	41		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 93				SU	1		Field Sampling	Total/NA
Field Temperature	26 1				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	31				umhos/cm	1		Field Sampling	Total/NA
Turbidity	17 22				NTU	1		Field Sampling	Total/NA
Water Level	127 50				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB21S — Lab Sample ID: 680-129123-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Antimony	0 50	I	5 0	0 50	ug/L	1		6020A	Total Recoverable
Barium	19		5 0	0 61	ug/L	1		6020A	Total Recoverable
Chromium	2 4	I	5 0	1 6	ug/L	1		6020A	Total Recoverable
Cobalt	0 17	I	0 50	0 12	ug/L	1		6020A	Total Recoverable
Copper	4 8	I	5 0	1 7	ug/L	1		6020A	Total Recoverable
Iron	190		100	25	ug/L	1		6020A	Total Recoverable
Selenium	7 4		2 5	1 0	ug/L	1		6020A	Total Recoverable
Sodium	15		0 50	0 17	mg/L	1		6020A	Total Recoverable
Vanadium	16		10	5 3	ug/L	1		6020A	Total Recoverable
Total Dissolved Solids	210		10	10	mg/L	1		2540C-2011	Total/NA
Nitrate as N	7 0		0 50	0 10	mg/L	10		353 2	Total/NA
Color	Slt Yellow Tint				PCU	1		Field Sampling	Total/NA
Field pH	4 96				SU	1		Field Sampling	Total/NA
Field Temperature	27 1				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 3				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	265				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4 02				NTU	1		Field Sampling	Total/NA
Water Level	111 53				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB33S — Lab Sample ID: 680-129123-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6 8		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA

This Detection Summary does not include radiochemical test results

Client Sample ID: MWB33S (Continued) — Lab Sample ID: 680-129123-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	8 3		5 0	0 61	ug/L	1		6020A	Total Recoverable
Iron	130		100	25	ug/L	1		6020A	Total Recoverable
Sodium	4 0		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	120		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	0 72		0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Color	Slt Yellow Tint				PCU	1		Field Sampling	Total/NA
Field pH	5 48				SU	1		Field Sampling	Total/NA
Field Temperature	26 8				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	163				umhos/cm	1		Field Sampling	Total/NA
Turbidity	3 83				NTU	1		Field Sampling	Total/NA
Water Level	114 26				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB34S — Lab Sample ID: 680-129123-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	6 8		5 0	0 61	ug/L	1		6020A	Total Recoverable
Chromium	1 7	I	5 0	1 6	ug/L	1		6020A	Total Recoverable
Cobalt	0 35	I	0 50	0 12	ug/L	1		6020A	Total Recoverable
Copper	1 7	I	5 0	1 7	ug/L	1		6020A	Total Recoverable
Iron	430		100	25	ug/L	1		6020A	Total Recoverable
Selenium	2 4	I	2 5	1 0	ug/L	1		6020A	Total Recoverable
Sodium	18		0 50	0 17	mg/L	1		6020A	Total Recoverable
Vanadium	13		10	5 3	ug/L	1		6020A	Total Recoverable
Zinc	10	I	20	9 6	ug/L	1		6020A	Total Recoverable
Total Dissolved Solids	220		10	10	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	1 1		0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Nitrate as N	0 099		0 050	0 010	mg/L	1		353 2	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	5 88				SU	1		Field Sampling	Total/NA
Field Temperature	26 4				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	283				umhos/cm	1		Field Sampling	Total/NA
Turbidity	4 56				NTU	1		Field Sampling	Total/NA
Water Level	115 21				ft	1		Field Sampling	Total/NA

Client Sample ID: FIELD BLANK 02 129123 — Lab Sample ID: 680-129123-4

This Detection Summary does not include radiochemical test results

Detection Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: FIELD BLANK 02 129123 (Continued) — Lab Sample ID: 680-129123-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	9 0		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Nitrate as N	0 025	I	0 050	0 010	mg/L	1		353 2	Total/NA

Client Sample ID: TRIP Blank - MW 129123. — Lab Sample ID: 680-129123-5

No Detections

Client Sample ID: MWB32S — Lab Sample ID: 680-129123-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Barium	27		5 0	0 61	ug/L	1		6020A	Total Recoverable
Cobalt	0 35	I	0 50	0 12	ug/L	1		6020A	Total Recoverable
Iron	790		100	25	ug/L	1		6020A	Total Recoverable
Sodium	8 4		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	99		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	0 68		0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 74				SU	1		Field Sampling	Total/NA
Field Temperature	25 6				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	72				umhos/cm	1		Field Sampling	Total/NA
Turbidity	7 24				NTU	1		Field Sampling	Total/NA
Water Level	114 02				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB2I — Lab Sample ID: 680-129123-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6 2		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	320		100	25	ug/L	1		6020A	Total Recoverable
Sodium	4 3		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	38		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	4 56				SU	1		Field Sampling	Total/NA
Field Temperature	22 0				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	35				umhos/cm	1		Field Sampling	Total/NA
Turbidity	2 42				NTU	1		Field Sampling	Total/NA
Water Level	131 53				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB34I — Lab Sample ID: 680-129123-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 2		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA

This Detection Summary does not include radiochemical test results

Client Sample ID: MWB34I (Continued) — Lab Sample ID: 680-129123-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	380		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 4		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	47		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	None				PCU	1		Field Sampling	Total/NA
Field pH	5 07				SU	1		Field Sampling	Total/NA
Field Temperature	26 3				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	23				umhos/cm	1		Field Sampling	Total/NA
Turbidity	8 24				NTU	1		Field Sampling	Total/NA
Water Level	113 50				ft	1		Field Sampling	Total/NA

Client Sample ID: MWB32I — Lab Sample ID: 680-129123-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5 0		0 50	0 20	mg/L	1		300 0-1993 R2 1	Total/NA
Iron	380		100	25	ug/L	1		6020A	Total Recoverable
Sodium	3 4		0 50	0 17	mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	47		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Color	Whitish Tint				PCU	1		Field Sampling	Total/NA
Field pH	5 36				SU	1		Field Sampling	Total/NA
Field Temperature	23 6				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0 0				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	22				umhos/cm	1		Field Sampling	Total/NA
Turbidity	44 88				NTU	1		Field Sampling	Total/NA
Water Level	113 27				ft	1		Field Sampling	Total/NA

Client Sample ID: SW-1 — Lab Sample ID: 680-129123-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0 0042		0 0025	0 0010	ug/L	1		1631E	Total/NA
Hardness as calcium carbonate	87		3 3	3 3	mg/L	1		2340B-2011	Total/NA
Barium	19		5 0	0 61	ug/L	1		6020A	Total Recoverable
Copper	2 3	I	5 0	1 7	ug/L	1		6020A	Total Recoverable
Iron	300		100	25	ug/L	1		6020A	Total Recoverable
Lead	1 1	I	2 5	0 98	ug/L	1		6020A	Total Recoverable
Total Suspended Solids	14		4 0	4 0	mg/L	1		2540 D-2011	Total/NA
Total Dissolved Solids	140		5 0	5 0	mg/L	1		2540C-2011	Total/NA
Nitrogen, Kjeldahl	0 93		0 20	0 10	mg/L	1		351 2-1993 R2 0	Total/NA
Phosphorus	0 079	I	0 10	0 041	mg/L	1		365 4-1974	Total/NA
Biochemical Oxygen Demand	4 4		2 0	2 0	mg/L	1		5210B-2011	Total/NA
Chemical Oxygen Demand	43		10	5 0	mg/L	1		5220D-2011	Total/NA
Total Organic Carbon	10		1 0	0 50	mg/L	1		5310 B-2011	Total/NA

This Detection Summary does not include radiochemical test results

Client Sample ID: SW-1 (Continued) — Lab Sample ID: 680-129123-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Total	0 93		0 25	0 25	mg/L	1		Total Nitrogen	Total/NA
Color	Slt Yellow Tint				PCU	1		Field Sampling	Total/NA
Field pH	6 34				SU	1		Field Sampling	Total/NA
Field Temperature	28 6				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	3 2				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA
Specific Conductance	221				umhos/cm	1		Field Sampling	Total/NA
Turbidity	12 30				NTU	1		Field Sampling	Total/NA

Client Sample ID: SW-3 — Lab Sample ID: 680-129123-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0 020		0 0050	0 0020	ug/L	1		1631E	Total/NA
Hardness as calcium carbonate	150		3 3	3 3	mg/L	1		2340B-2011	Total/NA
Antimony	0 80	I	5 0	0 50	ug/L	1		6020A	Total Recoverable
Arsenic	2 3	I	3 0	1 5	ug/L	1		6020A	Total Recoverable
Barium	41		5 0	0 61	ug/L	1		6020A	Total Recoverable
Chromium	4 9	I	5 0	1 6	ug/L	1		6020A	Total Recoverable
Cobalt	0 63		0 50	0 12	ug/L	1		6020A	Total Recoverable
Copper	1 9	I	5 0	1 7	ug/L	1		6020A	Total Recoverable
Iron	600		100	25	ug/L	1		6020A	Total Recoverable
Lead	4 6		2 5	0 98	ug/L	1		6020A	Total Recoverable
Nickel	5 6		5 0	1 9	ug/L	1		6020A	Total Recoverable
Selenium	1 1	I	2 5	1 0	ug/L	1		6020A	Total Recoverable
Vanadium	7 2	I	10	5 3	ug/L	1		6020A	Total Recoverable
Total Suspended Solids	13		2 0	2 0	mg/L	1		2540 D-2011	Total/NA
Total Dissolved Solids	420		10	10	mg/L	1		2540C-2011	Total/NA
Ammonia (as N)	1 5		0 25	0 10	mg/L	1		350 1-1993 R2 0	Total/NA
Nitrogen, Kjeldahl	3 8		0 20	0 10	mg/L	1		351 2-1993 R2 0	Total/NA
Nitrate as N	0 35		0 050	0 010	mg/L	1		353 2	Total/NA
Phosphorus	0 13		0 10	0 041	mg/L	1		365 4-1974	Total/NA
Biochemical Oxygen Demand	4 3		2 0	2 0	mg/L	1		5210B-2011	Total/NA
Chemical Oxygen Demand	82		10	5 0	mg/L	1		5220D-2011	Total/NA
Total Organic Carbon	28		1 0	0 50	mg/L	1		5310 B-2011	Total/NA
Nitrogen, Total	4 5		0 25	0 25	mg/L	1		Total Nitrogen	Total/NA
Unionized Ammonia	0 0099		0 000017	0 000017	mg/L	1		UnionizedNH3	Total/NA
Color	Brown				PCU	1		Field Sampling	Total/NA
Field pH	6 85				SU	1		Field Sampling	Total/NA
Field Temperature	29 4				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	3 7				mg/L	1		Field Sampling	Total/NA
Sheen	No				NONE	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results

Detection Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-3 (Continued) — Lab Sample ID: 680-129123-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	696				umhos/cm	1		Field Sampling	Total/NA
Turbidity	53 57				NTU	1		Field Sampling	Total/NA

Client Sample ID: TRIP Blank - SW 129123 — Lab Sample ID: 680-129123-13

No Detections

This Detection Summary does not include radiochemical test results

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB3S
Date Collected 08/23/16 12.01
Date Received· 08/24/16 10 40

Lab Sample ID: 680-129072-1
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 20 10	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 20 10	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 20 10	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 20 10	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 20 10	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 20 10	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 20 10	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 20 10	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 20 10	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 20 10	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 20 10	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 20 10	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 20 10	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 20 10	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 20 10	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 20 10	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 20 10	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 20 10	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 20 10	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 20 10	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 20 10	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 20 10	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 20 10	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 20 10	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 20 10	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 20 10	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 20 10	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 20 10	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 20 10	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 20 10	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 20 10	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 20 10	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 20 10	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 20 10	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 20 10	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 20 10	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 20 10	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 20 10	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 20 10	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 20 10	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 20 10	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 20 10	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 20 10	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 20 10	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 20 10	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 20 10	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 20 10	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB3S

Lab Sample ID: 680-129072-1

Date Collected 08/23/16 12 01
Date Received 08/24/16 10 40

Matrix· Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		80 - 120		08/31/16 20 10	1
Dibromofluoromethane (Surr)	96		80 - 122		08/31/16 20 10	1
1,2-Dichloroethane-d4 (Surr)	89		73 - 131		08/31/16 20 10	1
Toluene-d8 (Surr)	103		80 - 120		08/31/16 20 10	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/29/16 12 15	08/29/16 15 40	1
EDB	0 0021	U	0 018	0 0021	ug/L		08/29/16 12 15	08/29/16 15 40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	108		60 - 144	08/29/16 12 15	08/29/16 15 40	1

Method· 300.0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7 6**		0 50	0 20	mg/L			09/02/16 06 45	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 26	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 26	1
Barium	**15**		5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 26	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 26	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 26	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 26	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 26	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 26	1
Iron	**2700**		100	25	ug/L		08/26/16 09 17	08/27/16 02 26	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 26	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 26	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 26	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 26	1
Sodium	**4 1**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 26	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 26	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 09 17	08/27/16 02 26	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 26	1

Method· 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 10 49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**35**		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/25/16 13 57	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 24	1

Method· Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/23/16 12 01	1
Field pH	**4 55**				SU			08/23/16 12 01	1
Field Temperature	**25 7**				Degrees C			08/23/16 12 01	1

Client Sample ID: MWB3S

Lab Sample ID: 680-129072-1

Date Collected 08/23/16 12.01

Matrix Water

Date Received. 08/24/16 10 40

Method: Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 2				mg/L			08/23/16 12 01	1
Sheen	No				NONE			08/23/16 12 01	1
Specific Conductance	61				umhos/cm			08/23/16 12 01	1
Turbidity	3 81				NTU			08/23/16 12 01	1
Water Level	144 00				ft			08/23/16 12 01	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB20S
Date Collected. 08/23/16 11 25
Date Received 08/24/16 10 40

Lab Sample ID: 680-129072-2
Matrix· Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 19 48	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 19 48	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 19 48	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 19 48	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 19 48	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 19 48	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 19 48	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 19 48	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 19 48	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 19 48	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 19 48	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 19 48	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 19 48	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 19 48	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 19 48	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 19 48	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 19 48	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 19 48	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 19 48	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 19 48	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 19 48	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 19 48	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 19 48	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 19 48	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 19 48	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 19 48	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 19 48	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 19 48	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 19 48	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 19 48	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 19 48	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 19 48	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 19 48	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 19 48	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 19 48	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 19 48	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 19 48	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 19 48	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 19 48	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 19 48	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 19 48	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 19 48	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 19 48	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 19 48	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 19 48	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 19 48	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 19 48	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB20S

Date Collected. 08/23/16 11·25
Date Received· 08/24/16 10.40

Lab Sample ID: 680-129072-2

Matrix. Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/16 19 48*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 122*		*08/31/16 19 48*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*73 - 131*		*08/31/16 19 48*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/31/16 19 48*	*1*

Method 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0048	U	0 017	0 0048	ug/L		08/25/16 13 18	08/26/16 13 15	1
EDB	0 0021	U	0 017	0 0021	ug/L		08/25/16 13 18	08/26/16 13 15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*149*	*J*	*60 - 144*	*08/25/16 13 18*	*08/26/16 13 15*	*1*

Method: 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**280**		5 0	2 0	mg/L			09/06/16 14 50	10

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 32	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 32	1
Barium	**26**		5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 32	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 32	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 32	1
Chromium	**1 9**	I	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 32	1
Cobalt	**0 22**	I	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 32	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 32	1
Iron	**280**		100	25	ug/L		08/26/16 09 17	08/27/16 02 32	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 32	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 32	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 32	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 32	1
Sodium	**120**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 32	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 32	1
Vanadium	**5 7**	I	10	5 3	ug/L		08/26/16 09 17	08/27/16 02 32	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 32	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 03	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**560**		10	10	mg/L			08/24/16 13 52	1
Ammonia (as N)	**3 8**		0 50	0 20	mg/L			08/25/16 14 57	2
Nitrate as N	**0 072**		0 050	0 010	mg/L			08/24/16 13 26	1

Method. Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/23/16 11 25	1
Field pH	**4 01**				SU			08/23/16 11 25	1
Field Temperature	**36 4**				Degrees C			08/23/16 11 25	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB20S

Lab Sample ID: 680-129072-2

Date Collected· 08/23/16 11·25

Matrix Water

Date Received. 08/24/16 10 40

Method: Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 4				mg/L			08/23/16 11 25	1
Sheen	No				NONE			08/23/16 11 25	1
Specific Conductance	691				umhos/cm			08/23/16 11 25	1
Turbidity	5 19				NTU			08/23/16 11 25	1
Water Level	110 46				ft			08/23/16 11 25	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB11S

Date Collected 08/23/16 10.53
Date Received 08/24/16 10.40

Lab Sample ID: 680-129072-3

Matrix· Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 21 40	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 21 40	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 21 40	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 21 40	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 21 40	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 21 40	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 21 40	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 21 40	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 21 40	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 21 40	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 21 40	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 21 40	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 21 40	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 21 40	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 21 40	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 21 40	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 21 40	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 21 40	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 21 40	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 21 40	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 21 40	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 21 40	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 21 40	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 21 40	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 21 40	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 21 40	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 21 40	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 21 40	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 21 40	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 21 40	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 21 40	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 21 40	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 21 40	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 21 40	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 21 40	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 21 40	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 21 40	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 21 40	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 21 40	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 21 40	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 21 40	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 21 40	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 21 40	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 21 40	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 21 40	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 21 40	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 21 40	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB11S

Date Collected. 08/23/16 10 53
Date Received· 08/24/16 10 40

Lab Sample ID: 680-129072-3

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*08/31/16 21 40*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 122*		*08/31/16 21 40*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*73 - 131*		*08/31/16 21 40*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*08/31/16 21 40*	*1*

Method. 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0048	U	0 017	0 0048	ug/L		08/25/16 13 18	08/26/16 13 05	1
EDB	0 0021	U	0 017	0 0021	ug/L		08/25/16 13 18	08/26/16 13 05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*118*		*60 - 144*	*08/25/16 13 18*	*08/26/16 13 05*	*1*

Method: 300 0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		0 50	0 20	mg/L			09/02/16 07 20	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 38	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 38	1
Barium	**68**		5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 38	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 38	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 38	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 38	1
Cobalt	**0 53**		0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 38	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 38	1
Iron	**1400**		100	25	ug/L		08/26/16 09 17	08/27/16 02 38	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 38	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 38	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 38	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 38	1
Sodium	**11**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 38	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 38	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 09 17	08/27/16 02 38	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 07	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**87**		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 16 06	1
Nitrate as N	**0 018**	I	0 050	0 010	mg/L			08/24/16 13 27	1

Method· Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/23/16 10 53	1
Field pH	**4 10**				SU			08/23/16 10 53	1
Field Temperature	**26 5**				Degrees C			08/23/16 10 53	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB11S
Date Collected 08/23/16 10 53
Date Received 08/24/16 10 40

Lab Sample ID: 680-129072-3
Matrix: Water

Method Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 5				mg/L			08/23/16 10 53	1
Sheen	No				NONE			08/23/16 10 53	1
Specific Conductance	159				umhos/cm			08/23/16 10 53	1
Turbidity	3 27				NTU			08/23/16 10 53	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB22S

Date Collected 08/23/16 08 50
Date Received 08/24/16 10.40

Lab Sample ID: 680-129072-4

Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 19 25	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 19 25	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 19 25	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 19 25	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 19 25	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 19 25	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 19 25	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 19 25	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 19 25	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 19 25	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 19 25	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 19 25	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 19 25	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 19 25	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 19 25	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 19 25	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 19 25	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 19 25	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 19 25	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 19 25	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 19 25	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 19 25	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 19 25	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 19 25	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 19 25	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 19 25	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 19 25	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 19 25	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 19 25	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 19 25	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 19 25	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 19 25	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 19 25	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 19 25	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 19 25	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 19 25	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 19 25	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 19 25	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 19 25	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 19 25	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 19 25	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 19 25	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 19 25	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 19 25	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 19 25	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 19 25	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 19 25	1

Client Sample ID: MWB22S

Lab Sample ID: 680-129072-4

Date Collected: 08/23/16 08 50

Matrix Water

Date Received. 08/24/16 10 40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		80 - 120		08/31/16 19 25	1
Dibromofluoromethane (Surr)	95		80 - 122		08/31/16 19 25	1
1,2-Dichloroethane-d4 (Surr)	88		73 - 131		08/31/16 19 25	1
Toluene-d8 (Surr)	105		80 - 120		08/31/16 19 25	1

Method· 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/25/16 13 18	08/26/16 12 55	1
EDB	0 0021	U	0 018	0 0021	ug/L		08/25/16 13 18	08/26/16 12 55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	111		60 - 144	08/25/16 13 18	08/26/16 12 55	1

Method 300 0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10**		0 50	0 20	mg/L			09/02/16 07 37	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 45	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 45	1
Barium	**4 8**	I	5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 45	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 45	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 45	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 45	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 45	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 45	1
Iron	**120**		100	25	ug/L		08/26/16 09 17	08/27/16 02 45	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 45	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 45	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 45	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 45	1
Sodium	**9 1**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 45	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 45	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 09 17	08/27/16 02 45	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 45	1

Method 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**180**		10	10	mg/L			08/24/16 13 52	1
Ammonia (as N)	**0 11**	I	0 25	0 10	mg/L			08/31/16 16 06	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/23/16 08 50	1
Field pH	**5 87**				SU			08/23/16 08 50	1
Field Temperature	**27 2**				Degrees C			08/23/16 08 50	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB22S
Date Collected: 08/23/16 08·50
Date Received. 08/24/16 10 40

Lab Sample ID: 680-129072-4
Matrix. Water

Method· Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 2				mg/L			08/23/16 08 50	1
Sheen	No				NONE			08/23/16 08 50	1
Specific Conductance	274				umhos/cm			08/23/16 08 50	1
Turbidity	3 08				NTU			08/23/16 08 50	1
Water Level	114 05				ft			08/23/16 08 50	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB12S
Date Collected. 08/23/16 08 16
Date Received 08/24/16 10:40

Lab Sample ID: 680-129072-5
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 20 33	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 20 33	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 20 33	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 20 33	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 20 33	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 20 33	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 20 33	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 20 33	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 20 33	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 20 33	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 20 33	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 20 33	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 20 33	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 20 33	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 20 33	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 20 33	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 20 33	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 20 33	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 20 33	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 20 33	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 20 33	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 20 33	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 20 33	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 20 33	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 20 33	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 20 33	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 20 33	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 20 33	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 20 33	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 20 33	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 20 33	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 20 33	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 20 33	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 20 33	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 20 33	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 20 33	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 20 33	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 20 33	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 20 33	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 20 33	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 20 33	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 20 33	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 20 33	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 20 33	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 20 33	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 20 33	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 20 33	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB12S

Date Collected 08/23/16 08·16
Date Received 08/24/16 10·40

Lab Sample ID: 680-129072-5

Matrix· Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/16 20 33*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 122*		*08/31/16 20 33*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*73 - 131*		*08/31/16 20 33*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*08/31/16 20 33*	*1*

Method. 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/25/16 13 18	08/26/16 12 46	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/25/16 13 18	08/26/16 12 46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*135*		*60 - 144*	*08/25/16 13 18*	*08/26/16 12 46*	*1*

Method: 300 0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**44**		0 50	0 20	mg/L			09/01/16 17 10	1

Method. 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 51	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 51	1
Barium	**5 8**		5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 51	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 51	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 51	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 51	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 51	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 51	1
Iron	**200**		100	25	ug/L		08/26/16 09 17	08/27/16 02 51	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 51	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 51	1
Selenium	**2 4**	I	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 51	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 51	1
Sodium	**25**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 51	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 51	1
Vanadium	**15**		10	5 3	ug/L		08/26/16 09 17	08/27/16 02 51	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 51	1

Method. 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**200**		10	10	mg/L			08/24/16 13 52	1
Ammonia (as N)	**0 22**	I	0 25	0 10	mg/L			08/26/16 09 37	1
Nitrate as N	**0 038**	I	0 050	0 010	mg/L			08/24/16 13 29	1

Method· Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**Lt Brown**				PCU			08/23/16 08 16	1
Field pH	**5 65**				SU			08/23/16 08 16	1
Field Temperature	**27 3**				Degrees C			08/23/16 08 16	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB12S

Lab Sample ID: 680-129072-5

Date Collected· 08/23/16 08 16

Matrix· Water

Date Received. 08/24/16 10 40

Method. Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	1 4				mg/L			08/23/16 08 16	1
Sheen	No				NONE			08/23/16 08 16	1
Specific Conductance	296				umhos/cm			08/23/16 08 16	1
Turbidity	11 96				NTU			08/23/16 08 16	1
Water Level	112 90				ft			08/23/16 08 16	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB29S
Date Collected 08/23/16 11:45
Date Received 08/24/16 10.40

Lab Sample ID: 680-129072-6
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 20 55	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 20 55	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 20 55	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 20 55	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 20 55	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 20 55	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 20 55	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 20 55	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 20 55	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 20 55	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 20 55	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 20 55	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 20 55	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 20 55	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 20 55	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 20 55	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 20 55	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 20 55	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 20 55	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 20 55	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 20 55	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 20 55	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 20 55	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 20 55	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 20 55	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 20 55	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 20 55	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 20 55	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 20 55	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 20 55	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 20 55	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 20 55	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 20 55	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 20 55	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 20 55	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 20 55	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 20 55	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 20 55	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 20 55	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 20 55	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 20 55	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 20 55	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 20 55	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 20 55	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 20 55	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 20 55	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 20 55	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB29S

Date Collected: 08/23/16 11 45
Date Received. 08/24/16 10 40

Lab Sample ID: 680-129072-6

Matrix· Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/16 20 55*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 122*		*08/31/16 20 55*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*73 - 131*		*08/31/16 20 55*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/31/16 20 55*	*1*

Method· 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/25/16 13 18	08/26/16 12 36	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/25/16 13 18	08/26/16 12 36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*116*		*60 - 144*	*08/25/16 13 18*	*08/26/16 12 36*	*1*

Method 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		0 50	0 20	mg/L			09/01/16 17 27	1

Method· 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 57	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 57	1
Barium	**20**		5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 57	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 57	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 57	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 57	1
Cobalt	**0 22**	I	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 57	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 57	1
Iron	**420**		100	25	ug/L		08/26/16 09 17	08/27/16 02 57	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 57	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 57	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 57	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 57	1
Sodium	**13**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 57	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 57	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 09 17	08/27/16 02 57	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 57	1

Method. 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 21	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**84**		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	**0 35**		0 25	0 10	mg/L			08/26/16 09 37	1
Nitrate as N	**0 037**	I	0 050	0 010	mg/L			08/24/16 13 30	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/23/16 11 45	1
Field pH	**4 44**				SU			08/23/16 11 45	1
Field Temperature	**28 7**				Degrees C			08/23/16 11 45	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB29S

Lab Sample ID: 680-129072-6

Date Collected: 08/23/16 11:45

Matrix Water

Date Received 08/24/16 10 40

Method: Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 0				mg/L			08/23/16 11 45	1
Sheen	No				NONE			08/23/16 11 45	1
Specific Conductance	101				umhos/cm			08/23/16 11 45	1
Turbidity	1 98				NTU			08/23/16 11 45	1
Water Level	128 61				ft			08/23/16 11 45	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB27S
Date Collected 08/23/16 10.20
Date Received 08/24/16 10 40

Lab Sample ID: 680-129072-7
Matrix. Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 21 18	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 21 18	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 21 18	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 21 18	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 21 18	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 21 18	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 21 18	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 21 18	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 21 18	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 21 18	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 21 18	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 21 18	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 21 18	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 21 18	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 21 18	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 21 18	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 21 18	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 21 18	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 21 18	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 21 18	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 21 18	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 21 18	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 21 18	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 21 18	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 21 18	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 21 18	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 21 18	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 21 18	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 21 18	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 21 18	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 21 18	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 21 18	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 21 18	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 21 18	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 21 18	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 21 18	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 21 18	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 21 18	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 21 18	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 21 18	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 21 18	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 21 18	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 21 18	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 21 18	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 21 18	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 21 18	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 21 18	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB27S

Date Collected 08/23/16 10 20
Date Received 08/24/16 10 40

Lab Sample ID: 680-129072-7

Matrix Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/16 21 18*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 122*		*08/31/16 21 18*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*73 - 131*		*08/31/16 21 18*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*08/31/16 21 18*	*1*

Method 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0048	U	0 017	0 0048	ug/L		08/25/16 13 18	08/26/16 12 26	1
EDB	0 0021	U	0 017	0 0021	ug/L		08/25/16 13 18	08/26/16 12 26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*131*		*60 - 144*	*08/25/16 13 18*	*08/26/16 12 26*	*1*

Method: 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33**		0 50	0 20	mg/L			09/01/16 17 45	1

Method. 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 03 03	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 03 03	1
Barium	**7 5**		5 0	0 61	ug/L		08/26/16 09 17	08/27/16 03 03	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 03 03	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 03 03	1
Chromium	**1 7**	I	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 03 03	1
Cobalt	**0 18**	I	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 03 03	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 03 03	1
Iron	**250**		100	25	ug/L		08/26/16 09 17	08/27/16 03 03	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 03 03	1
Nickel	**2 4**	I	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 03 03	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 03 03	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 03 03	1
Sodium	**26**		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 03	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 03 03	1
Vanadium	**6 1**	I	10	5 3	ug/L		08/26/16 09 17	08/27/16 03 03	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 03 03	1

Method. 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**160**		10	10	mg/L			08/24/16 13 52	1
Ammonia (as N)	**1 1**		0 25	0 10	mg/L			08/26/16 09 37	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 32	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/23/16 10 20	1
Field pH	**5 18**				SU			08/23/16 10 20	1
Field Temperature	**26 1**				Degrees C			08/23/16 10 20	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB27S

Lab Sample ID: 680-129072-7

Date Collected 08/23/16 10 20

Matrix Water

Date Received 08/24/16 10 40

Method Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 0				mg/L			08/23/16 10 20	1
Sheen	No				NONE			08/23/16 10 20	1
Specific Conductance	353				umhos/cm			08/23/16 10 20	1
Turbidity	4 74				NTU			08/23/16 10 20	1
Water Level	118 33				ft			08/23/16 10 20	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: FIELD BLANK 01 129072

Lab Sample ID: 680-129072-8

Date Collected: 08/23/16 13 20

Matrix Water

Date Received 08/24/16 10:40

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 19 03	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 19 03	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 19 03	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 19 03	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 19 03	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 19 03	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 19 03	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 19 03	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 19 03	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 19 03	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 19 03	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 19 03	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 19 03	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 19 03	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 19 03	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 19 03	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 19 03	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 19 03	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 19 03	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 19 03	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 19 03	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 19 03	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 19 03	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 19 03	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 19 03	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 19 03	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 19 03	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 19 03	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 19 03	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 19 03	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 19 03	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 19 03	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 19 03	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 19 03	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 19 03	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 19 03	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 19 03	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 19 03	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 19 03	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 19 03	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 19 03	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 19 03	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 19 03	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 19 03	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 19 03	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 19 03	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 19 03	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: FIELD BLANK 01 129072

Lab Sample ID: 680-129072-8

Date Collected 08/23/16 13.20
Date Received. 08/24/16 10 40

Matrix Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/16 19 03*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 122*		*08/31/16 19 03*	*1*
1,2-Dichloroethane-d4 (Surr)	*87*		*73 - 131*		*08/31/16 19 03*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/31/16 19 03*	*1*

Method· 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U Q	0 018	0 0049	ug/L		09/13/16 11 45	09/13/16 15 30	1
EDB	0 0021	U Q	0 018	0 0021	ug/L		09/13/16 11 45	09/13/16 15 30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*102*		*60 - 144*	*09/13/16 11 45*	*09/13/16 15 30*	*1*

Method 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0 20	U	0 50	0 20	mg/L			09/01/16 18 02	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 03 09	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 03 09	1
Barium	0 61	U	5 0	0 61	ug/L		08/26/16 09 17	08/27/16 03 09	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 03 09	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 03 09	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 03 09	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 03 09	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 03 09	1
Iron	25	U	100	25	ug/L		08/26/16 09 17	08/27/16 03 09	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 03 09	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 03 09	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 03 09	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 03 09	1
Sodium	0 17	U	0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 09	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 03 09	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 09 17	08/27/16 03 09	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 03 09	1

Method 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 11 39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5 0	U	5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 45	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 33	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP BLANK 129072

Lab Sample ID: 680-129072-9

Date Collected. 08/23/16 00.00

Matrix: Water

Date Received· 08/24/16 10 40

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 18 41	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 18 41	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 18 41	1
Bromoform	0 43	U J	1 0	0 43	ug/L			08/31/16 18 41	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			08/31/16 18 41	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 18 41	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 18 41	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 18 41	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 18 41	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 18 41	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 18 41	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 18 41	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 18 41	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 18 41	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 18 41	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 18 41	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 18 41	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 18 41	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 18 41	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 18 41	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 18 41	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 18 41	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 18 41	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 18 41	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 18 41	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 18 41	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 18 41	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 18 41	1
Iodomethane	5 0	U J	10	5 0	ug/L			08/31/16 18 41	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 18 41	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 18 41	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 18 41	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 18 41	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 18 41	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 18 41	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 18 41	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 18 41	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 18 41	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 18 41	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 18 41	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 18 41	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 18 41	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 18 41	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 18 41	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 18 41	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 18 41	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 18 41	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP BLANK 129072

Lab Sample ID: 680-129072-9

Date Collected. 08/23/16 00·00

Matrix Water

Date Received 08/24/16 10.40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		08/31/16 18 41	1
Dibromofluoromethane (Surr)	95		80 - 122		08/31/16 18 41	1
1,2-Dichloroethane-d4 (Surr)	87		73 - 131		08/31/16 18 41	1
Toluene-d8 (Surr)	104		80 - 120		08/31/16 18 41	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB12I
Date Collected 08/23/16 07 45
Date Received 08/24/16 10 40

Lab Sample ID: 680-129072-10
Matrix Water

Method: 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 0		0 50	0 20	mg/L			09/01/16 18 20	1

Method· 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	350		100	25	ug/L		08/26/16 09 17	08/27/16 03 28	1
Sodium	3 1		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 28	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	85		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 45	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 34	1

Method. Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/23/16 07 45	1
Field pH	4 84				SU			08/23/16 07 45	1
Field Temperature	25 4				Degrees C			08/23/16 07 45	1
Oxygen, Dissolved	0 2				mg/L			08/23/16 07 45	1
Sheen	No				NONE			08/23/16 07 45	1
Specific Conductance	42				umhos/cm			08/23/16 07 45	1
Turbidity	2 48				NTU			08/23/16 07 45	1
Water Level	112 97				ft			08/23/16 07 45	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB13I

Lab Sample ID: 680-129072-11

Date Collected 08/23/16 09 26

Matrix Water

Date Received. 08/24/16 10 40

Method 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 0		0 50	0 20	mg/L			09/01/16 19 12	1

Method. 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	290		100	25	ug/L		08/26/16 09 17	08/27/16 03 34	1
Sodium	3 0		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	54		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 45	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 38	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/23/16 09 26	1
Field pH	5 06				SU			08/23/16 09 26	1
Field Temperature	27 2				Degrees C			08/23/16 09 26	1
Oxygen, Dissolved	0 2				mg/L			08/23/16 09 26	1
Sheen	No				NONE			08/23/16 09 26	1
Specific Conductance	40				umhos/cm			08/23/16 09 26	1
Turbidity	4 04				NTU			08/23/16 09 26	1
Water Level	106 36				ft			08/23/16 09 26	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB11I (R)

Lab Sample ID: 680-129072-12

Date Collected: 08/23/16 10:21

Matrix Water

Date Received. 08/24/16 10:40

Method· 300.0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 1		0 50	0 20	mg/L			09/01/16 19 29	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	440		100	25	ug/L		08/26/16 09 17	08/27/16 03 41	1
Sodium	3 1		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	56		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 45	1
Nitrate as N	0 018	I	0 050	0 010	mg/L			08/24/16 13 39	1

Method· Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/23/16 10 21	1
Field pH	4 71				SU			08/23/16 10 21	1
Field Temperature	25 7				Degrees C			08/23/16 10 21	1
Oxygen, Dissolved	0 0				mg/L			08/23/16 10 21	1
Sheen	No				NONE			08/23/16 10 21	1
Specific Conductance	38				umhos/cm			08/23/16 10 21	1
Turbidity	4 87				NTU			08/23/16 10 21	1
Water Level	103 84				ft			08/23/16 10 21	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB3I

Lab Sample ID: 680-129072-13

Date Collected· 08/23/16 12 35

Matrix· Water

Date Received. 08/24/16 10.40

Method· 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6 1		0 50	0 20	mg/L			09/01/16 19 47	1

Method. 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	860		100	25	ug/L		08/26/16 09 17	08/27/16 03 47	1
Sodium	3 8		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 47	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	51		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 27	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 40	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/23/16 12 35	1
Field pH	4 62				SU			08/23/16 12 35	1
Field Temperature	23 1				Degrees C			08/23/16 12 35	1
Oxygen, Dissolved	0 1				mg/L			08/23/16 12 35	1
Sheen	No				NONE			08/23/16 12 35	1
Specific Conductance	41				umhos/cm			08/23/16 12 35	1
Turbidity	2 52				NTU			08/23/16 12 35	1
Water Level	135 68				ft			08/23/16 12 35	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB27I

Lab Sample ID: 680-129072-14

Date Collected 08/23/16 11 05

Matrix. Water

Date Received. 08/24/16 10 40

Method· 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 2		0 50	0 20	mg/L			09/01/16 20 04	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	440		100	25	ug/L		08/26/16 09 17	08/27/16 03 53	1
Sodium	3 4		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 53	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	63		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 37	1
Nitrate as N	0 018	I	0 050	0 010	mg/L			08/24/16 14 08	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/23/16 11 05	1
Field pH	5 32				SU			08/23/16 11 05	1
Field Temperature	23 6				Degrees C			08/23/16 11 05	1
Oxygen, Dissolved	0 0				mg/L			08/23/16 11 05	1
Sheen	No				NONE			08/23/16 11 05	1
Specific Conductance	41				umhos/cm			08/23/16 11 05	1
Turbidity	3 97				NTU			08/23/16 11 05	1
Water Level	117 16				ft			08/23/16 11 05	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB29I

Date Collected 08/23/16 12 21
Date Received 08/24/16 10.40

Lab Sample ID: 680-129072-15

Matrix· Water

Method 300 0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 8		0 50	0 20	mg/L			09/01/16 21 14	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	410		100	25	ug/L		08/26/16 09 17	08/27/16 03 59	1
Sodium	3 9		0 50	0 17	mg/L		08/26/16 09 17	08/27/16 03 59	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	41		5 0	5 0	mg/L			08/24/16 13 52	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 27	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 14 11	1

Method· Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/23/16 12 21	1
Field pH	4 93				SU			08/23/16 12 21	1
Field Temperature	26 1				Degrees C			08/23/16 12 21	1
Oxygen, Dissolved	0 0				mg/L			08/23/16 12 21	1
Sheen	No				NONE			08/23/16 12 21	1
Specific Conductance	31				umhos/cm			08/23/16 12 21	1
Turbidity	17 22				NTU			08/23/16 12 21	1
Water Level	127 50				ft			08/23/16 12 21	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB21S
Date Collected: 08/24/16 09:32
Date Received 08/25/16 09:17

Lab Sample ID: 680-129123-1
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 14 53	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 14 53	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 14 53	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 14 53	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 14 53	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 14 53	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 14 53	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 14 53	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 14 53	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 14 53	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 14 53	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 14 53	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 14 53	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 14 53	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 14 53	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 14 53	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 14 53	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 14 53	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 14 53	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 14 53	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 14 53	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 14 53	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 14 53	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 14 53	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 14 53	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 14 53	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 14 53	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 14 53	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 14 53	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 14 53	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 14 53	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 14 53	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 14 53	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 14 53	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 14 53	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 14 53	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 14 53	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 14 53	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 14 53	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 14 53	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 14 53	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 14 53	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 14 53	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 14 53	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 14 53	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 14 53	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 14 53	1

Client Sample ID: MWB21S

Date Collected: 08/24/16 09 32
Date Received: 08/25/16 09 17

Lab Sample ID: 680-129123-1

Matrix. Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*09/02/16 14 53*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 122*		*09/02/16 14 53*	*1*
1,2-Dichloroethane-d4 (Surr)	*86*		*73 - 131*		*09/02/16 14 53*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*09/02/16 14 53*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/29/16 12 15	08/29/16 15 50	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/29/16 12 15	08/29/16 15 50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*99*		*60 - 144*	*08/29/16 12 15*	*08/29/16 15 50*	*1*

Method: 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		0 50	0 20	mg/L			09/01/16 23 31	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0 50**	I	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 17 46	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 17 46	1
Barium	**19**		5 0	0 61	ug/L		08/26/16 14 19	08/29/16 17 46	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 17 46	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 17 46	1
Chromium	**2 4**	I	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 17 46	1
Cobalt	**0 17**	I	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 17 46	1
Copper	**4 8**	I	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 17 46	1
Iron	**190**		100	25	ug/L		08/26/16 14 19	08/29/16 17 46	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 17 46	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 17 46	1
Selenium	**7 4**		2 5	1 0	ug/L		08/26/16 14 19	08/29/16 17 46	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 17 46	1
Sodium	**15**		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 17 46	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 17 46	1
Vanadium	**16**		10	5 3	ug/L		08/26/16 14 19	08/29/16 17 46	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 17 46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 10 26	08/27/16 14 24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**210**		10	10	mg/L			08/26/16 10 03	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 16 06	1
Nitrate as N	**7 0**		0 50	0 10	mg/L			08/25/16 12 49	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**Slt Yellow Tint**				PCU			08/24/16 09 32	1
Field pH	**4 96**				SU			08/24/16 09 32	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB21S
Date Collected 08/24/16 09 32
Date Received 08/25/16 09 17

Lab Sample ID: 680-129123-1
Matrix Water

Method Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Temperature	27 1				Degrees C			08/24/16 09 32	1
Oxygen, Dissolved	0 3				mg/L			08/24/16 09 32	1
Sheen	No				NONE			08/24/16 09 32	1
Specific Conductance	265				umhos/cm			08/24/16 09 32	1
Turbidity	4 02				NTU			08/24/16 09 32	1
Water Level	111 53				ft			08/24/16 09 32	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB33S
Date Collected 08/24/16 10 45
Date Received. 08/25/16 09 17

Lab Sample ID: 680-129123-2
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 15 13	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 15 13	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 15 13	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 15 13	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 15 13	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 15 13	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 15 13	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 15 13	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 15 13	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 15 13	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 15 13	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 15 13	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 15 13	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 15 13	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 15 13	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 15 13	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 15 13	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 15 13	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 15 13	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 15 13	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 15 13	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 15 13	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 15 13	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 15 13	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 15 13	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 15 13	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 15 13	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 15 13	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 15 13	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 15 13	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 15 13	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 15 13	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 15 13	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 15 13	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 15 13	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 15 13	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 15 13	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 15 13	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 15 13	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 15 13	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 15 13	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 15 13	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 15 13	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 15 13	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 15 13	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 15 13	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 15 13	1

Client Sample ID: MWB33S

Date Collected: 08/24/16 10:45
Date Received: 08/25/16 09 17

Lab Sample ID: 680-129123-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*09/02/16 15 13*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 122*		*09/02/16 15 13*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*73 - 131*		*09/02/16 15 13*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*09/02/16 15 13*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/29/16 12 15	08/29/16 15 11	1
EDB	0 0021	U	0 018	0 0021	ug/L		08/29/16 12 15	08/29/16 15 11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	*107*		*60 - 144*	*08/29/16 12 15*	*08/29/16 15 11*	*1*

Method. 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6 8**		0 50	0 20	mg/L			09/02/16 00 23	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 17 52	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 17 52	1
Barium	**8 3**		5 0	0 61	ug/L		08/26/16 14 19	08/29/16 17 52	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 17 52	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 17 52	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 17 52	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 17 52	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 17 52	1
Iron	**130**		100	25	ug/L		08/26/16 14 19	08/29/16 17 52	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 17 52	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 17 52	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 17 52	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 17 52	1
Sodium	**4 0**		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 17 52	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 17 52	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 14 19	08/29/16 17 52	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 17 52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 10 26	08/27/16 14 29	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**120**		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	**0 72**		0 25	0 10	mg/L			08/31/16 16 13	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 12 53	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**Slt Yellow Tint**				PCU			08/24/16 10 45	1
Field pH	**5 48**				SU			08/24/16 10 45	1

Client Sample ID: MWB33S

Lab Sample ID: 680-129123-2

Date Collected. 08/24/16 10 45

Matrix Water

Date Received· 08/25/16 09 17

Method. Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Temperature	26 8				Degrees C			08/24/16 10 45	1
Oxygen, Dissolved	0 2				mg/L			08/24/16 10 45	1
Sheen	No				NONE			08/24/16 10 45	1
Specific Conductance	163				umhos/cm			08/24/16 10 45	1
Turbidity	3 83				NTU			08/24/16 10 45	1
Water Level	114 26				ft			08/24/16 10 45	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB34S

Date Collected 08/24/16 09 05
Date Received 08/25/16 09 17

Lab Sample ID: 680-129123-3

Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 15 34	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 15 34	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 15 34	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 15 34	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 15 34	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 15 34	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 15 34	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 15 34	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 15 34	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 15 34	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 15 34	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 15 34	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 15 34	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 15 34	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 15 34	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 15 34	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 15 34	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 15 34	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 15 34	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 15 34	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 15 34	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 15 34	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 15 34	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 15 34	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 15 34	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 15 34	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 15 34	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 15 34	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 15 34	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 15 34	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 15 34	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 15 34	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 15 34	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 15 34	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 15 34	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 15 34	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 15 34	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 15 34	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 15 34	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 15 34	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 15 34	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 15 34	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 15 34	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 15 34	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 15 34	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 15 34	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 15 34	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB34S

Lab Sample ID: 680-129123-3

Date Collected. 08/24/16 09·05

Matrix Water

Date Received. 08/25/16 09 17

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*09/02/16 15 34*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 122*		*09/02/16 15 34*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*73 - 131*		*09/02/16 15 34*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*09/02/16 15 34*	*1*

Method. 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/29/16 12 15	08/29/16 16 00	1
EDB	0 0021	U	0 018	0 0021	ug/L		08/29/16 12 15	08/29/16 16 00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*97*		*60 - 144*	*08/29/16 12 15*	*08/29/16 16 00*	*1*

Method· 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		0 50	0 20	mg/L			09/02/16 00 40	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 17 58	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 17 58	1
Barium	**6 8**		5 0	0 61	ug/L		08/26/16 14 19	08/29/16 17 58	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 17 58	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 17 58	1
Chromium	**1 7**	I	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 17 58	1
Cobalt	**0 35**	I	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 17 58	1
Copper	**1 7**	I	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 17 58	1
Iron	**430**		100	25	ug/L		08/26/16 14 19	08/29/16 17 58	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 17 58	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 17 58	1
Selenium	**2 4**	I	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 17 58	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 17 58	1
Sodium	**18**		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 17 58	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 17 58	1
Vanadium	**13**		10	5 3	ug/L		08/26/16 14 19	08/29/16 17 58	1
Zinc	**10**	I	20	9 6	ug/L		08/26/16 14 19	08/29/16 17 58	1

Method. 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 10 26	08/27/16 14 33	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**220**		10	10	mg/L			08/26/16 10 03	1
Ammonia (as N)	**1 1**		0 25	0 10	mg/L			08/31/16 15 07	1
Nitrate as N	**0 099**		0 050	0 010	mg/L			08/25/16 12 54	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/24/16 09 05	1
Field pH	**5 88**				SU			08/24/16 09 05	1
Field Temperature	**26 4**				Degrees C			08/24/16 09 05	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB34S
Date Collected. 08/24/16 09.05
Date Received. 08/25/16 09 17

Lab Sample ID: 680-129123-3
Matrix· Water

Method: Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 0				mg/L			08/24/16 09 05	1
Sheen	No				NONE			08/24/16 09 05	1
Specific Conductance	283				umhos/cm			08/24/16 09 05	1
Turbidity	4 56				NTU			08/24/16 09 05	1
Water Level	115 21				ft			08/24/16 09 05	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: FIELD BLANK 02 129123

Lab Sample ID: 680-129123-4

Date Collected: 08/24/16 11 30

Matrix. Water

Date Received 08/25/16 09:17

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 12 29	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 12 29	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 12 29	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 12 29	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 12 29	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 12 29	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 12 29	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 12 29	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 12 29	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 12 29	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 12 29	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 12 29	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 12 29	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 12 29	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 12 29	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 12 29	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 12 29	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 12 29	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 12 29	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 12 29	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 12 29	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 12 29	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 12 29	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 12 29	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 12 29	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 12 29	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 12 29	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 12 29	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 12 29	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 12 29	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 12 29	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 12 29	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 12 29	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 12 29	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 12 29	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 12 29	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 12 29	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 12 29	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 12 29	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 12 29	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 12 29	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 12 29	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 12 29	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 12 29	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 12 29	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 12 29	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 12 29	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: FIELD BLANK 02 129123

Lab Sample ID: 680-129123-4

Date Collected 08/24/16 11 30
Date Received 08/25/16 09 17

Matrix· Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*09/02/16 12 29*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 122*		*09/02/16 12 29*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*73 - 131*		*09/02/16 12 29*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*09/02/16 12 29*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0048	U	0 017	0 0048	ug/L		08/29/16 12 15	08/29/16 16 10	1
EDB	0 0021	U	0 017	0 0021	ug/L		08/29/16 12 15	08/29/16 16 10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*122*		*60 - 144*	*08/29/16 12 15*	*08/29/16 16 10*	*1*

Method 300.0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0 20	U	0 50	0 20	mg/L			09/02/16 00 58	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 18 04	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 18 04	1
Barium	0 61	U	5 0	0 61	ug/L		08/26/16 14 19	08/29/16 18 04	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 18 04	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 18 04	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 18 04	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 18 04	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 18 04	1
Iron	25	U	100	25	ug/L		08/26/16 14 19	08/29/16 18 04	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 18 04	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 18 04	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 18 04	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 18 04	1
Sodium	0 17	U	0 50	0 17	mg/L		08/26/16 14 19	08/29/16 18 04	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 18 04	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 14 19	08/29/16 18 04	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 18 04	1

Method 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 10 26	08/27/16 14 38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**9 0**		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 15 07	1
Nitrate as N	**0 025**	I	0 050	0 010	mg/L			08/25/16 12 56	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP Blank - MW 129123.
Date Collected 08/24/16 00 00
Date Received 08/25/16 09.17

Lab Sample ID: 680-129123-5
Matrix. Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 11 48	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 11 48	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 11 48	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 11 48	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 11 48	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 11 48	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 11 48	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 11 48	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 11 48	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 11 48	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 11 48	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 11 48	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 11 48	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 11 48	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 11 48	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 11 48	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 11 48	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 11 48	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 11 48	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 11 48	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 11 48	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 11 48	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 11 48	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 11 48	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 11 48	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 11 48	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 11 48	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 11 48	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 11 48	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 11 48	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 11 48	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 11 48	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 11 48	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 11 48	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 11 48	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 11 48	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 11 48	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 11 48	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 11 48	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 11 48	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 11 48	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 11 48	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 11 48	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 11 48	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 11 48	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 11 48	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 11 48	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP Blank - MW 129123.

Lab Sample ID: 680-129123-5

Date Collected: 08/24/16 00:00

Matrix Water

Date Received 08/25/16 09 17

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		80 - 120		09/02/16 11 48	1
Dibromofluoromethane (Surr)	99		80 - 122		09/02/16 11 48	1
1,2-Dichloroethane-d4 (Surr)	86		73 - 131		09/02/16 11 48	1
Toluene-d8 (Surr)	101		80 - 120		09/02/16 11 48	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB32S
Date Collected 08/24/16 10:50
Date Received 08/25/16 09:17

Lab Sample ID: 680-129123-6
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 15 54	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 15 54	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 15 54	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 15 54	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 15 54	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 15 54	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 15 54	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 15 54	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 15 54	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 15 54	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 15 54	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 15 54	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 15 54	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 15 54	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 15 54	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 15 54	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 15 54	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 15 54	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 15 54	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 15 54	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 15 54	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 15 54	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 15 54	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 15 54	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 15 54	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 15 54	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 15 54	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 15 54	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 15 54	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 15 54	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 15 54	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 15 54	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 15 54	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 15 54	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 15 54	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 15 54	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 15 54	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 15 54	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 15 54	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 15 54	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 15 54	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 15 54	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 15 54	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 15 54	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 15 54	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 15 54	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 15 54	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB32S

Date Collected 08/24/16 10:50
Date Received 08/25/16 09 17

Lab Sample ID: 680-129123-6

Matrix Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		09/02/16 15 54	1
Dibromofluoromethane (Surr)	101		80 - 122		09/02/16 15 54	1
1,2-Dichloroethane-d4 (Surr)	95		73 - 131		09/02/16 15 54	1
Toluene-d8 (Surr)	99		80 - 120		09/02/16 15 54	1

Method 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/29/16 12 15	08/29/16 16 20	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/29/16 12 15	08/29/16 16 20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	103		60 - 144	08/29/16 12 15	08/29/16 16 20	1

Method: 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12**		0 50	0 20	mg/L			09/02/16 01 15	1

Method· 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 18 23	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 18 23	1
Barium	**27**		5 0	0 61	ug/L		08/26/16 14 19	08/29/16 18 23	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 18 23	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 18 23	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 18 23	1
Cobalt	**0 35**	I	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 18 23	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 18 23	1
Iron	**790**		100	25	ug/L		08/26/16 14 19	08/29/16 18 23	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 18 23	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 18 23	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 18 23	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 18 23	1
Sodium	**8 4**		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 18 23	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 18 23	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 14 19	08/29/16 18 23	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 18 23	1

Method· 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 10 26	08/27/16 14 42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**99**		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	**0 68**		0 25	0 10	mg/L			08/31/16 15 07	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 12 57	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	**None**				PCU			08/24/16 10 50	1
Field pH	**4 74**				SU			08/24/16 10 50	1
Field Temperature	**25 6**				Degrees C			08/24/16 10 50	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB32S

Lab Sample ID: 680-129123-6

Date Collected. 08/24/16 10·50
Date Received 08/25/16 09.17

Matrix· Water

Method: Field Sampling - Field Sampling (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxygen, Dissolved	0 0				mg/L			08/24/16 10 50	1
Sheen	No				NONE			08/24/16 10 50	1
Specific Conductance	72				umhos/cm			08/24/16 10 50	1
Turbidity	7 24				NTU			08/24/16 10 50	1
Water Level	114 02				ft			08/24/16 10 50	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB2I

Date Collected 08/24/16 10.06
Date Received 08/25/16 09 17

Lab Sample ID: 680-129123-7

Matrix Water

Method: 300 0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6 2		0 50	0 20	mg/L			09/02/16 01 33	1

Method. 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	320		100	25	ug/L		08/26/16 14 19	08/29/16 18 29	1
Sodium	4 3		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 18 29	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	38		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 15 07	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 12 58	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/24/16 10 06	1
Field pH	4 56				SU			08/24/16 10 06	1
Field Temperature	22 0				Degrees C			08/24/16 10 06	1
Oxygen, Dissolved	0 2				mg/L			08/24/16 10 06	1
Sheen	No				NONE			08/24/16 10 06	1
Specific Conductance	35				umhos/cm			08/24/16 10 06	1
Turbidity	2 42				NTU			08/24/16 10 06	1
Water Level	131 53				ft			08/24/16 10 06	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB34I

Date Collected 08/24/16 09:48
Date Received: 08/25/16 09 17

Lab Sample ID: 680-129123-8

Matrix. Water

Method: 300.0-1993 R2 1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 2		0 50	0 20	mg/L			09/02/16 01 50	1

Method. 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	380		100	25	ug/L		08/26/16 14 19	08/29/16 18 36	1
Sodium	3 4		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 18 36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	47		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 15 07	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 13 00	1

Method· Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	None				PCU			08/24/16 09 48	1
Field pH	5 07				SU			08/24/16 09 48	1
Field Temperature	26 3				Degrees C			08/24/16 09 48	1
Oxygen, Dissolved	0 0				mg/L			08/24/16 09 48	1
Sheen	No				NONE			08/24/16 09 48	1
Specific Conductance	23				umhos/cm			08/24/16 09 48	1
Turbidity	8 24				NTU			08/24/16 09 48	1
Water Level	113 50				ft			08/24/16 09 48	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB32I

Date Collected. 08/24/16 11.58
Date Received. 08/25/16 09.17

Lab Sample ID: 680-129123-9

Matrix Water

Method: 300 0-1993 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5 0		0 50	0 20	mg/L			09/02/16 02 07	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	380		100	25	ug/L		08/26/16 14 19	08/29/16 18 42	1
Sodium	3 4		0 50	0 17	mg/L		08/26/16 14 19	08/29/16 18 42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	47		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 16 06	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 13 02	1

Method Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	Whitish Tint				PCU			08/24/16 11 58	1
Field pH	5 36				SU			08/24/16 11 58	1
Field Temperature	23 6				Degrees C			08/24/16 11 58	1
Oxygen, Dissolved	0 0				mg/L			08/24/16 11 58	1
Sheen	No				NONE			08/24/16 11 58	1
Specific Conductance	22				umhos/cm			08/24/16 11 58	1
Turbidity	44 88				NTU			08/24/16 11 58	1
Water Level	113 27				ft			08/24/16 11 58	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-1
Date Collected 08/24/16 07 45
Date Received 08/25/16 09.17

Lab Sample ID: 680-129123-11
Matrix Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 16 15	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 16 15	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 16 15	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 16 15	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 16 15	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 16 15	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 16 15	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 16 15	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 16 15	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 16 15	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 16 15	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 16 15	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 16 15	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 16 15	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 16 15	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 16 15	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 16 15	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 16 15	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 16 15	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 16 15	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 16 15	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 16 15	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 16 15	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 16 15	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 16 15	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 16 15	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 16 15	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 16 15	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 16 15	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 16 15	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 16 15	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 16 15	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 16 15	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 16 15	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 16 15	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 16 15	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 16 15	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 16 15	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 16 15	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 16 15	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 16 15	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 16 15	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 16 15	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 16 15	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 16 15	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 16 15	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 16 15	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-1

Date Collected 08/24/16 07:45
Date Received. 08/25/16 09 17

Lab Sample ID: 680-129123-11

Matrix· Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/02/16 16 15*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 122*		*09/02/16 16 15*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 131*		*09/02/16 16 15*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*09/02/16 16 15*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0049	U	0 018	0 0049	ug/L		08/29/16 12 15	08/29/16 16 30	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/29/16 12 15	08/29/16 16 30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*107*		*60 - 144*	*08/29/16 12 15*	*08/29/16 16 30*	*1*

Method. 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0 0042**		0 0025	0 0010	ug/L		08/26/16 15 50	08/30/16 09 39	1

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	**87**		3 3	3 3	mg/L			09/06/16 09 50	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 18 48	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 18 48	1
Barium	**19**		5 0	0 61	ug/L		08/26/16 14 19	08/29/16 18 48	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 18 48	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 18 48	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 18 48	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 18 48	1
Copper	**2 3**	I	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 18 48	1
Iron	**300**		100	25	ug/L		08/26/16 14 19	08/29/16 18 48	1
Lead	**1 1**	I	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 18 48	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 18 48	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 18 48	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 18 48	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 18 48	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 14 19	08/29/16 18 48	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 18 48	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**14**		4 0	4 0	mg/L			08/25/16 14 17	1
Total Dissolved Solids	**140**		5 0	5 0	mg/L			08/26/16 10 03	1
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 15 07	1
Nitrogen, Kjeldahl	**0 93**		0 20	0 10	mg/L		09/01/16 16 01	09/02/16 13 51	1
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 13 03	1
Phosphorus	**0 079**	I	0 10	0 041	mg/L		09/01/16 16 01	09/02/16 13 51	1
Orthophosphate	0 016	U Q	0 050	0 016	mg/L			08/26/16 11 33	1
Biochemical Oxygen Demand	**4 4**		2 0	2 0	mg/L			08/25/16 15 56	1
Chemical Oxygen Demand	**43**		10	5 0	mg/L			09/02/16 10 26	1

Client Sample ID: SW-1

Lab Sample ID: 680-129123-11

Date Collected. 08/24/16 07·45

Matrix· Water

Date Received. 08/25/16 09 17

General Chemistry (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	10		1 0	0 50	mg/L			08/30/16 05 53	1
Nitrogen, Total	0 93		0 25	0 25	mg/L			09/06/16 09 02	1
Unionized Ammonia	0 000017	U	0 000017	0 000017	mg/L			09/06/16 08 59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	Slt Yellow Tint				PCU			08/24/16 07 45	1
Field pH	6 34				SU			08/24/16 07 45	1
Field Temperature	28 6				Degrees C			08/24/16 07 45	1
Oxygen, Dissolved	3 2				mg/L			08/24/16 07 45	1
Sheen	No				NONE			08/24/16 07 45	1
Specific Conductance	221				umhos/cm			08/24/16 07 45	1
Turbidity	12 30				NTU			08/24/16 07 45	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-3
Date Collected: 08/24/16 08.15
Date Received 08/25/16 09.17

Lab Sample ID: 680-129123-12
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 16 35	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 16 35	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 16 35	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 16 35	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 16 35	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 16 35	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 16 35	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 16 35	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 16 35	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 16 35	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 16 35	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 16 35	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 16 35	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 16 35	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 16 35	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 16 35	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 16 35	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 16 35	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 16 35	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 16 35	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 16 35	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 16 35	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 16 35	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 16 35	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 16 35	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 16 35	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 16 35	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 16 35	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 16 35	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 16 35	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 16 35	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 16 35	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 16 35	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 16 35	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 16 35	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 16 35	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 16 35	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 16 35	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 16 35	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 16 35	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 16 35	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 16 35	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 16 35	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 16 35	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 16 35	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 16 35	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 16 35	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-3

Date Collected 08/24/16 08:15
Date Received 08/25/16 09 17

Lab Sample ID: 680-129123-12

Matrix. Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*09/02/16 16 35*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 122*		*09/02/16 16 35*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 131*		*09/02/16 16 35*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*09/02/16 16 35*	*1*

Method 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0050	U	0 018	0 0050	ug/L		08/29/16 12 15	08/29/16 17 49	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/29/16 12 15	08/29/16 17 49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*108*		*60 - 144*	*08/29/16 12 15*	*08/29/16 17 49*	*1*

Method. 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0 020**		0 0050	0 0020	ug/L		08/26/16 15 50	08/30/16 09 48	1

Method. 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	**150**		3 3	3 3	mg/L			09/06/16 09 50	1

Method 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0 80**	I	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 18 54	1
Arsenic	**2 3**	I	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 18 54	1
Barium	**41**		5 0	0 61	ug/L		08/26/16 14 19	08/29/16 18 54	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 18 54	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 18 54	1
Chromium	**4 9**	I	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 18 54	1
Cobalt	**0 63**		0 50	0 12	ug/L		08/26/16 14 19	08/29/16 18 54	1
Copper	**1 9**	I	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 18 54	1
Iron	**600**		100	25	ug/L		08/26/16 14 19	08/29/16 18 54	1
Lead	**4 6**		2 5	0 98	ug/L		08/26/16 14 19	08/29/16 18 54	1
Nickel	**5 6**		5 0	1 9	ug/L		08/26/16 14 19	08/29/16 18 54	1
Selenium	**1 1**	I	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 18 54	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 18 54	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 18 54	1
Vanadium	**7 2**	I	10	5 3	ug/L		08/26/16 14 19	08/29/16 18 54	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 18 54	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**13**		2 0	2 0	mg/L			08/25/16 14 17	1
Total Dissolved Solids	**420**		10	10	mg/L			08/26/16 10 03	1
Ammonia (as N)	**1 5**		0 25	0 10	mg/L			08/31/16 15 07	1
Nitrogen, Kjeldahl	**3 8**		0 20	0 10	mg/L		09/01/16 16 01	09/02/16 14 04	1
Nitrate as N	**0 35**		0 050	0 010	mg/L			08/25/16 12 59	1
Phosphorus	**0 13**		0 10	0 041	mg/L		09/01/16 16 01	09/02/16 14 04	1
Orthophosphate	0 016	U Q	0 050	0 016	mg/L			08/26/16 11 33	1
Biochemical Oxygen Demand	**4 3**		2 0	2 0	mg/L			08/25/16 16 03	1
Chemical Oxygen Demand	**82**		10	5 0	mg/L			09/02/16 10 26	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-3

Lab Sample ID: 680-129123-12

Date Collected. 08/24/16 08 15
Date Received 08/25/16 09 17

Matrix. Water

General Chemistry (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	28		1 0	0 50	mg/L			08/30/16 06 09	1
Nitrogen, Total	4 5		0 25	0 25	mg/L			09/06/16 09 02	1
Unionized Ammonia	0 0099		0 000017	0 000017	mg/L			09/06/16 08 59	1

Method. Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	Brown				PCU			08/24/16 08 15	1
Field pH	6 85				SU			08/24/16 08 15	1
Field Temperature	29 4				Degrees C			08/24/16 08 15	1
Oxygen, Dissolved	3 7				mg/L			08/24/16 08 15	1
Sheen	No				NONE			08/24/16 08 15	1
Specific Conductance	696				umhos/cm			08/24/16 08 15	1
Turbidity	53 57				NTU			08/24/16 08 15	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP Blank - SW 129123

Lab Sample ID: 680-129123-13

Date Collected: 08/24/16 00 00

Matrix Water

Date Received 08/25/16 09 17

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 12 50	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 12 50	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 12 50	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 12 50	1
Bromomethane	2 5	U J	5 0	2 5	ug/L			09/02/16 12 50	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 12 50	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 12 50	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 12 50	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 12 50	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 12 50	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 12 50	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 12 50	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 12 50	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 12 50	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 12 50	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 12 50	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 12 50	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 12 50	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 12 50	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 12 50	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 12 50	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 12 50	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 12 50	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 12 50	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 12 50	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 12 50	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 12 50	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 12 50	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 12 50	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 12 50	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 12 50	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 12 50	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 12 50	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 12 50	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 12 50	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 12 50	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 12 50	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 12 50	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 12 50	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 12 50	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 12 50	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 12 50	1
Trichlorofluoromethane	0 42	U J	1 0	0 42	ug/L			09/02/16 12 50	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 12 50	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 12 50	1
Vinyl chloride	0 50	U J	1 0	0 50	ug/L			09/02/16 12 50	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 12 50	1

Client Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP Blank - SW 129123
Date Collected: 08/24/16 00 00
Date Received 08/25/16 09 17

Lab Sample ID: 680-129123-13
Matrix. Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		80 - 120		09/02/16 12 50	1
Dibromofluoromethane (Surr)	99		80 - 122		09/02/16 12 50	1
1,2-Dichloroethane-d4 (Surr)	86		73 - 131		09/02/16 12 50	1
Toluene-d8 (Surr)	100		80 - 120		09/02/16 12 50	1

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

Lab Sample ID. MB 680-447885/11
Matrix· Water
Analysis Batch· 447885

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			08/31/16 18 18	1
Acrylonitrile	10	U	20	10	ug/L			08/31/16 18 18	1
Benzene	0 43	U	1 0	0 43	ug/L			08/31/16 18 18	1
Bromoform	0 43	U	1 0	0 43	ug/L			08/31/16 18 18	1
Bromomethane	2 5	U	5 0	2 5	ug/L			08/31/16 18 18	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			08/31/16 18 18	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			08/31/16 18 18	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			08/31/16 18 18	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			08/31/16 18 18	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			08/31/16 18 18	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			08/31/16 18 18	1
Chloroethane	2 5	U	5 0	2 5	ug/L			08/31/16 18 18	1
Chloroform	0 50	U	1 0	0 50	ug/L			08/31/16 18 18	1
Chloromethane	0 40	U	1 0	0 40	ug/L			08/31/16 18 18	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			08/31/16 18 18	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			08/31/16 18 18	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			08/31/16 18 18	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			08/31/16 18 18	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			08/31/16 18 18	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			08/31/16 18 18	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			08/31/16 18 18	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			08/31/16 18 18	1
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			08/31/16 18 18	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			08/31/16 18 18	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			08/31/16 18 18	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			08/31/16 18 18	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			08/31/16 18 18	1
2-Hexanone	2 0	U	10	2 0	ug/L			08/31/16 18 18	1
Iodomethane	5 0	U	10	5 0	ug/L			08/31/16 18 18	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			08/31/16 18 18	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			08/31/16 18 18	1
Styrene	0 27	U	1 0	0 27	ug/L			08/31/16 18 18	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 18 18	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			08/31/16 18 18	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			08/31/16 18 18	1
Toluene	0 48	U	1 0	0 48	ug/L			08/31/16 18 18	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			08/31/16 18 18	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			08/31/16 18 18	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			08/31/16 18 18	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			08/31/16 18 18	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			08/31/16 18 18	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			08/31/16 18 18	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			08/31/16 18 18	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			08/31/16 18 18	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			08/31/16 18 18	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			08/31/16 18 18	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			08/31/16 18 18	1

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

Lab Sample ID. MB 680-447885/11
Matrix. Water
Analysis Batch. 447885

Client Sample ID. Method Blank
Prep Type Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		80 - 120		08/31/16 18 18	1
Dibromofluoromethane (Surr)	94		80 - 122		08/31/16 18 18	1
1,2-Dichloroethane-d4 (Surr)	87		73 - 131		08/31/16 18 18	1
Toluene-d8 (Surr)	105		80 - 120		08/31/16 18 18	1

Lab Sample ID LCS 680-447885/4
Matrix Water
Analysis Batch· 447885

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	250	232		ug/L		93	68 - 132
Benzene	50 0	45 8		ug/L		92	80 - 120
Bromoform	50 0	62 7	J	ug/L		125	52 - 122
Bromomethane	50 0	84 2	J	ug/L		168	43 - 146
2-Butanone (MEK)	250	223		ug/L		89	79 - 125
Carbon disulfide	50 0	47 3		ug/L		95	77 - 129
Carbon tetrachloride	50 0	51 6		ug/L		103	67 - 125
Chlorobenzene	50 0	49 9		ug/L		100	80 - 120
Chlorobromomethane	50 0	50 3		ug/L		101	80 - 120
Chlorodibromomethane	50 0	50 9		ug/L		102	68 - 120
Chloroethane	50 0	47 9		ug/L		96	48 - 145
Chloroform	50 0	46 2		ug/L		92	80 - 120
Chloromethane	50 0	50 2		ug/L		100	76 - 149
cis-1,2-Dichloroethene	50 0	47 0		ug/L		94	80 - 120
cis-1,3-Dichloropropene	50 0	47 9		ug/L		96	80 - 129
1,2-Dibromo-3-Chloropropane	50 0	47 9		ug/L		96	74 - 120
Dibromomethane	50 0	45 1		ug/L		90	80 - 120
1,2-Dichlorobenzene	50 0	44 8		ug/L		90	80 - 120
1,4-Dichlorobenzene	50 0	47 8		ug/L		96	80 - 120
Dichlorobromomethane	50 0	45 8		ug/L		92	80 - 120
1,1-Dichloroethane	50 0	44 9		ug/L		90	80 - 120
1,2-Dichloroethane	50 0	43 3		ug/L		87	72 - 128
1,1-Dichloroethene	50 0	51 1		ug/L		102	80 - 120
1,2-Dichloropropane	50 0	45 5		ug/L		91	80 - 120
Ethylbenzene	50 0	51 3		ug/L		103	80 - 120
Ethylene Dibromide	50 0	46 0		ug/L		92	75 - 126
2-Hexanone	250	210		ug/L		84	80 - 131
Methylene Chloride	50 0	48 4		ug/L		97	80 - 120
4-Methyl-2-pentanone (MIBK)	250	211		ug/L		85	80 - 134
Styrene	50 0	53 0		ug/L		106	80 - 126
1,1,1,2-Tetrachloroethane	50 0	55 3		ug/L		111	73 - 124
1,1,2,2-Tetrachloroethane	50 0	45 5		ug/L		91	76 - 126
Tetrachloroethene	50 0	53 7		ug/L		107	71 - 123
Toluene	50 0	49 0		ug/L		98	80 - 120
trans-1,2-Dichloroethene	50 0	49 1		ug/L		98	80 - 120
trans-1,3-Dichloropropene	50 0	47 2		ug/L		94	80 - 128
1,1,1-Trichloroethane	50 0	49 8		ug/L		100	80 - 120
1,1,2-Trichloroethane	50 0	43 2		ug/L		86	80 - 120

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

Lab Sample ID. LCS 680-447885/4
Matrix: Water
Analysis Batch. 447885

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	50 0	51 5		ug/L		103	80 - 120
Trichlorofluoromethane	50 0	56 3		ug/L		113	58 - 127
1,2,3-Trichloropropane	50 0	48 1		ug/L		96	78 - 128
Vinyl acetate	100	96 2		ug/L		96	74 - 156
Vinyl chloride	50 0	48 7		ug/L		97	80 - 129
Xylenes, Total	100	102		ug/L		102	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*89*		*73 - 131*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: LCSD 680-447885/21
Matrix. Water
Analysis Batch 447885

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
Acetone	250	229		ug/L		91	68 - 132	1	30
Benzene	50 0	46 5		ug/L		93	80 - 120	2	20
Bromoform	50 0	64 1	J	ug/L		128	52 - 122	2	20
Bromomethane	50 0	75 8	J	ug/L		152	43 - 146	11	20
2-Butanone (MEK)	250	225		ug/L		90	79 - 125	1	20
Carbon disulfide	50 0	45 1		ug/L		90	77 - 129	5	20
Carbon tetrachloride	50 0	50 5		ug/L		101	67 - 125	2	20
Chlorobenzene	50 0	51 0		ug/L		102	80 - 120	2	20
Chlorobromomethane	50 0	53 7		ug/L		107	80 - 120	6	20
Chlorodibromomethane	50 0	54 9		ug/L		110	68 - 120	8	20
Chloroethane	50 0	47 5		ug/L		95	48 - 145	1	20
Chloroform	50 0	49 2		ug/L		98	80 - 120	6	20
Chloromethane	50 0	45 8		ug/L		92	76 - 149	9	30
cis-1,2-Dichloroethene	50 0	46 7		ug/L		93	80 - 120	1	20
cis-1,3-Dichloropropene	50 0	48 0		ug/L		96	80 - 129	0	20
1,2-Dibromo-3-Chloropropane	50 0	46 2		ug/L		92	74 - 120	4	20
Dibromomethane	50 0	49 4		ug/L		99	80 - 120	9	20
1,2-Dichlorobenzene	50 0	45 3		ug/L		91	80 - 120	1	20
1,4-Dichlorobenzene	50 0	47 8		ug/L		96	80 - 120	0	20
Dichlorobromomethane	50 0	48 9		ug/L		98	80 - 120	7	20
1,1-Dichloroethane	50 0	45 7		ug/L		91	80 - 120	2	20
1,2-Dichloroethane	50 0	46 8		ug/L		94	72 - 128	8	50
1,1-Dichloroethene	50 0	49 9		ug/L		100	80 - 120	2	20
1,2-Dichloropropane	50 0	46 2		ug/L		92	80 - 120	2	20
Ethylbenzene	50 0	50 5		ug/L		101	80 - 120	2	20
Ethylene Dibromide	50 0	50 7		ug/L		101	75 - 126	10	20
2-Hexanone	250	209		ug/L		83	80 - 131	1	20
Methylene Chloride	50 0	50 9		ug/L		102	80 - 120	5	20
4-Methyl-2-pentanone (MIBK)	250	217		ug/L		87	80 - 134	3	20
Styrene	50 0	54 2		ug/L		108	80 - 126	2	20

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

Lab Sample ID LCSD 680-447885/21
Matrix: Water
Analysis Batch: 447885

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50 0	56 7		ug/L		113	73 - 124	3	20
1,1,2,2-Tetrachloroethane	50 0	46 4		ug/L		93	76 - 126	2	20
Tetrachloroethene	50 0	54 2		ug/L		108	71 - 123	1	20
Toluene	50 0	50 0		ug/L		100	80 - 120	2	20
trans-1,2-Dichloroethene	50 0	48 6		ug/L		97	80 - 120	1	20
trans-1,3-Dichloropropene	50 0	48 1		ug/L		96	80 - 128	2	30
1,1,1-Trichloroethane	50 0	49 7		ug/L		99	80 - 120	0	20
1,1,2-Trichloroethane	50 0	46 6		ug/L		93	80 - 120	7	20
Trichloroethene	50 0	53 7		ug/L		107	80 - 120	4	20
Trichlorofluoromethane	50 0	54 2		ug/L		108	58 - 127	4	20
1,2,3-Trichloropropane	50 0	48 5		ug/L		97	78 - 128	1	30
Vinyl acetate	100	85 1		ug/L		85	74 - 156	12	20
Vinyl chloride	50 0	43 4		ug/L		87	80 - 129	12	20
Xylenes, Total	100	101		ug/L		101	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*98*		*73 - 131*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 680-448234/7
Matrix Water
Analysis Batch: 448234

Client Sample ID Method Blank
Prep Type. Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7 0	U	10	7 0	ug/L			09/02/16 11 07	1
Acrylonitrile	10	U	20	10	ug/L			09/02/16 11 07	1
Benzene	0 43	U	1 0	0 43	ug/L			09/02/16 11 07	1
Bromoform	0 43	U	1 0	0 43	ug/L			09/02/16 11 07	1
Bromomethane	2 5	U	5 0	2 5	ug/L			09/02/16 11 07	1
2-Butanone (MEK)	3 4	U	10	3 4	ug/L			09/02/16 11 07	1
Carbon disulfide	1 0	U	2 0	1 0	ug/L			09/02/16 11 07	1
Carbon tetrachloride	0 33	U	1 0	0 33	ug/L			09/02/16 11 07	1
Chlorobenzene	0 26	U	1 0	0 26	ug/L			09/02/16 11 07	1
Chlorobromomethane	0 45	U	1 0	0 45	ug/L			09/02/16 11 07	1
Chlorodibromomethane	0 32	U	1 0	0 32	ug/L			09/02/16 11 07	1
Chloroethane	2 5	U	5 0	2 5	ug/L			09/02/16 11 07	1
Chloroform	0 50	U	1 0	0 50	ug/L			09/02/16 11 07	1
Chloromethane	0 40	U	1 0	0 40	ug/L			09/02/16 11 07	1
cis-1,2-Dichloroethene	0 41	U	1 0	0 41	ug/L			09/02/16 11 07	1
cis-1,3-Dichloropropene	0 40	U	1 0	0 40	ug/L			09/02/16 11 07	1
1,2-Dibromo-3-Chloropropane	1 1	U	5 0	1 1	ug/L			09/02/16 11 07	1
Dibromomethane	0 35	U	1 0	0 35	ug/L			09/02/16 11 07	1
1,2-Dichlorobenzene	0 37	U	1 0	0 37	ug/L			09/02/16 11 07	1
1,4-Dichlorobenzene	0 46	U	1 0	0 46	ug/L			09/02/16 11 07	1
Dichlorobromomethane	0 44	U	1 0	0 44	ug/L			09/02/16 11 07	1
1,1-Dichloroethane	0 38	U	1 0	0 38	ug/L			09/02/16 11 07	1

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

Lab Sample ID. MB 680-448234/7
Matrix· Water
Analysis Batch· 448234

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	0 50	U	1 0	0 50	ug/L			09/02/16 11 07	1
1,1-Dichloroethene	0 36	U	1 0	0 36	ug/L			09/02/16 11 07	1
1,2-Dichloropropane	0 67	U	1 0	0 67	ug/L			09/02/16 11 07	1
Ethylbenzene	0 33	U	1 0	0 33	ug/L			09/02/16 11 07	1
Ethylene Dibromide	0 44	U	1 0	0 44	ug/L			09/02/16 11 07	1
2-Hexanone	2 0	U	10	2 0	ug/L			09/02/16 11 07	1
Iodomethane	5 0	U	10	5 0	ug/L			09/02/16 11 07	1
Methylene Chloride	2 5	U	5 0	2 5	ug/L			09/02/16 11 07	1
4-Methyl-2-pentanone (MIBK)	2 1	U	10	2 1	ug/L			09/02/16 11 07	1
Styrene	0 27	U	1 0	0 27	ug/L			09/02/16 11 07	1
1,1,1,2-Tetrachloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 11 07	1
1,1,2,2-Tetrachloroethane	0 62	U	1 0	0 62	ug/L			09/02/16 11 07	1
Tetrachloroethene	0 74	U	1 0	0 74	ug/L			09/02/16 11 07	1
Toluene	0 48	U	1 0	0 48	ug/L			09/02/16 11 07	1
trans-1,4-Dichloro-2-butene	0 51	U	2 0	0 51	ug/L			09/02/16 11 07	1
trans-1,2-Dichloroethene	0 37	U	1 0	0 37	ug/L			09/02/16 11 07	1
trans-1,3-Dichloropropene	0 42	U	1 0	0 42	ug/L			09/02/16 11 07	1
1,1,1-Trichloroethane	0 37	U	1 0	0 37	ug/L			09/02/16 11 07	1
1,1,2-Trichloroethane	0 33	U	1 0	0 33	ug/L			09/02/16 11 07	1
Trichloroethene	0 48	U	1 0	0 48	ug/L			09/02/16 11 07	1
Trichlorofluoromethane	0 42	U	1 0	0 42	ug/L			09/02/16 11 07	1
1,2,3-Trichloropropane	0 39	U	1 0	0 39	ug/L			09/02/16 11 07	1
Vinyl acetate	0 81	U	2 0	0 81	ug/L			09/02/16 11 07	1
Vinyl chloride	0 50	U	1 0	0 50	ug/L			09/02/16 11 07	1
Xylenes, Total	0 23	U	1 0	0 23	ug/L			09/02/16 11 07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*09/02/16 11 07*	*1*
Dibromofluoromethane (Surr)	*126*	*J*	*80 - 122*		*09/02/16 11 07*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*73 - 131*		*09/02/16 11 07*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*09/02/16 11 07*	*1*

Lab Sample ID LCS 680-448234/4
Matrix Water
Analysis Batch 448234

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	250	216		ug/L		86	68 - 132
Benzene	50 0	49 1		ug/L		98	80 - 120
Bromoform	50 0	55 9		ug/L		112	52 - 122
Bromomethane	50 0	77 2	J	ug/L		154	43 - 146
2-Butanone (MEK)	250	237		ug/L		95	79 - 125
Carbon disulfide	50 0	48 4		ug/L		97	77 - 129
Carbon tetrachloride	50 0	48 9		ug/L		98	67 - 125
Chlorobenzene	50 0	51 8		ug/L		104	80 - 120
Chlorobromomethane	50 0	52 7		ug/L		105	80 - 120
Chlorodibromomethane	50 0	57 0		ug/L		114	68 - 120
Chloroethane	50 0	64 2		ug/L		128	48 - 145

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

Lab Sample ID. LCS 680-448234/4
Matrix· Water
Analysis Batch· 448234

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50 0	47 6		ug/L		95	80 - 120
Chloromethane	50 0	49 9		ug/L		100	76 - 149
cis-1,2-Dichloroethene	50 0	46 4		ug/L		93	80 - 120
cis-1,3-Dichloropropene	50 0	53 2		ug/L		106	80 - 129
1,2-Dibromo-3-Chloropropane	50 0	49 0		ug/L		98	74 - 120
Dibromomethane	50 0	49 6		ug/L		99	80 - 120
1,2-Dichlorobenzene	50 0	49 3		ug/L		99	80 - 120
1,4-Dichlorobenzene	50 0	49 5		ug/L		99	80 - 120
Dichlorobromomethane	50 0	52 7		ug/L		105	80 - 120
1,1-Dichloroethane	50 0	46 0		ug/L		92	80 - 120
1,2-Dichloroethane	50 0	46 0		ug/L		92	72 - 128
1,1-Dichloroethene	50 0	40 3		ug/L		81	80 - 120
1,2-Dichloropropane	50 0	49 8		ug/L		100	80 - 120
Ethylbenzene	50 0	50 7		ug/L		101	80 - 120
Ethylene Dibromide	50 0	54 8		ug/L		110	75 - 126
2-Hexanone	250	228		ug/L		91	80 - 131
Methylene Chloride	50 0	50 3		ug/L		101	80 - 120
4-Methyl-2-pentanone (MIBK)	250	225		ug/L		90	80 - 134
Styrene	50 0	50 2		ug/L		100	80 - 126
1,1,1,2-Tetrachloroethane	50 0	55 0		ug/L		110	73 - 124
1,1,2,2-Tetrachloroethane	50 0	55 8		ug/L		112	76 - 126
Tetrachloroethene	50 0	53 1		ug/L		106	71 - 123
Toluene	50 0	49 4		ug/L		99	80 - 120
trans-1,2-Dichloroethene	50 0	49 7		ug/L		99	80 - 120
trans-1,3-Dichloropropene	50 0	49 9		ug/L		100	80 - 128
1,1,1-Trichloroethane	50 0	45 6		ug/L		91	80 - 120
1,1,2-Trichloroethane	50 0	49 7		ug/L		99	80 - 120
Trichloroethene	50 0	52 5		ug/L		105	80 - 120
Trichlorofluoromethane	50 0	57 9		ug/L		116	58 - 127
1,2,3-Trichloropropane	50 0	56 4		ug/L		113	78 - 128
Vinyl acetate	100	91 0		ug/L		91	74 - 156
Vinyl chloride	50 0	53 9		ug/L		108	80 - 129
Xylenes, Total	100	101		ug/L		101	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*91*		*73 - 131*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID· LCSD 680-448234/28
Matrix Water
Analysis Batch 448234

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
Acetone	250	267		ug/L		107	68 - 132	21	30
Benzene	50 0	48 9		ug/L		98	80 - 120	0	20
Bromoform	50 0	49 2		ug/L		98	52 - 122	13	20

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

Lab Sample ID: LCSD 680-448234/28
Matrix. Water
Analysis Batch. 448234

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
Bromomethane	50 0	44 2	J	ug/L		88	43 - 146	54	20
2-Butanone (MEK)	250	266		ug/L		106	79 - 125	11	20
Carbon disulfide	50 0	46 0		ug/L		92	77 - 129	5	20
Carbon tetrachloride	50 0	46 6		ug/L		93	67 - 125	5	20
Chlorobenzene	50 0	50 8		ug/L		102	80 - 120	2	20
Chlorobromomethane	50 0	50 9		ug/L		102	80 - 120	4	20
Chlorodibromomethane	50 0	52 5		ug/L		105	68 - 120	8	20
Chloroethane	50 0	58 2		ug/L		116	48 - 145	10	20
Chloroform	50 0	49 3		ug/L		99	80 - 120	3	20
Chloromethane	50 0	38 1		ug/L		76	76 - 149	27	30
cis-1,2-Dichloroethene	50 0	48 9		ug/L		98	80 - 120	5	20
cis-1,3-Dichloropropene	50 0	51 2		ug/L		102	80 - 129	4	20
1,2-Dibromo-3-Chloropropane	50 0	46 8		ug/L		94	74 - 120	5	20
Dibromomethane	50 0	52 4		ug/L		105	80 - 120	5	20
1,2-Dichlorobenzene	50 0	50 2		ug/L		100	80 - 120	2	20
1,4-Dichlorobenzene	50 0	49 3		ug/L		99	80 - 120	0	20
Dichlorobromomethane	50 0	52 1		ug/L		104	80 - 120	1	20
1,1-Dichloroethane	50 0	48 7		ug/L		97	80 - 120	6	20
1,2-Dichloroethane	50 0	51 2		ug/L		102	72 - 128	11	50
1,1-Dichloroethene	50 0	44 1		ug/L		88	80 - 120	9	20
1,2-Dichloropropane	50 0	50 9		ug/L		102	80 - 120	2	20
Ethylbenzene	50 0	50 5		ug/L		101	80 - 120	0	20
Ethylene Dibromide	50 0	50 9		ug/L		102	75 - 126	7	20
2-Hexanone	250	249		ug/L		100	80 - 131	9	20
Methylene Chloride	50 0	49 4		ug/L		99	80 - 120	2	20
4-Methyl-2-pentanone (MIBK)	250	260		ug/L		104	80 - 134	14	20
Styrene	50 0	52 3		ug/L		105	80 - 126	4	20
1,1,1,2-Tetrachloroethane	50 0	52 6		ug/L		105	73 - 124	4	20
1,1,2,2-Tetrachloroethane	50 0	47 0		ug/L		94	76 - 126	17	20
Tetrachloroethene	50 0	47 8		ug/L		96	71 - 123	10	20
Toluene	50 0	49 4		ug/L		99	80 - 120	0	20
trans-1,2-Dichloroethene	50 0	47 0		ug/L		94	80 - 120	6	20
trans-1,3-Dichloropropene	50 0	50 9		ug/L		102	80 - 128	2	30
1,1,1-Trichloroethane	50 0	47 5		ug/L		95	80 - 120	4	20
1,1,2-Trichloroethane	50 0	50 1		ug/L		100	80 - 120	1	20
Trichloroethene	50 0	49 5		ug/L		99	80 - 120	6	20
Trichlorofluoromethane	50 0	44 9	J	ug/L		90	58 - 127	25	20
1,2,3-Trichloropropane	50 0	46 8		ug/L		94	78 - 128	19	30
Vinyl acetate	100	97 4		ug/L		97	74 - 156	7	20
Vinyl chloride	50 0	42 4	J	ug/L		85	80 - 129	24	20
Xylenes, Total	100	97 6		ug/L		98	80 - 120	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 131*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID MB 680-447230/3-A — **Client Sample ID: Method Blank**
Matrix Water — **Prep Type Total/NA**
Analysis Batch 447342 — **Prep Batch. 447230**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0050	U	0 018	0 0050	ug/L		08/25/16 13 18	08/26/16 11 27	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/25/16 13 18	08/26/16 11 27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*137*		*60 - 144*	*08/25/16 13 18*	*08/26/16 11 27*	*1*

Lab Sample ID· LCS 680-447230/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type· Total/NA**
Analysis Batch· 447342 — **Prep Batch 447230**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DBCP	0 100	0 0935		ug/L		93	70 - 148
EDB	0 100	0 0892		ug/L		89	66 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Pentachloroethane	*110*		*60 - 144*

Lab Sample ID MB 680-447592/3-A — **Client Sample ID· Method Blank**
Matrix· Water — **Prep Type Total/NA**
Analysis Batch 447616 — **Prep Batch 447592**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0050	U	0 018	0 0050	ug/L		08/29/16 12 15	08/29/16 14 41	1
EDB	0 0022	U	0 018	0 0022	ug/L		08/29/16 12 15	08/29/16 14 41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Pentachloroethane	*121*		*60 - 144*	*08/29/16 12 15*	*08/29/16 14 41*	*1*

Lab Sample ID LCS 680-447592/4-A — **Client Sample ID. Lab Control Sample**
Matrix· Water — **Prep Type: Total/NA**
Analysis Batch. 447616 — **Prep Batch. 447592**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DBCP	0 100	0 0865		ug/L		86	70 - 148
EDB	0 100	0 0851		ug/L		85	66 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Pentachloroethane	*95*		*60 - 144*

Lab Sample ID. 680-129123-2 MS — **Client Sample ID. MWB33S**
Matrix. Water — **Prep Type· Total/NA**
Analysis Batch· 447616 — **Prep Batch 447592**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
DBCP	0 0049	U	0 0962	0 0773		ug/L		80	70 - 148
EDB	0 0021	U	0 0962	0 0763		ug/L		79	66 - 126

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: 680-129123-2 MS
Matrix: Water
Analysis Batch: 447616

Client Sample ID MWB33S
Prep Type: Total/NA
Prep Batch 447592

Surrogate	MS %Recovery	MS Qualifier	Limits
Pentachloroethane	92		60 - 144

Lab Sample ID. 680-129123-2 MSD
Matrix· Water
Analysis Batch· 447616

Client Sample ID. MWB33S
Prep Type: Total/NA
Prep Batch: 447592

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
DBCP	0 0049	U	0 0978	0 0896		ug/L		92	70 - 148	15	30
EDB	0 0021	U	0 0978	0 0818		ug/L		84	66 - 126	7	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Pentachloroethane	103		60 - 144

Lab Sample ID MB 680-449426/3-A
Matrix Water
Analysis Batch· 449448

Client Sample ID Method Blank
Prep Type Total/NA
Prep Batch. 449426

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DBCP	0 0050	U	0 018	0 0050	ug/L		09/13/16 11 45	09/13/16 14 01	1
EDB	0 0022	U	0 018	0 0022	ug/L		09/13/16 11 45	09/13/16 14 01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	100		60 - 144	09/13/16 11 45	09/13/16 14 01	1

Lab Sample ID· LCS 680-449426/4-A
Matrix. Water
Analysis Batch. 449448

Client Sample ID. Lab Control Sample
Prep Type Total/NA
Prep Batch 449426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DBCP	0 100	0 0922		ug/L		92	70 - 148
EDB	0 100	0 0859		ug/L		86	66 - 126

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Pentachloroethane	107		60 - 144

Lab Sample ID: LLCS 680-449426/5-A
Matrix Water
Analysis Batch: 449448

Client Sample ID Lab Control Sample
Prep Type Total/NA
Prep Batch 449426

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
DBCP	0 0179	0 0168	I	ug/L		94	60 - 140
EDB	0 0179	0 0157	I	ug/L		88	60 - 140

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
Pentachloroethane	91		60 - 144

QC Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Method: 300.0-1993 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 680-448165/37 — **Client Sample ID. Method Blank**
Matrix Water — **Prep Type: Total/NA**
Analysis Batch: 448165

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0 20	U	0 50	0 20	mg/L			09/01/16 22 38	1

Lab Sample ID: LCS 680-448165/38 — **Client Sample ID. Lab Control Sample**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 448165

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10 0	9 71		mg/L		97	90 - 110

Lab Sample ID. LCSD 680-448165/39 — **Client Sample ID. Lab Control Sample Dup**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 448165

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10 0	9 71		mg/L		97	90 - 110	0	15

Lab Sample ID: 680-129123-1 MS — **Client Sample ID. MWB21S**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 448165

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25		10 0	35 3		mg/L		100	80 - 120

Lab Sample ID: 680-129123-1 MSD — **Client Sample ID: MWB21S**
Matrix Water — **Prep Type. Total/NA**
Analysis Batch: 448165

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25		10 0	35 2		mg/L		100	80 - 120	0	15

Lab Sample ID: MB 680-448168/36 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type. Total/NA**
Analysis Batch: 448168

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0 20	U	0 50	0 20	mg/L			09/01/16 22 55	1

Lab Sample ID LCS 680-448168/37 — **Client Sample ID: Lab Control Sample**
Matrix. Water — **Prep Type: Total/NA**
Analysis Batch: 448168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10 0	9 96		mg/L		100	90 - 110

Lab Sample ID: LCSD 680-448168/38 — **Client Sample ID. Lab Control Sample Dup**
Matrix. Water — **Prep Type: Total/NA**
Analysis Batch. 448168

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10 0	9 96		mg/L		100	90 - 110	0	15

QC Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Lab Sample ID MB 680-448169/2
Matrix· Water
Analysis Batch· 448169

Client Sample ID. Method Blank
Prep Type Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0 20	U	0 50	0 20	mg/L			09/01/16 09 02	1

Lab Sample ID· LCS 680-448169/3
Matrix Water
Analysis Batch· 448169

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10 0	9 77		mg/L		98	90 - 110

Lab Sample ID: LCSD 680-448169/4
Matrix Water
Analysis Batch 448169

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
Chloride	10 0	9 78		mg/L		98	90 - 110	0	15

Lab Sample ID. 680-129072-14 MS
Matrix: Water
Analysis Batch: 448169

Client Sample ID: MWB27I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5 2		10 0	15 3		mg/L		101	80 - 120

Lab Sample ID. 680-129072-14 MSD
Matrix· Water
Analysis Batch· 448169

Client Sample ID: MWB27I
Prep Type Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5 2		10 0	15 3		mg/L		101	80 - 120	0	15

Lab Sample ID 680-129072-14 DU
Matrix: Water
Analysis Batch 448169

Client Sample ID: MWB27I
Prep Type Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	5 2		5 20		mg/L		0 1	15

Lab Sample ID MB 680-448341/2
Matrix: Water
Analysis Batch 448341

Client Sample ID Method Blank
Prep Type Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0 20	U	0 50	0 20	mg/L			09/06/16 09 54	1

Lab Sample ID LCS 680-448341/3
Matrix: Water
Analysis Batch 448341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10 0	9 86		mg/L		99	90 - 110

Method: 300.0-1993 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID. LCSD 680-448341/4 — **Client Sample ID. Lab Control Sample Dup**
Matrix: Water — **Prep Type. Total/NA**
Analysis Batch. 448341

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10 0	9 88		mg/L		99	90 - 110	0	15

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID MB 400-320726/1-A — **Client Sample ID. Method Blank**
Matrix· Water — **Prep Type Total/NA**
Analysis Batch· 320825 — **Prep Batch. 320726**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 00020	U	0 00050	0 00020	ug/L		08/30/16 08 44	08/30/16 09 14	1

Lab Sample ID LCS 400-320726/2-A — **Client Sample ID Lab Control Sample**
Matrix Water — **Prep Type Total/NA**
Analysis Batch 320825 — **Prep Batch· 320726**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0 00500	0 00501		ug/L		100	79 - 121

Lab Sample ID. LCSD 400-320726/3-A — **Client Sample ID· Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch· 320825 — **Prep Batch· 320726**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0 00500	0 00479		ug/L		96	79 - 121	4	20

Lab Sample ID. 680-129123-12 MS — **Client Sample ID· SW-3**
Matrix· Water — **Prep Type Total/NA**
Analysis Batch· 320825 — **Prep Batch· 320726**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0 020		0 0500	0 0664		ug/L		92	71 - 125

Lab Sample ID 680-129123-12 MSD — **Client Sample ID· SW-3**
Matrix. Water — **Prep Type. Total/NA**
Analysis Batch: 320825 — **Prep Batch· 320726**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0 020		0 0500	0 0659		ug/L		91	71 - 125	1	24

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Lab Sample ID· MB 680-448362/1 — **Client Sample ID· Method Blank**
Matrix: Water — **Prep Type. Total/NA**
Analysis Batch 448362

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	3 3	U	3 3	3 3	mg/L			09/06/16 09 50	1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-447329/1-A
Matrix: Water
Analysis Batch. 447535

Client Sample ID. Method Blank
Prep Type Total Recoverable
Prep Batch: 447329

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 09 17	08/27/16 02 14	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 09 17	08/27/16 02 14	1
Barium	0 61	U	5 0	0 61	ug/L		08/26/16 09 17	08/27/16 02 14	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 09 17	08/27/16 02 14	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 09 17	08/27/16 02 14	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 09 17	08/27/16 02 14	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 09 17	08/27/16 02 14	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 09 17	08/27/16 02 14	1
Iron	25	U	100	25	ug/L		08/26/16 09 17	08/27/16 02 14	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 09 17	08/27/16 02 14	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 09 17	08/27/16 02 14	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 09 17	08/27/16 02 14	1
Sodium	0 17	U	0 50	0 17	mg/L		08/26/16 09 17	08/27/16 02 14	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 09 17	08/27/16 02 14	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 09 17	08/27/16 02 14	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 09 17	08/27/16 02 14	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 09 17	08/27/16 02 14	1

Lab Sample ID LCS 680-447329/2-A
Matrix: Water
Analysis Batch: 447535

Client Sample ID Lab Control Sample
Prep Type: Total Recoverable
Prep Batch. 447329

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50 0	50 9		ug/L		102	75 - 125
Arsenic	100	102		ug/L		102	75 - 125
Barium	100	96 2		ug/L		96	75 - 125
Beryllium	50 0	52 4		ug/L		105	75 - 125
Cadmium	50 0	51 4		ug/L		103	75 - 125
Chromium	100	96 3		ug/L		96	75 - 125
Cobalt	50 0	51 5		ug/L		103	75 - 125
Copper	100	100		ug/L		100	75 - 125
Iron	5000	4810		ug/L		96	75 - 125
Lead	500	469		ug/L		94	75 - 125
Nickel	100	99 2		ug/L		99	75 - 125
Selenium	100	99 2		ug/L		99	75 - 125
Sodium	5 00	4 87		mg/L		97	75 - 125
Silver	50 0	51 3		ug/L		103	75 - 125
Thallium	40 0	39 0		ug/L		98	75 - 125
Vanadium	100	96 1		ug/L		96	75 - 125
Zinc	100	103		ug/L		103	75 - 125

Lab Sample ID. MB 680-447420/1-A
Matrix: Water
Analysis Batch 447715

Client Sample ID Method Blank
Prep Type Total Recoverable
Prep Batch 447420

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0 50	U	5 0	0 50	ug/L		08/26/16 14 19	08/29/16 15 54	1
Arsenic	1 5	U	3 0	1 5	ug/L		08/26/16 14 19	08/29/16 15 54	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID. MB 680-447420/1-A
Matrix. Water
Analysis Batch 447715

Client Sample ID· Method Blank
Prep Type: Total Recoverable
Prep Batch. 447420

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0 61	U	5 0	0 61	ug/L		08/26/16 14 19	08/29/16 15 54	1
Beryllium	0 17	U	0 50	0 17	ug/L		08/26/16 14 19	08/29/16 15 54	1
Cadmium	0 15	U	0 50	0 15	ug/L		08/26/16 14 19	08/29/16 15 54	1
Chromium	1 6	U	5 0	1 6	ug/L		08/26/16 14 19	08/29/16 15 54	1
Cobalt	0 12	U	0 50	0 12	ug/L		08/26/16 14 19	08/29/16 15 54	1
Copper	1 7	U	5 0	1 7	ug/L		08/26/16 14 19	08/29/16 15 54	1
Iron	25	U	100	25	ug/L		08/26/16 14 19	08/29/16 15 54	1
Lead	0 98	U	2 5	0 98	ug/L		08/26/16 14 19	08/29/16 15 54	1
Nickel	1 9	U	5 0	1 9	ug/L		08/26/16 14 19	08/29/16 15 54	1
Selenium	1 0	U	2 5	1 0	ug/L		08/26/16 14 19	08/29/16 15 54	1
Sodium	0 17	U	0 50	0 17	mg/L		08/26/16 14 19	08/29/16 15 54	1
Silver	0 10	U	1 0	0 10	ug/L		08/26/16 14 19	08/29/16 15 54	1
Thallium	0 49	U	1 0	0 49	ug/L		08/26/16 14 19	08/29/16 15 54	1
Vanadium	5 3	U	10	5 3	ug/L		08/26/16 14 19	08/29/16 15 54	1
Zinc	9 6	U	20	9 6	ug/L		08/26/16 14 19	08/29/16 15 54	1

Lab Sample ID. LCS 680-447420/2-A
Matrix: Water
Analysis Batch: 447715

Client Sample ID Lab Control Sample
Prep Type Total Recoverable
Prep Batch. 447420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50 0	49 9		ug/L		100	75 - 125
Arsenic	100	108		ug/L		108	75 - 125
Barium	100	95 9		ug/L		96	75 - 125
Beryllium	50 0	51 8		ug/L		104	75 - 125
Cadmium	50 0	50 4		ug/L		101	75 - 125
Calcium	5 00	4 97		mg/L		99	75 - 125
Chromium	100	105		ug/L		105	75 - 125
Cobalt	50 0	53 8		ug/L		108	75 - 125
Copper	100	107		ug/L		107	75 - 125
Iron	5000	4740		ug/L		95	75 - 125
Lead	500	488		ug/L		98	75 - 125
Magnesium	5 00	4 92		mg/L		98	75 - 125
Nickel	100	105		ug/L		105	75 - 125
Selenium	100	96 8		ug/L		97	75 - 125
Sodium	5 00	4 98		mg/L		100	75 - 125
Silver	50 0	52 6		ug/L		105	75 - 125
Thallium	40 0	37 8		ug/L		94	75 - 125
Vanadium	100	103		ug/L		103	75 - 125
Zinc	100	99 3		ug/L		99	75 - 125

Method: 7470A - Mercury (CVAA)

Lab Sample ID MB 680-447341/1-A — **Client Sample ID Method Blank**
Matrix Water — **Prep Type Total/NA**
Analysis Batch 447575 — **Prep Batch 447341**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 09 56	08/27/16 10 41	1

Lab Sample ID LCS 680-447341/2-A — **Client Sample ID Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch· 447575 — **Prep Batch. 447341**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	2 50	2 50		ug/L		100	80 - 120

Lab Sample ID: 680-129072-1 MS — **Client Sample ID MWB3S**
Matrix. Water — **Prep Type. Total/NA**
Analysis Batch 447575 — **Prep Batch 447341**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0 080	U	1 00	0 978		ug/L		98	80 - 120

Lab Sample ID. 680-129072-1 MSD — **Client Sample ID MWB3S**
Matrix: Water — **Prep Type· Total/NA**
Analysis Batch 447575 — **Prep Batch. 447341**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0 080	U	1 00	0 980		ug/L		98	80 - 120	0	20

Lab Sample ID· MB 680-447349/1-A — **Client Sample ID. Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch 447575 — **Prep Batch: 447349**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0 080	U	0 20	0 080	ug/L		08/26/16 10 26	08/27/16 12 46	1

Lab Sample ID LCS 680-447349/2-A — **Client Sample ID Lab Control Sample**
Matrix: Water — **Prep Type· Total/NA**
Analysis Batch 447575 — **Prep Batch 447349**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	2 50	2 54		ug/L		102	80 - 120

Method: 2540 D-2011 - Total Suspended Solids (Dried at 103-105°C)

Lab Sample ID MB 680-447248/1 — **Client Sample ID· Method Blank**
Matrix Water — **Prep Type· Total/NA**
Analysis Batch. 447248

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	1 0	U	1 0	1 0	mg/L			08/25/16 14 17	1

Method: 2540 D-2011 - Total Suspended Solids (Dried at 103-105°C) (Continued)

Lab Sample ID· LCS 680-447248/2 — **Client Sample ID· Lab Control Sample**
Matrix. Water — **Prep Type. Total/NA**
Analysis Batch· 447248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	20 0	16 0		mg/L		80	80 - 120

Lab Sample ID· LCSD 680-447248/3 — **Client Sample ID· Lab Control Sample Dup**
Matrix. Water — **Prep Type Total/NA**
Analysis Batch· 447248

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	20 0	17 0		mg/L		85	80 - 120	6	25

Method: 2540C-2011 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 680-447089/1 — **Client Sample ID. Method Blank**
Matrix Water — **Prep Type: Total/NA**
Analysis Batch 447089

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5 0	U	5 0	5 0	mg/L			08/24/16 13 52	1

Lab Sample ID: LCS 680-447089/2 — **Client Sample ID Lab Control Sample**
Matrix Water — **Prep Type Total/NA**
Analysis Batch· 447089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	59 0	52 0		mg/L		88	80 - 120

Lab Sample ID LCSD 680-447089/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch. 447089

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	59 0	52 0		mg/L		88	80 - 120	0	25

Lab Sample ID 680-129072-2 DU — **Client Sample ID. MWB20S**
Matrix· Water — **Prep Type: Total/NA**
Analysis Batch 447089

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	560		544		mg/L		2	5

Lab Sample ID. 680-129072-7 DU — **Client Sample ID: MWB27S**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch· 447089

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	160		162		mg/L		3	5

Method: 2540C-2011 - Total Dissolved Solids (Dried at 180 °C) (Continued)

Lab Sample ID. MB 680-447345/1 — **Client Sample ID. Method Blank**
Matrix Water — **Prep Type Total/NA**
Analysis Batch 447345

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5 0	U	5 0	5 0	mg/L			08/26/16 10 03	1

Lab Sample ID· LCS 680-447345/2 — **Client Sample ID. Lab Control Sample**
Matrix Water — **Prep Type. Total/NA**
Analysis Batch: 447345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	59 0	57 0		mg/L		97	80 - 120

Lab Sample ID. LCSD 680-447345/3 — **Client Sample ID Lab Control Sample Dup**
Matrix· Water — **Prep Type Total/NA**
Analysis Batch 447345

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	59 0	59 0		mg/L		100	80 - 120	3	25

Lab Sample ID 680-129123-1 DU — **Client Sample ID MWB21S**
Matrix: Water — **Prep Type. Total/NA**
Analysis Batch 447345

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	210		200		mg/L		3	5

Lab Sample ID· 680-129123-3 DU — **Client Sample ID MWB34S**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch. 447345

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	220		218		mg/L		0	5

Method: 350.1-1993 R2.0 - Nitrogen, Ammonia

Lab Sample ID. MB 680-447307/6 — **Client Sample ID Method Blank**
Matrix· Water — **Prep Type Total/NA**
Analysis Batch 447307

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/25/16 14 06	1

Lab Sample ID LCS 680-447307/5 — **Client Sample ID: Lab Control Sample**
Matrix. Water — **Prep Type. Total/NA**
Analysis Batch. 447307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia (as N)	1 00	1 05		mg/L		105	90 - 110

Method: 350.1-1993 R2.0 - Nitrogen, Ammonia (Continued)

Lab Sample ID 680-129072-1 MS — **Client Sample ID MWB3S**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch· 447307

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia (as N)	0 10	U	1 00	1 05		mg/L		105	90 - 110

Lab Sample ID: 680-129072-1 MSD — **Client Sample ID. MWB3S**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch· 447307

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia (as N)	0 10	U	1 00	1 05		mg/L		105	90 - 110	0	30

Lab Sample ID: MB 680-447397/3 — **Client Sample ID Method Blank**
Matrix Water — **Prep Type· Total/NA**
Analysis Batch 447397

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/26/16 09 14	1

Lab Sample ID: LCS 680-447397/2 — **Client Sample ID· Lab Control Sample**
Matrix· Water — **Prep Type: Total/NA**
Analysis Batch· 447397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia (as N)	1 00	1 04		mg/L		104	90 - 110

Lab Sample ID: LCSD 680-447397/4 — **Client Sample ID. Lab Control Sample Dup**
Matrix Water — **Prep Type Total/NA**
Analysis Batch. 447397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia (as N)	1 00	1 04		mg/L		104	90 - 110	0	30

Lab Sample ID MB 680-448007/11 — **Client Sample ID· Method Blank**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 448007

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0 10	U	0 25	0 10	mg/L			08/31/16 15 16	1

Lab Sample ID· LCS 680-448007/10 — **Client Sample ID. Lab Control Sample**
Matrix. Water — **Prep Type Total/NA**
Analysis Batch 448007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia (as N)	1 00	1 06		mg/L		106	90 - 110

Lab Sample ID LCSD 680-448007/12 — **Client Sample ID· Lab Control Sample Dup**
Matrix: Water — **Prep Type· Total/NA**
Analysis Batch: 448007

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia (as N)	1 00	1 08		mg/L		108	90 - 110	1	30

Lab Sample ID: 680-129072-3 MS — **Client Sample ID MWB11S**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 448007

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia (as N)	0 10	U	1 00	1 00		mg/L		100	90 - 110

Lab Sample ID 680-129072-3 MSD — **Client Sample ID: MWB11S**
Matrix. Water — **Prep Type Total/NA**
Analysis Batch 448007

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia (as N)	0 10	U	1 00	1 01		mg/L		101	90 - 110	1	30

Lab Sample ID: 680-129123-9 MS — **Client Sample ID MWB32I**
Matrix Water — **Prep Type. Total/NA**
Analysis Batch 448007

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia (as N)	0 10	U	1 00	1 02		mg/L		102	90 - 110

Lab Sample ID 680-129123-9 MSD — **Client Sample ID MWB32I**
Matrix: Water — **Prep Type. Total/NA**
Analysis Batch 448007

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia (as N)	0 10	U	1 00	1 02		mg/L		102	90 - 110	0	30

Method: 351.2-1993 R2.0 - Nitrogen, Total Nitrogen

Lab Sample ID: MB 680-448158/10-A — **Client Sample ID Method Blank**
Matrix. Water — **Prep Type Total/NA**
Analysis Batch 448283 — **Prep Batch. 448158**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0 10	U	0 20	0 10	mg/L		09/01/16 16 01	09/02/16 13 49	1

Lab Sample ID LCS 680-448158/11-A — **Client Sample ID. Lab Control Sample**
Matrix: Water — **Prep Type. Total/NA**
Analysis Batch 448283 — **Prep Batch 448158**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	2 00	2 14		mg/L		107	75 - 125

Lab Sample ID 680-129123-11 MS — **Client Sample ID: SW-1**
Matrix. Water — **Prep Type. Total/NA**
Analysis Batch: 448283 — **Prep Batch. 448158**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0 93		2 00	2 86		mg/L		97	75 - 125

Method: 351.2-1993 R2.0 - Nitrogen, Total Nitrogen (Continued)

Lab Sample ID. 680-129123-11 MSD — **Client Sample ID. SW-1**
Matrix· Water — **Prep Type Total/NA**
Analysis Batch: 448283 — **Prep Batch: 448158**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0 93		2 00	2 84		mg/L		96	75 - 125	1	40

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-447118/13 — **Client Sample ID. Method Blank**
Matrix. Water — **Prep Type· Total/NA**
Analysis Batch. 447118

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 13 09	1

Lab Sample ID MB 680-447118/57 — **Client Sample ID· Method Blank**
Matrix· Water — **Prep Type. Total/NA**
Analysis Batch. 447118

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/24/16 14 07	1

Lab Sample ID LCS 680-447118/16 — **Client Sample ID. Lab Control Sample**
Matrix· Water — **Prep Type: Total/NA**
Analysis Batch 447118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1 00	0 995		mg/L		100	90 - 110
Nitrite as N	0 500	0 499		mg/L		100	90 - 110

Lab Sample ID LCS 680-447118/56 — **Client Sample ID Lab Control Sample**
Matrix· Water — **Prep Type· Total/NA**
Analysis Batch 447118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1 00	1 02		mg/L		102	90 - 110
Nitrite as N	0 500	0 498		mg/L		100	90 - 110

Lab Sample ID· 680-129072-14 MS — **Client Sample ID. MWB27I**
Matrix. Water — **Prep Type: Total/NA**
Analysis Batch: 447118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0 018	I	1 00	1 03		mg/L		101	90 - 110
Nitrite as N	0 010	U	0 500	0 505		mg/L		101	90 - 110

Lab Sample ID: 680-129072-14 MSD — **Client Sample ID MWB27I**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch· 447118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0 018	I	1 00	1 03		mg/L		102	90 - 110	1	10
Nitrite as N	0 010	U	0 500	0 506		mg/L		101	90 - 110	0	10

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID· 680-129072-15 DU — **Client Sample ID· MWB29I**
Matrix Water — **Prep Type: Total/NA**
Analysis Batch· 447118

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	0 010	U	0 010	U	mg/L		NC	30

Lab Sample ID. MB 680-447246/12 — **Client Sample ID Method Blank**
Matrix Water — **Prep Type Total/NA**
Analysis Batch. 447246

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 12 36	1

Lab Sample ID MB 680-447246/44 — **Client Sample ID. Method Blank**
Matrix. Water — **Prep Type Total/NA**
Analysis Batch. 447246

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0 010	U	0 050	0 010	mg/L			08/25/16 13 16	1

Lab Sample ID. LCS 680-447246/11 — **Client Sample ID· Lab Control Sample**
Matrix· Water — **Prep Type. Total/NA**
Analysis Batch: 447246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1 00	1 03		mg/L		103	90 - 110
Nitrite as N	0 500	0 494		mg/L		99	90 - 110

Lab Sample ID. LCS 680-447246/45 — **Client Sample ID· Lab Control Sample**
Matrix· Water — **Prep Type. Total/NA**
Analysis Batch 447246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1 00	1 04		mg/L		104	90 - 110
Nitrite as N	0 500	0 492		mg/L		98	90 - 110

Method: 365.4-1974 - Phosphorus, Total

Lab Sample ID MB 680-448158/10-A — **Client Sample ID: Method Blank**
Matrix Water — **Prep Type· Total/NA**
Analysis Batch. 448282 — **Prep Batch· 448158**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0 041	U	0 10	0 041	mg/L		09/01/16 16 01	09/02/16 13 49	1

Lab Sample ID· LCS 680-448158/11-A — **Client Sample ID· Lab Control Sample**
Matrix Water — **Prep Type. Total/NA**
Analysis Batch· 448282 — **Prep Batch· 448158**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus	2 00	1 96		mg/L		98	60 - 140

Method: 365.4-1974 - Phosphorus, Total (Continued)

Lab Sample ID: 680-129123-11 MS — **Client Sample ID SW-1**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 448282 — **Prep Batch: 448158**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus	0 079	I	2 00	2 05		mg/L		99	60 - 140

Lab Sample ID. 680-129123-11 MSD — **Client Sample ID: SW-1**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 448282 — **Prep Batch. 448158**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phosphorus	0 079	I	2 00	2 10		mg/L		101	60 - 140	2	40

Method: 4500 P F-2011 - Orthophosphate, Automated Ascorbic Acid Method

Lab Sample ID MB 680-447440/21 — **Client Sample ID. Method Blank**
Matrix. Water — **Prep Type. Total/NA**
Analysis Batch 447440

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Orthophosphate	0 016	U	0 050	0 016	mg/L			08/26/16 11 34	1

Lab Sample ID LCS 680-447440/20 — **Client Sample ID Lab Control Sample**
Matrix Water — **Prep Type: Total/NA**
Analysis Batch. 447440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Orthophosphate	1 20	1 22		mg/L		101	90 - 110

Method: 5210B-2011 - BOD, 5-Day

Lab Sample ID: USB 680-447453/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 447453

Analyte	USB Result	USB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2 0	U	2 0	2 0	mg/L			08/25/16 14 06	1

Lab Sample ID: LCS 680-447453/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type Total/NA**
Analysis Batch: 447453

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	183		mg/L		92	85 - 115

Lab Sample ID: LCSD 680-447453/3 — **Client Sample ID Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 447453

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Biochemical Oxygen Demand	198	186		mg/L		94	85 - 115	2	30

QC Sample Results

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Method: 5220D-2011 - Chemical Oxygen Demand

Lab Sample ID MB 680-448255/3
Matrix· Water
Analysis Batch· 448255

Client Sample ID. Method Blank
Prep Type Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	5 0	U	10	5 0	mg/L			09/02/16 10 26	1

Lab Sample ID LCS 680-448255/4
Matrix. Water
Analysis Batch· 448255

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	50 0	53 4		mg/L		107	90 - 110

Method: 5310 B-2011 - Organic Carbon, Total (TOC)

Lab Sample ID MB 680-447760/2
Matrix. Water
Analysis Batch. 447760

Client Sample ID· Method Blank
Prep Type. Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0 50	U	1 0	0 50	mg/L			08/30/16 03 43	1

Lab Sample ID: LCS 680-447760/3
Matrix. Water
Analysis Batch: 447760

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	20 0	19 7		mg/L		99	80 - 120

Lab Sample ID: LCSD 680-447760/4
Matrix. Water
Analysis Batch: 447760

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 Organic Carbon	20 0	19 9		mg/L		100	80 - 120	1	25

QC Association Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

GC/MS VOA

Analysis Batch. 447885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	8260B	
680-129072-2	MWB20S	Total/NA	Water	8260B	
680-129072-3	MWB11S	Total/NA	Water	8260B	
680-129072-4	MWB22S	Total/NA	Water	8260B	
680-129072-5	MWB12S	Total/NA	Water	8260B	
680-129072-6	MWB29S	Total/NA	Water	8260B	
680-129072-7	MWB27S	Total/NA	Water	8260B	
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	8260B	
680-129072-9	TRIP BLANK 129072	Total/NA	Water	8260B	
MB 680-447885/11	Method Blank	Total/NA	Water	8260B	
LCS 680-447885/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-447885/21	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch 448234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total/NA	Water	8260B	
680-129123-2	MWB33S	Total/NA	Water	8260B	
680-129123-3	MWB34S	Total/NA	Water	8260B	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	8260B	
680-129123-5	TRIP Blank - MW 129123	Total/NA	Water	8260B	
680-129123-6	MWB32S	Total/NA	Water	8260B	
680-129123-11	SW-1	Total/NA	Water	8260B	
680-129123-12	SW-3	Total/NA	Water	8260B	
680-129123-13	TRIP Blank - SW 129123	Total/NA	Water	8260B	
MB 680-448234/7	Method Blank	Total/NA	Water	8260B	
LCS 680-448234/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-448234/28	Lab Control Sample Dup	Total/NA	Water	8260B	

GC Semi VOA

Prep Batch. 447230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-2	MWB20S	Total/NA	Water	8011	
680-129072-3	MWB11S	Total/NA	Water	8011	
680-129072-4	MWB22S	Total/NA	Water	8011	
680-129072-5	MWB12S	Total/NA	Water	8011	
680-129072-6	MWB29S	Total/NA	Water	8011	
680-129072-7	MWB27S	Total/NA	Water	8011	
MB 680-447230/3-A	Method Blank	Total/NA	Water	8011	
LCS 680-447230/4-A	Lab Control Sample	Total/NA	Water	8011	

Analysis Batch· 447342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-2	MWB20S	Total/NA	Water	8011	447230
680-129072-3	MWB11S	Total/NA	Water	8011	447230
680-129072-4	MWB22S	Total/NA	Water	8011	447230
680-129072-5	MWB12S	Total/NA	Water	8011	447230
680-129072-6	MWB29S	Total/NA	Water	8011	447230
680-129072-7	MWB27S	Total/NA	Water	8011	447230
MB 680-447230/3-A	Method Blank	Total/NA	Water	8011	447230

GC Semi VOA (Continued)

Analysis Batch: 447342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-447230/4-A	Lab Control Sample	Total/NA	Water	8011	447230

Prep Batch: 447592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	8011	
680-129123-1	MWB21S	Total/NA	Water	8011	
680-129123-2	MWB33S	Total/NA	Water	8011	
680-129123-3	MWB34S	Total/NA	Water	8011	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	8011	
680-129123-6	MWB32S	Total/NA	Water	8011	
680-129123-11	SW-1	Total/NA	Water	8011	
680-129123-12	SW-3	Total/NA	Water	8011	
MB 680-447592/3-A	Method Blank	Total/NA	Water	8011	
LCS 680-447592/4-A	Lab Control Sample	Total/NA	Water	8011	
680-129123-2 MS	MWB33S	Total/NA	Water	8011	
680-129123-2 MSD	MWB33S	Total/NA	Water	8011	

Analysis Batch: 447616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	8011	447592
680-129123-1	MWB21S	Total/NA	Water	8011	447592
680-129123-2	MWB33S	Total/NA	Water	8011	447592
680-129123-3	MWB34S	Total/NA	Water	8011	447592
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	8011	447592
680-129123-6	MWB32S	Total/NA	Water	8011	447592
680-129123-11	SW-1	Total/NA	Water	8011	447592
680-129123-12	SW-3	Total/NA	Water	8011	447592
MB 680-447592/3-A	Method Blank	Total/NA	Water	8011	447592
LCS 680-447592/4-A	Lab Control Sample	Total/NA	Water	8011	447592
680-129123-2 MS	MWB33S	Total/NA	Water	8011	447592
680-129123-2 MSD	MWB33S	Total/NA	Water	8011	447592

Prep Batch. 449426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	8011	
MB 680-449426/3-A	Method Blank	Total/NA	Water	8011	
LCS 680-449426/4-A	Lab Control Sample	Total/NA	Water	8011	
LLCS 680-449426/5-A	Lab Control Sample	Total/NA	Water	8011	

Analysis Batch: 449448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	8011	449426
MB 680-449426/3-A	Method Blank	Total/NA	Water	8011	449426
LCS 680-449426/4-A	Lab Control Sample	Total/NA	Water	8011	449426
LLCS 680-449426/5-A	Lab Control Sample	Total/NA	Water	8011	449426

QC Association Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

HPLC/IC

Analysis Batch: 448165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total/NA	Water	300 0-1993 R2 1	
680-129123-2	MWB33S	Total/NA	Water	300 0-1993 R2 1	
680-129123-3	MWB34S	Total/NA	Water	300 0-1993 R2 1	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	300 0-1993 R2 1	
680-129123-6	MWB32S	Total/NA	Water	300 0-1993 R2 1	
680-129123-7	MWB2I	Total/NA	Water	300 0-1993 R2 1	
680-129123-8	MWB34I	Total/NA	Water	300 0-1993 R2 1	
680-129123-9	MWB32I	Total/NA	Water	300 0-1993 R2 1	
MB 680-448165/37	Method Blank	Total/NA	Water	300 0-1993 R2 1	
LCS 680-448165/38	Lab Control Sample	Total/NA	Water	300 0-1993 R2 1	
LCSD 680-448165/39	Lab Control Sample Dup	Total/NA	Water	300 0-1993 R2 1	
680-129123-1 MS	MWB21S	Total/NA	Water	300 0-1993 R2 1	
680-129123-1 MSD	MWB21S	Total/NA	Water	300 0-1993 R2 1	

Analysis Batch: 448168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	300 0-1993 R2 1	
680-129072-3	MWB11S	Total/NA	Water	300 0-1993 R2 1	
680-129072-4	MWB22S	Total/NA	Water	300 0-1993 R2 1	
MB 680-448168/36	Method Blank	Total/NA	Water	300 0-1993 R2 1	
LCS 680-448168/37	Lab Control Sample	Total/NA	Water	300 0-1993 R2 1	
LCSD 680-448168/38	Lab Control Sample Dup	Total/NA	Water	300 0-1993 R2 1	

Analysis Batch: 448169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-5	MWB12S	Total/NA	Water	300 0-1993 R2 1	
680-129072-6	MWB29S	Total/NA	Water	300 0-1993 R2 1	
680-129072-7	MWB27S	Total/NA	Water	300 0-1993 R2 1	
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	300 0-1993 R2 1	
680-129072-10	MWB12I	Total/NA	Water	300 0-1993 R2 1	
680-129072-11	MWB13I	Total/NA	Water	300 0-1993 R2 1	
680-129072-12	MWB11I (R)	Total/NA	Water	300 0-1993 R2 1	
680-129072-13	MWB3I	Total/NA	Water	300 0-1993 R2 1	
680-129072-14	MWB27I	Total/NA	Water	300 0-1993 R2 1	
680-129072-15	MWB29I	Total/NA	Water	300 0-1993 R2 1	
MB 680-448169/2	Method Blank	Total/NA	Water	300 0-1993 R2 1	
LCS 680-448169/3	Lab Control Sample	Total/NA	Water	300 0-1993 R2 1	
LCSD 680-448169/4	Lab Control Sample Dup	Total/NA	Water	300 0-1993 R2 1	
680-129072-14 MS	MWB27I	Total/NA	Water	300 0-1993 R2 1	
680-129072-14 MSD	MWB27I	Total/NA	Water	300 0-1993 R2 1	
680-129072-14 DU	MWB27I	Total/NA	Water	300 0-1993 R2 1	

Analysis Batch: 448341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-2	MWB20S	Total/NA	Water	300 0-1993 R2 1	
MB 680-448341/2	Method Blank	Total/NA	Water	300 0-1993 R2 1	
LCS 680-448341/3	Lab Control Sample	Total/NA	Water	300 0-1993 R2 1	
LCSD 680-448341/4	Lab Control Sample Dup	Total/NA	Water	300 0-1993 R2 1	

QC Association Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Metals

Prep Batch: 320726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	1631E	
680-129123-12	SW-3	Total/NA	Water	1631E	
MB 400-320726/1-A	Method Blank	Total/NA	Water	1631E	
LCS 400-320726/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-320726/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
680-129123-12 MS	SW-3	Total/NA	Water	1631E	
680-129123-12 MSD	SW-3	Total/NA	Water	1631E	

Analysis Batch 320825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	1631E	320726
680-129123-12	SW-3	Total/NA	Water	1631E	320726
MB 400-320726/1-A	Method Blank	Total/NA	Water	1631E	320726
LCS 400-320726/2-A	Lab Control Sample	Total/NA	Water	1631E	320726
LCSD 400-320726/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	320726
680-129123-12 MS	SW-3	Total/NA	Water	1631E	320726
680-129123-12 MSD	SW-3	Total/NA	Water	1631E	320726

Prep Batch: 447329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total Recoverable	Water	3005A	
680-129072-2	MWB20S	Total Recoverable	Water	3005A	
680-129072-3	MWB11S	Total Recoverable	Water	3005A	
680-129072-4	MWB22S	Total Recoverable	Water	3005A	
680-129072-5	MWB12S	Total Recoverable	Water	3005A	
680-129072-6	MWB29S	Total Recoverable	Water	3005A	
680-129072-7	MWB27S	Total Recoverable	Water	3005A	
680-129072-8	FIELD BLANK 01 129072	Total Recoverable	Water	3005A	
680-129072-10	MWB12I	Total Recoverable	Water	3005A	
680-129072-11	MWB13I	Total Recoverable	Water	3005A	
680-129072-12	MWB11I (R)	Total Recoverable	Water	3005A	
680-129072-13	MWB3I	Total Recoverable	Water	3005A	
680-129072-14	MWB27I	Total Recoverable	Water	3005A	
680-129072-15	MWB29I	Total Recoverable	Water	3005A	
MB 680-447329/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-447329/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 447341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	7470A	
680-129072-2	MWB20S	Total/NA	Water	7470A	
680-129072-3	MWB11S	Total/NA	Water	7470A	
680-129072-4	MWB22S	Total/NA	Water	7470A	
680-129072-5	MWB12S	Total/NA	Water	7470A	
680-129072-6	MWB29S	Total/NA	Water	7470A	
680-129072-7	MWB27S	Total/NA	Water	7470A	
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	7470A	
MB 680-447341/1-A	Method Blank	Total/NA	Water	7470A	
LCS 680-447341/2-A	Lab Control Sample	Total/NA	Water	7470A	
680-129072-1 MS	MWB3S	Total/NA	Water	7470A	
680-129072-1 MSD	MWB3S	Total/NA	Water	7470A	

QC Association Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Prep Batch: 447349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total/NA	Water	7470A	
680-129123-2	MWB33S	Total/NA	Water	7470A	
680-129123-3	MWB34S	Total/NA	Water	7470A	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	7470A	
680-129123-6	MWB32S	Total/NA	Water	7470A	
MB 680-447349/1-A	Method Blank	Total/NA	Water	7470A	
LCS 680-447349/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 447420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total Recoverable	Water	3005A	
680-129123-2	MWB33S	Total Recoverable	Water	3005A	
680-129123-3	MWB34S	Total Recoverable	Water	3005A	
680-129123-4	FIELD BLANK 02 129123	Total Recoverable	Water	3005A	
680-129123-6	MWB32S	Total Recoverable	Water	3005A	
680-129123-7	MWB2I	Total Recoverable	Water	3005A	
680-129123-8	MWB34I	Total Recoverable	Water	3005A	
680-129123-9	MWB32I	Total Recoverable	Water	3005A	
680-129123-11	SW-1	Total Recoverable	Water	3005A	
680-129123-12	SW-3	Total Recoverable	Water	3005A	
MB 680-447420/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-447420/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 447535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total Recoverable	Water	6020A	447329
680-129072-2	MWB20S	Total Recoverable	Water	6020A	447329
680-129072-3	MWB11S	Total Recoverable	Water	6020A	447329
680-129072-4	MWB22S	Total Recoverable	Water	6020A	447329
680-129072-5	MWB12S	Total Recoverable	Water	6020A	447329
680-129072-6	MWB29S	Total Recoverable	Water	6020A	447329
680-129072-7	MWB27S	Total Recoverable	Water	6020A	447329
680-129072-8	FIELD BLANK 01 129072	Total Recoverable	Water	6020A	447329
680-129072-10	MWB12I	Total Recoverable	Water	6020A	447329
680-129072-11	MWB13I	Total Recoverable	Water	6020A	447329
680-129072-12	MWB11I (R)	Total Recoverable	Water	6020A	447329
680-129072-13	MWB3I	Total Recoverable	Water	6020A	447329
680-129072-14	MWB27I	Total Recoverable	Water	6020A	447329
680-129072-15	MWB29I	Total Recoverable	Water	6020A	447329
MB 680-447329/1-A	Method Blank	Total Recoverable	Water	6020A	447329
LCS 680-447329/2-A	Lab Control Sample	Total Recoverable	Water	6020A	447329

Analysis Batch: 447575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	7470A	447341
680-129072-2	MWB20S	Total/NA	Water	7470A	447341
680-129072-3	MWB11S	Total/NA	Water	7470A	447341
680-129072-4	MWB22S	Total/NA	Water	7470A	447341
680-129072-5	MWB12S	Total/NA	Water	7470A	447341
680-129072-6	MWB29S	Total/NA	Water	7470A	447341
680-129072-7	MWB27S	Total/NA	Water	7470A	447341
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	7470A	447341
680-129123-1	MWB21S	Total/NA	Water	7470A	447349

Metals (Continued)

Analysis Batch 447575 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-2	MWB33S	Total/NA	Water	7470A	447349
680-129123-3	MWB34S	Total/NA	Water	7470A	447349
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	7470A	447349
680-129123-6	MWB32S	Total/NA	Water	7470A	447349
MB 680-447341/1-A	Method Blank	Total/NA	Water	7470A	447341
MB 680-447349/1-A	Method Blank	Total/NA	Water	7470A	447349
LCS 680-447341/2-A	Lab Control Sample	Total/NA	Water	7470A	447341
LCS 680-447349/2-A	Lab Control Sample	Total/NA	Water	7470A	447349
680-129072-1 MS	MWB3S	Total/NA	Water	7470A	447341
680-129072-1 MSD	MWB3S	Total/NA	Water	7470A	447341

Analysis Batch: 447715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total Recoverable	Water	6020A	447420
680-129123-2	MWB33S	Total Recoverable	Water	6020A	447420
680-129123-3	MWB34S	Total Recoverable	Water	6020A	447420
680-129123-4	FIELD BLANK 02 129123	Total Recoverable	Water	6020A	447420
680-129123-6	MWB32S	Total Recoverable	Water	6020A	447420
680-129123-7	MWB2I	Total Recoverable	Water	6020A	447420
680-129123-8	MWB34I	Total Recoverable	Water	6020A	447420
680-129123-9	MWB32I	Total Recoverable	Water	6020A	447420
680-129123-11	SW-1	Total Recoverable	Water	6020A	447420
680-129123-12	SW-3	Total Recoverable	Water	6020A	447420
MB 680-447420/1-A	Method Blank	Total Recoverable	Water	6020A	447420
LCS 680-447420/2-A	Lab Control Sample	Total Recoverable	Water	6020A	447420

Analysis Batch: 448362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	2340B-2011	
680-129123-12	SW-3	Total/NA	Water	2340B-2011	
MB 680-448362/1	Method Blank	Total/NA	Water	2340B-2011	

General Chemistry

Analysis Batch. 447089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	2540C-2011	
680-129072-2	MWB20S	Total/NA	Water	2540C-2011	
680-129072-3	MWB11S	Total/NA	Water	2540C-2011	
680-129072-4	MWB22S	Total/NA	Water	2540C-2011	
680-129072-5	MWB12S	Total/NA	Water	2540C-2011	
680-129072-6	MWB29S	Total/NA	Water	2540C-2011	
680-129072-7	MWB27S	Total/NA	Water	2540C-2011	
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	2540C-2011	
680-129072-10	MWB12I	Total/NA	Water	2540C-2011	
680-129072-11	MWB13I	Total/NA	Water	2540C-2011	
680-129072-12	MWB11I (R)	Total/NA	Water	2540C-2011	
680-129072-13	MWB3I	Total/NA	Water	2540C-2011	
680-129072-14	MWB27I	Total/NA	Water	2540C-2011	
680-129072-15	MWB29I	Total/NA	Water	2540C-2011	

General Chemistry (Continued)

Analysis Batch: 447089 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-447089/1	Method Blank	Total/NA	Water	2540C-2011	
LCS 680-447089/2	Lab Control Sample	Total/NA	Water	2540C-2011	
LCSD 680-447089/3	Lab Control Sample Dup	Total/NA	Water	2540C-2011	
680-129072-2 DU	MWB20S	Total/NA	Water	2540C-2011	
680-129072-7 DU	MWB27S	Total/NA	Water	2540C-2011	

Analysis Batch. 447118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	353 2	
680-129072-2	MWB20S	Total/NA	Water	353 2	
680-129072-3	MWB11S	Total/NA	Water	353 2	
680-129072-4	MWB22S	Total/NA	Water	353 2	
680-129072-5	MWB12S	Total/NA	Water	353 2	
680-129072-6	MWB29S	Total/NA	Water	353 2	
680-129072-7	MWB27S	Total/NA	Water	353 2	
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	353 2	
680-129072-10	MWB12I	Total/NA	Water	353 2	
680-129072-11	MWB13I	Total/NA	Water	353 2	
680-129072-12	MWB11I (R)	Total/NA	Water	353 2	
680-129072-13	MWB3I	Total/NA	Water	353 2	
680-129072-14	MWB27I	Total/NA	Water	353 2	
680-129072-15	MWB29I	Total/NA	Water	353 2	
MB 680-447118/13	Method Blank	Total/NA	Water	353 2	
MB 680-447118/57	Method Blank	Total/NA	Water	353 2	
LCS 680-447118/16	Lab Control Sample	Total/NA	Water	353 2	
LCS 680-447118/56	Lab Control Sample	Total/NA	Water	353 2	
680-129072-14 MS	MWB27I	Total/NA	Water	353 2	
680-129072-14 MSD	MWB27I	Total/NA	Water	353 2	
680-129072-15 DU	MWB29I	Total/NA	Water	353 2	

Analysis Batch 447246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total/NA	Water	353 2	
680-129123-2	MWB33S	Total/NA	Water	353 2	
680-129123-3	MWB34S	Total/NA	Water	353 2	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	353 2	
680-129123-6	MWB32S	Total/NA	Water	353 2	
680-129123-7	MWB2I	Total/NA	Water	353 2	
680-129123-8	MWB34I	Total/NA	Water	353 2	
680-129123-9	MWB32I	Total/NA	Water	353 2	
680-129123-11	SW-1	Total/NA	Water	353 2	
680-129123-12	SW-3	Total/NA	Water	353 2	
MB 680-447246/12	Method Blank	Total/NA	Water	353 2	
MB 680-447246/44	Method Blank	Total/NA	Water	353 2	
LCS 680-447246/11	Lab Control Sample	Total/NA	Water	353 2	
LCS 680-447246/45	Lab Control Sample	Total/NA	Water	353 2	

Analysis Batch. 447248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	2540 D-2011	
680-129123-12	SW-3	Total/NA	Water	2540 D-2011	

General Chemistry (Continued)

Analysis Batch. 447248 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-447248/1	Method Blank	Total/NA	Water	2540 D-2011	
LCS 680-447248/2	Lab Control Sample	Total/NA	Water	2540 D-2011	
LCSD 680-447248/3	Lab Control Sample Dup	Total/NA	Water	2540 D-2011	

Analysis Batch. 447307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	350 1-1993 R2 0	
680-129072-2	MWB20S	Total/NA	Water	350 1-1993 R2 0	
MB 680-447307/6	Method Blank	Total/NA	Water	350 1-1993 R2 0	
LCS 680-447307/5	Lab Control Sample	Total/NA	Water	350 1-1993 R2 0	
680-129072-1 MS	MWB3S	Total/NA	Water	350 1-1993 R2 0	
680-129072-1 MSD	MWB3S	Total/NA	Water	350 1-1993 R2 0	

Analysis Batch· 447345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total/NA	Water	2540C-2011	
680-129123-2	MWB33S	Total/NA	Water	2540C-2011	
680-129123-3	MWB34S	Total/NA	Water	2540C-2011	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	2540C-2011	
680-129123-6	MWB32S	Total/NA	Water	2540C-2011	
680-129123-7	MWB2I	Total/NA	Water	2540C-2011	
680-129123-8	MWB34I	Total/NA	Water	2540C-2011	
680-129123-9	MWB32I	Total/NA	Water	2540C-2011	
680-129123-11	SW-1	Total/NA	Water	2540C-2011	
680-129123-12	SW-3	Total/NA	Water	2540C-2011	
MB 680-447345/1	Method Blank	Total/NA	Water	2540C-2011	
LCS 680-447345/2	Lab Control Sample	Total/NA	Water	2540C-2011	
LCSD 680-447345/3	Lab Control Sample Dup	Total/NA	Water	2540C-2011	
680-129123-1 DU	MWB21S	Total/NA	Water	2540C-2011	
680-129123-3 DU	MWB34S	Total/NA	Water	2540C-2011	

Analysis Batch 447397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-5	MWB12S	Total/NA	Water	350 1-1993 R2 0	
680-129072-6	MWB29S	Total/NA	Water	350 1-1993 R2 0	
680-129072-7	MWB27S	Total/NA	Water	350 1-1993 R2 0	
680-129072-8	FIELD BLANK 01 129072	Total/NA	Water	350 1-1993 R2 0	
680-129072-10	MWB12I	Total/NA	Water	350 1-1993 R2 0	
680-129072-11	MWB13I	Total/NA	Water	350 1-1993 R2 0	
680-129072-12	MWB11I (R)	Total/NA	Water	350 1-1993 R2 0	
680-129072-13	MWB3I	Total/NA	Water	350 1-1993 R2 0	
680-129072-14	MWB27I	Total/NA	Water	350 1-1993 R2 0	
680-129072-15	MWB29I	Total/NA	Water	350 1-1993 R2 0	
MB 680-447397/3	Method Blank	Total/NA	Water	350 1-1993 R2 0	
LCS 680-447397/2	Lab Control Sample	Total/NA	Water	350 1-1993 R2 0	
LCSD 680-447397/4	Lab Control Sample Dup	Total/NA	Water	350 1-1993 R2 0	

Analysis Batch· 447440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	4500 P F-2011	
680-129123-12	SW-3	Total/NA	Water	4500 P F-2011	

General Chemistry (Continued)

Analysis Batch: 447440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-447440/21	Method Blank	Total/NA	Water	4500 P F-2011	
LCS 680-447440/20	Lab Control Sample	Total/NA	Water	4500 P F-2011	

Analysis Batch: 447453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	5210B-2011	
680-129123-12	SW-3	Total/NA	Water	5210B-2011	
USB 680-447453/1	Method Blank	Total/NA	Water	5210B-2011	
LCS 680-447453/2	Lab Control Sample	Total/NA	Water	5210B-2011	
LCSD 680-447453/3	Lab Control Sample Dup	Total/NA	Water	5210B-2011	

Analysis Batch 447760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	5310 B-2011	
680-129123-12	SW-3	Total/NA	Water	5310 B-2011	
MB 680-447760/2	Method Blank	Total/NA	Water	5310 B-2011	
LCS 680-447760/3	Lab Control Sample	Total/NA	Water	5310 B-2011	
LCSD 680-447760/4	Lab Control Sample Dup	Total/NA	Water	5310 B-2011	

Analysis Batch: 448007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-3	MWB11S	Total/NA	Water	350 1-1993 R2 0	
680-129072-4	MWB22S	Total/NA	Water	350 1-1993 R2 0	
680-129123-1	MWB21S	Total/NA	Water	350 1-1993 R2 0	
680-129123-2	MWB33S	Total/NA	Water	350 1-1993 R2 0	
680-129123-3	MWB34S	Total/NA	Water	350 1-1993 R2 0	
680-129123-4	FIELD BLANK 02 129123	Total/NA	Water	350 1-1993 R2 0	
680-129123-6	MWB32S	Total/NA	Water	350 1-1993 R2 0	
680-129123-7	MWB2I	Total/NA	Water	350 1-1993 R2 0	
680-129123-8	MWB34I	Total/NA	Water	350 1-1993 R2 0	
680-129123-9	MWB32I	Total/NA	Water	350 1-1993 R2 0	
680-129123-11	SW-1	Total/NA	Water	350 1-1993 R2 0	
680-129123-12	SW-3	Total/NA	Water	350 1-1993 R2 0	
MB 680-448007/11	Method Blank	Total/NA	Water	350 1-1993 R2 0	
LCS 680-448007/10	Lab Control Sample	Total/NA	Water	350 1-1993 R2 0	
LCSD 680-448007/12	Lab Control Sample Dup	Total/NA	Water	350 1-1993 R2 0	
680-129072-3 MS	MWB11S	Total/NA	Water	350 1-1993 R2 0	
680-129072-3 MSD	MWB11S	Total/NA	Water	350 1-1993 R2 0	
680-129123-9 MS	MWB32I	Total/NA	Water	350 1-1993 R2 0	
680-129123-9 MSD	MWB32I	Total/NA	Water	350 1-1993 R2 0	

Prep Batch: 448158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	Digestion	
680-129123-12	SW-3	Total/NA	Water	Digestion	
MB 680-448158/10-A	Method Blank	Total/NA	Water	Digestion	
LCS 680-448158/11-A	Lab Control Sample	Total/NA	Water	Digestion	
680-129123-11 MS	SW-1	Total/NA	Water	Digestion	
680-129123-11 MSD	SW-1	Total/NA	Water	Digestion	

General Chemistry (Continued)

Analysis Batch 448255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	5220D-2011	
680-129123-12	SW-3	Total/NA	Water	5220D-2011	
MB 680-448255/3	Method Blank	Total/NA	Water	5220D-2011	
LCS 680-448255/4	Lab Control Sample	Total/NA	Water	5220D-2011	

Analysis Batch 448282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	365 4-1974	448158
680-129123-12	SW-3	Total/NA	Water	365 4-1974	448158
MB 680-448158/10-A	Method Blank	Total/NA	Water	365 4-1974	448158
LCS 680-448158/11-A	Lab Control Sample	Total/NA	Water	365 4-1974	448158
680-129123-11 MS	SW-1	Total/NA	Water	365 4-1974	448158
680-129123-11 MSD	SW-1	Total/NA	Water	365 4-1974	448158

Analysis Batch: 448283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	351 2-1993 R2 0	448158
680-129123-12	SW-3	Total/NA	Water	351 2-1993 R2 0	448158
MB 680-448158/10-A	Method Blank	Total/NA	Water	351 2-1993 R2 0	448158
LCS 680-448158/11-A	Lab Control Sample	Total/NA	Water	351 2-1993 R2 0	448158
680-129123-11 MS	SW-1	Total/NA	Water	351 2-1993 R2 0	448158
680-129123-11 MSD	SW-1	Total/NA	Water	351 2-1993 R2 0	448158

Analysis Batch 448348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	UnionizedNH3	
680-129123-12	SW-3	Total/NA	Water	UnionizedNH3	

Analysis Batch 448352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-11	SW-1	Total/NA	Water	Total Nitrogen	
680-129123-12	SW-3	Total/NA	Water	Total Nitrogen	

Field Service / Mobile Lab

Analysis Batch: 447568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129072-1	MWB3S	Total/NA	Water	Field Sampling	
680-129072-2	MWB20S	Total/NA	Water	Field Sampling	
680-129072-3	MWB11S	Total/NA	Water	Field Sampling	
680-129072-4	MWB22S	Total/NA	Water	Field Sampling	
680-129072-5	MWB12S	Total/NA	Water	Field Sampling	
680-129072-6	MWB29S	Total/NA	Water	Field Sampling	
680-129072-7	MWB27S	Total/NA	Water	Field Sampling	
680-129072-10	MWB12I	Total/NA	Water	Field Sampling	
680-129072-11	MWB13I	Total/NA	Water	Field Sampling	
680-129072-12	MWB11I (R)	Total/NA	Water	Field Sampling	
680-129072-13	MWB3I	Total/NA	Water	Field Sampling	
680-129072-14	MWB27I	Total/NA	Water	Field Sampling	
680-129072-15	MWB29I	Total/NA	Water	Field Sampling	

Field Service / Mobile Lab (Continued)

Analysis Batch. 447568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-129123-1	MWB21S	Total/NA	Water	Field Sampling	
680-129123-2	MWB33S	Total/NA	Water	Field Sampling	
680-129123-3	MWB34S	Total/NA	Water	Field Sampling	
680-129123-6	MWB32S	Total/NA	Water	Field Sampling	
680-129123-7	MWB2I	Total/NA	Water	Field Sampling	
680-129123-8	MWB34I	Total/NA	Water	Field Sampling	
680-129123-9	MWB32I	Total/NA	Water	Field Sampling	
680-129123-11	SW-1	Total/NA	Water	Field Sampling	
680-129123-12	SW-3	Total/NA	Water	Field Sampling	

Client Sample ID: MWB3S

Lab Sample ID: 680-129072-1

Date Collected· 08/23/16 12.01

Matrix· Water

Date Received· 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 20 10	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			35 9 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 15 40	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448168	09/02/16 06 45	JRJ	TAL SAV
	Instrument ID	CICH								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 02 26	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 10 49	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447307	08/25/16 13 57	CRW	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 24	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 12 01	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB20S

Lab Sample ID: 680-129072-2

Date Collected 08/23/16 11.25

Matrix Water

Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 19 48	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			36 2 mL	2 mL	447230	08/25/16 13 18	LBH	TAL SAV
Total/NA	Analysis	8011		1			447342	08/26/16 13 15	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		10	5 mL	5 mL	448341	09/06/16 14 50	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 02 32	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 03	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB20S — Lab Sample ID: 680-129072-2

Date Collected 08/23/16 11 25
Matrix Water
Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350 1-1993 R2 0		2	2 mL	2 mL	447307	08/25/16 14 57	CRW	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 26	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 11 25	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB11S — Lab Sample ID: 680-129072-3

Date Collected. 08/23/16 10.53
Matrix· Water
Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 21 40	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			36 3 mL	2 mL	447230	08/25/16 13 18	LBH	TAL SAV
Total/NA	Analysis	8011		1			447342	08/26/16 13 05	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448168	09/02/16 07 20	JRJ	TAL SAV
	Instrument ID	CICH								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 02 38	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 07	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 16 06	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 27	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 10 53	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB22S — Lab Sample ID: 680-129072-4

Date Collected· 08/23/16 08.50
Matrix Water
Date Received. 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 19 25	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			36 mL	2 mL	447230	08/25/16 13 18	LBH	TAL SAV

Client Sample ID: MWB22S

Lab Sample ID: 680-129072-4

Date Collected 08/23/16 08.50

Matrix. Water

Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8011		1			447342	08/26/16 12 55	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448168	09/02/16 07 37	JRJ	TAL SAV
	Instrument ID	CICH								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 02 45	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 12	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 16 06	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 28	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 08 50	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB12S

Lab Sample ID: 680-129072-5

Date Collected 08/23/16 08 16

Matrix Water

Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 20 33	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			35 8 mL	2 mL	447230	08/25/16 13 18	LBH	TAL SAV
Total/NA	Analysis	8011		1			447342	08/26/16 12 46	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 17 10	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 02 51	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 16	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 37	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 29	GRX	TAL SAV
	Instrument ID	LACHAT2								

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB12S — Lab Sample ID: 680-129072-5

Date Collected 08/23/16 08·16 — **Matrix: Water**
Date Received. 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 08 16	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB29S — Lab Sample ID: 680-129072-6

Date Collected 08/23/16 11·45 — **Matrix Water**
Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 20 55	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			35 6 mL	2 mL	447230	08/25/16 13 18	LBH	TAL SAV
Total/NA	Analysis	8011		1			447342	08/26/16 12 36	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 17 27	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 02 57	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 21	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 37	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 30	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 11 45	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB27S — Lab Sample ID: 680-129072-7

Date Collected 08/23/16 10 20 — **Matrix Water**
Date Received 08/24/16 10.40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 21 18	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			36 3 mL	2 mL	447230	08/25/16 13 18	LBH	TAL SAV
Total/NA	Analysis	8011		1			447342	08/26/16 12 26	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 17 45	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB27S

Lab Sample ID: 680-129072-7

Date Collected 08/23/16 10 20
Date Received 08/24/16 10 40

Matrix Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 03	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 34	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 37	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 32	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 10 20	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: FIELD BLANK 01 129072

Lab Sample ID: 680-129072-8

Date Collected 08/23/16 13 20
Date Received 08/24/16 10 40

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	5 mL	5 mL	447885	08/31/16 19 03	CEJ	TAL SAV
	Instrument ID	CMSP2								
Total/NA	Prep	8011			35 9 mL	2 mL	449426	09/13/16 11 45	LBH	TAL SAV
Total/NA	Analysis	8011		1			449448	09/13/16 15 30	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 18 02	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 09	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447341	08/26/16 09 56	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 11 39	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 45	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 33	GRX	TAL SAV
	Instrument ID	LACHAT2								

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: TRIP BLANK 129072

Lab Sample ID: 680-129072-9

Date Collected 08/23/16 00 00
Matrix Water
Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447885	08/31/16 18 41	CEJ	TAL SAV
	Instrument ID	CMSP2								

Client Sample ID: MWB12I

Lab Sample ID: 680-129072-10

Date Collected 08/23/16 07 45
Matrix Water
Date Received: 08/24/16 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 18 20	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 28	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 45	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 34	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 07 45	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB13I

Lab Sample ID: 680-129072-11

Date Collected 08/23/16 09 26
Matrix. Water
Date Received. 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 19 12	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 34	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 45	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 38	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 09 26	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB11I (R)

Lab Sample ID: 680-129072-12

Date Collected 08/23/16 10.21

Matrix. Water

Date Received. 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 19 29	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 41	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 45	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 39	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 10 21	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB3I

Lab Sample ID: 680-129072-13

Date Collected 08/23/16 12 35

Matrix· Water

Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 19 47	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 47	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 27	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 13 40	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 12 35	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB27I

Lab Sample ID: 680-129072-14

Date Collected· 08/23/16 11 05

Matrix· Water

Date Received 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 20 04	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 53	BWR	TAL SAV
	Instrument ID	ICPMSB								

Client Sample ID: MWB27I

Lab Sample ID: 680-129072-14

Date Collected 08/23/16 11 05

Matrix: Water

Date Received. 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 37	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 14 08	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 11 05	KEE	TAL SAV
	Instrument ID	NOEQUIP								

1

Client Sample ID: MWB29I

Lab Sample ID: 680-129072-15

Date Collected 08/23/16 12·21

Matrix Water

Date Received. 08/24/16 10 40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448169	09/01/16 21 14	JRJ	TAL SAV
	Instrument ID	CICL								
Total Recoverable	Prep	3005A			50 mL	250 mL	447329	08/26/16 09 17	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447535	08/27/16 03 59	BWR	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447089	08/24/16 13 52	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	447397	08/26/16 09 27	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447118	08/24/16 14 11	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/23/16 12 21	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB21S

Lab Sample ID: 680-129123-1

Date Collected 08/24/16 09.32

Matrix Water

Date Received· 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 14 53	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			35 8 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 15 50	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/01/16 23 31	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 17 46	BJB	TAL SAV
	Instrument ID	ICPMSB								

Client Sample ID: MWB21S

Lab Sample ID: 680-129123-1

Date Collected. 08/24/16 09 32

Matrix· Water

Date Received. 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	447349	08/26/16 10 26	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 14 24	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 16 06	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		10	2 mL	2 mL	447246	08/25/16 12 49	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 09 32	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB33S

Lab Sample ID: 680-129123-2

Date Collected 08/24/16 10 45

Matrix Water

Date Received. 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 15 13	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			36 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 15 11	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 00 23	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 17 52	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447349	08/26/16 10 26	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 14 29	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 16 13	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 12 53	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 10 45	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB34S

Lab Sample ID: 680-129123-3

Date Collected. 08/24/16 09:05

Matrix· Water

Date Received. 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 15 34	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			35 9 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 16 00	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 00 40	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 17 58	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447349	08/26/16 10 26	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 14 33	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 12 54	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 09 05	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: FIELD BLANK 02 129123

Lab Sample ID: 680-129123-4

Date Collected· 08/24/16 11 30

Matrix Water

Date Received 08/25/16 09.17

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	5 mL	5 mL	448234	09/02/16 12 29	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			36 6 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 16 10	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 00 58	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 04	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447349	08/26/16 10 26	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 14 38	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 12 56	GRX	TAL SAV
	Instrument ID	LACHAT2								

Client Sample ID: TRIP Blank - MW 129123. — Lab Sample ID: 680-129123-5

Date Collected 08/24/16 00 00 — **Matrix Water**

Date Received· 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 11 48	CMB	TAL SAV
	Instrument ID	CMSA2								

Client Sample ID: MWB32S — Lab Sample ID: 680-129123-6

Date Collected. 08/24/16 10·50 — **Matrix· Water**

Date Received 08/25/16 09.17

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	5 mL	5 mL	448234	09/02/16 15 54	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			35 5 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 16 20	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 01 15	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 23	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Prep	7470A			50 mL	50 mL	447349	08/26/16 10 26	BCB	TAL SAV
Total/NA	Analysis	7470A		1			447575	08/27/16 14 42	BCB	TAL SAV
	Instrument ID	LEEMAN2								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 12 57	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 10 50	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB2I — Lab Sample ID: 680-129123-7

Date Collected 08/24/16 10 06 — **Matrix Water**

Date Received 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 01 33	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB2I

Lab Sample ID: 680-129123-7

Date Collected 08/24/16 10.06
Matrix. Water
Date Received 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 29	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 12 58	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 10 06	KEE	TAL SAV
	Instrument ID	NOEQUIP								

1

Client Sample ID: MWB34I

Lab Sample ID: 680-129123-8

Date Collected. 08/24/16 09.48
Matrix Water
Date Received 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 01 50	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 36	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 13 00	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 09 48	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: MWB32I

Lab Sample ID: 680-129123-9

Date Collected 08/24/16 11 58
Matrix Water
Date Received 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300 0-1993 R2 1		1	5 mL	5 mL	448165	09/02/16 02 07	JRJ	TAL SAV
	Instrument ID	CICK								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 42	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: MWB32I

Lab Sample ID: 680-129123-9

Date Collected 08/24/16 11.58
Date Received 08/25/16 09 17

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 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 16 06	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 13 02	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 11 58	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: SW-1

Lab Sample ID: 680-129123-11

Date Collected 08/24/16 07.45
Date Received 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 16 15	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			35 8 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 16 30	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Prep	1631E			8 mL	40 mL	320726	08/26/16 15 50	VLC	TAL PEN
Total/NA	Analysis	1631E		1			320825	08/30/16 09 39	VLC	TAL PEN
	Instrument ID	HYDRA								
Total/NA	Analysis	2340B-2011		1			448362	09/06/16 09 50	BCB	TAL SAV
	Instrument ID	ICPMSB								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 48	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540 D-2011		1	250 mL	1000 mL	447248	08/25/16 14 17	JCM	TAL SAV
	Instrument ID	NoEquip								
Total/NA	Analysis	2540C-2011		1	100 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Prep	Digestion			20 mL	20 mL	448158	09/01/16 16 01	CRW	TAL SAV
Total/NA	Analysis	351 2-1993 R2 0		1			448283	09/02/16 13 51	JER	TAL SAV
	Instrument ID	LACHAT3								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 13 03	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Prep	Digestion			20 mL	20 mL	448158	09/01/16 16 01	CRW	TAL SAV
Total/NA	Analysis	365 4-1974		1	2 mL	2 mL	448282	09/02/16 13 51	JER	TAL SAV
	Instrument ID	LACHAT3								
Total/NA	Analysis	4500 P F-2011		1	2 mL	2 mL	447440	08/26/16 11 33	GRX	TAL SAV
	Instrument ID	KONELAB2								
Total/NA	Analysis	5210B-2011		1			447453	08/25/16 15 56	OLB	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: SW-1

Lab Sample ID: 680-129123-11

Date Collected 08/24/16 07.45

Matrix: Water

Date Received 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	5220D-2011		1	2 mL	2 mL	448255	09/02/16 10 26	JER	TAL SAV
	Instrument ID	SPC7								
Total/NA	Analysis	5310 B-2011		1	40 mL	40 mL	447760	08/30/16 05 53	KLD	TAL SAV
	Instrument ID	TOC7								
Total/NA	Analysis	Total Nitrogen		1			448352	09/06/16 09 02	JER	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	UnionizedNH3		1			448348	09/06/16 08 59	JER	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 07 45	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: SW-3

Lab Sample ID: 680-129123-12

Date Collected: 08/24/16 08 15

Matrix Water

Date Received 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 16 35	CMB	TAL SAV
	Instrument ID	CMSA2								
Total/NA	Prep	8011			35 3 mL	2 mL	447592	08/29/16 12 15	LBH	TAL SAV
Total/NA	Analysis	8011		1			447616	08/29/16 17 49	LBH	TAL SAV
	Instrument ID	CSGX								
Total/NA	Prep	1631E			4 mL	40 mL	320726	08/26/16 15 50	VLC	TAL PEN
Total/NA	Analysis	1631E		1			320825	08/30/16 09 48	VLC	TAL PEN
	Instrument ID	HYDRA								
Total/NA	Analysis	2340B-2011		1			448362	09/06/16 09 50	BCB	TAL SAV
	Instrument ID	ICPMSB								
Total Recoverable	Prep	3005A			50 mL	250 mL	447420	08/26/16 14 19	AJR	TAL SAV
Total Recoverable	Analysis	6020A		1			447715	08/29/16 18 54	BJB	TAL SAV
	Instrument ID	ICPMSB								
Total/NA	Analysis	2540 D-2011		1	500 mL	1000 mL	447248	08/25/16 14 17	JCM	TAL SAV
	Instrument ID	NoEquip								
Total/NA	Analysis	2540C-2011		1	50 mL	100 mL	447345	08/26/16 10 03	LAF	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	350 1-1993 R2 0		1	2 mL	2 mL	448007	08/31/16 15 07	ALS	TAL SAV
	Instrument ID	KONELAB1								
Total/NA	Prep	Digestion			20 mL	20 mL	448158	09/01/16 16 01	CRW	TAL SAV
Total/NA	Analysis	351 2-1993 R2 0		1			448283	09/02/16 14 04	JER	TAL SAV
	Instrument ID	LACHAT3								
Total/NA	Analysis	353 2		1	2 mL	2 mL	447246	08/25/16 12 59	GRX	TAL SAV
	Instrument ID	LACHAT2								
Total/NA	Prep	Digestion			20 mL	20 mL	448158	09/01/16 16 01	CRW	TAL SAV
Total/NA	Analysis	365 4-1974		1	2 mL	2 mL	448282	09/02/16 14 04	JER	TAL SAV
	Instrument ID	LACHAT3								

Lab Chronicle

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Client Sample ID: SW-3

Lab Sample ID: 680-129123-12

Date Collected 08/24/16 08 15

Matrix. Water

Date Received 08/25/16 09 17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	4500 P F-2011		1	2 mL	2 mL	447440	08/26/16 11 33	GRX	TAL SAV
	Instrument ID	KONELAB2								
Total/NA	Analysis	5210B-2011		1			447453	08/25/16 16 03	OLB	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	5220D-2011		1	2 mL	2 mL	448255	09/02/16 10 26	JER	TAL SAV
	Instrument ID	SPC7								
Total/NA	Analysis	5310 B-2011		1	40 mL	40 mL	447760	08/30/16 06 09	KLD	TAL SAV
	Instrument ID	TOC7								
Total/NA	Analysis	Total Nitrogen		1			448352	09/06/16 09 02	JER	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	UnionizedNH3		1			448348	09/06/16 08 59	JER	TAL SAV
	Instrument ID	NOEQUIP								
Total/NA	Analysis	Field Sampling		1			447568	08/24/16 08 15	KEE	TAL SAV
	Instrument ID	NOEQUIP								

Client Sample ID: TRIP Blank - SW 129123

Lab Sample ID: 680-129123-13

Date Collected· 08/24/16 00 00

Matrix· Water

Date Received 08/25/16 09 17

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	5 mL	5 mL	448234	09/02/16 12 50	CMB	TAL SAV
	Instrument ID	CMSA2								

Laboratory References

= Diversified Environmental Laboratories, 3653 Regent Blvd Suite 509, Jacksonville, FL 32224

ENCO = ENCO-Orlando, 10775 Central Port Drive, Orlando, FL 32824, TEL (407)826-5314

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Tallahassee
2846 Industrial Plaza Drive
Tallahassee FL 32301
Phone (850) 878-3994 Fax (850) 878-9504

Chain of Custody Record

TestAmerica

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
Client Contact: Shannon George	DAN ARMOUR	Harvey Lisa M		640-52650-13477 1
	Phone: 225-907-4060	E-Mail: lisa harvey@testamericainc com		Page: Page 1 of 3
Company: Golder Associates Inc				Job #
Address: 3730 Chamblee Tucker Road	Due Date Requested			
City: Atlanta	TAT Requested (days)			
State Zip: GA, 30341				
Phone: 770-496-1893(Tel)	PO # PO105298 22			
Email: sgeorge@golder com	WO #			
Project Name: Trail Ridge Landfill/Trail Ridge SA Event Desc Semi-Annual Grou	Project # 64005280			
Site: Florida	SSOW#			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecanydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C - Total Dissolved Solids	6020 - 7470 - Appendix I Metals + Fe, Na, Hg	350 1 - Ammonia (as N)	8260B - Appendix I VOCs	300_ORGFM_28D - Chloride	353 2 - Nitrate	8011 - EDB/DBCP	6020 - Iron, Sodium	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A	N	N	A	D		
MWB3S	8-23	1201	G	W	N		1	1	1	3	1	2	3			
MWB20S	8-23	1125	G	W	N		1	1	1	3	1	2	3			
MWB11S	8-23	1053	G	W	N		1	1	1	3	1	2	3			
MWB13S	8-23	—														→ DRY POINT
MWB22S	8-23	0850	G	W	N		1	1	1	3	1	2	3			
MWB12S	8-23	0816	G	W	N		1	1	1	3	1	2	3			
MWB29S	8-23	1145	G	W	N		1	1	1	3	1	2	3			
MWB27S	8-23	1020	G	W	N		1	1	1	3	1	2	3			
FIELD BLANK 01	8-23	1320	G	W	N		1	1	1	3	1	2	3			
TRIP	8-23	—	G	W	N					✓						

680-129072 Chain of Custody

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	8-23-16 / 1830	PRO-TECH	[signature]	8-24-16 0822	SW

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		1.0/2.2/2.9(CF)1.4/2.6/3.

TestAmerica Tallahassee
2846 Industrial Plaza Drive
Tallahassee, FL 32301
Phone (850) 878-3994 Fax (850) 878-9504

Chain of Custody Record

TestAmerica

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
	DAN ARMOUR	Harvey, Lisa M		640-52650-13477 2
Client Contact: Shannon George	Phone: 225-907-4060	E-Mail: lisa harvey@testamericainc com		Page: Page 2 of 3
Company: Golder Associates Inc				Job #
Address: 3730 Chamblee Tucker Road	Due Date Requested			
City: Atlanta	TAT Requested (days)			
State Zip: GA 30341				
Phone: 770-496-1893(Tel)	PO # PO105298 22			
Email: sgeorge@golder com	WO #			
Project Name: Trail Ridge Landfill/Trail Ridge SA Event Desc Semi-Annual Gro	Project # 64005280			
Site: Florida	SSOW#			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C - Total Dissolved Solids	6020 - 7470 - Appendix I Metals + Fe, Na, Hg	350 1 - Ammonia (as N)	8260B - Appendix I VOCs	300_ORGFM_28D - Chloride	353 2 - Nitrate	8011 - EDB/DBCP	6020 Iron, Sodium	Total Number of containers	Special Instructions/Note:
			Preservation Code				N	D	S	A	N	N	A	D		
MWB12I	8-23	0745	G	W	N		1		1		1	2		1		
MWB13I	8-23	0926	G	W	N		1		1		1	2		1		
MWB11I (R)	8-23	1021	G	W	N		1		1		1	2		1		
MWB3I	8-23	1235	G	W	N		1		1		1	2		1		
MWB27I	8-23	1105	G	W	N		1		1		1	2		1		
MWB29I	8-23	1221	G	W	N		1		1		1	2		1		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	8-23-16 / 1830	PRO-TECH	[signature]	8-24-16 0900	SAW
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No	(680) - 129072	1.0/2.2/2.9(CF)1.4/2.6/3.3°C

TestAmerica Tallahassee
2846 Industrial Plaza Drive
Tallahassee, FL 32301
Phone (850) 878-3994 Fax (850) 878-9504

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: DAN ARMOUR	Lab PM: Harvey, Lisa M	Carrier Tracking No(s):	COC No: 640-52650-13477 2
Client Contact: Shannon George	Phone: 225-907-4060	E-Mail: lisa harvey@testamericainc com		Page: Page 2 of 3
Company: Golder Associates Inc				Job #
Address: 3730 Chamblee Tucker Road	Due Date Requested			
City: Atlanta	TAT Requested (days)			
State, Zip: GA, 30341				
Phone: 770-496-1893(Tel)	PO # PO105298 22			
Email: sgeorge@golder com	WO #			
Project Name: Trail Ridge Landfill/Trail Ridge SA Event Desc Semi-Annual Grou	Project # 64005280			
Site: Florida	SSOW#			

Analysis Requested

Preservation Codes.
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Samples (Yes or No)	Perform MS/MSD (Yes or No)	2540C - Total Dissolved Solids	6020 - 7470 - Appendix I Metals + Fe, Na, Hg	350 1 - Ammonia (as N)	8260B - Appendix I VOCs	300_ORGFM_28D - Chloride	353 2 - Nitrate	8011 - EDB/DBCP	6020 - Iron, Sodium	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	D	S	A	N	N	A	D		
MWB21S	8-24	0932	G	W	N		1	1	1	3	1	2	3			
MWB33S	8-24	1045	G	W	N		1	1	1	3	1	2	3			
MWB34S	8-24	0905	G	W	N		1	1	1	3	1	2	3			
FIELD BLANK 02	8-24	1130	G	W	N		1	1	1	3	1	2	3			
TRIP	8-24	—	G	W	N					✓						
MWB2S	8-24															DRY POINT
MWB32S	8-24	1050	G	W	N		1	1	1	3	1	2	3			

680-129123 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samp... longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	8-24-16/ 1800	PRO-TECH	[signature]	8/25/16 0917	[signature]
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No :
Cooler Temperature(s) °C and Other Remarks: 680-129123 2.4/2.0/1.4/1.9 (CF) 2.8/2.4/1.8/2.3 0.

TestAmerica Tallahassee
2846 Industrial Plaza Drive
Tallahassee, FL 32301
Phone (850) 878-3994 Fax (850) 878-9504

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: DAN ARMOUR	Lab PM: Harvey, Lisa M	Carrier Tracking No(s):	COC No: 640-52650-13477 3
Client Contact: Shannon George	Phone: 225-907-4060	E-Mail: lisa harvey@testamericainc com		Page: Page 3 of 3
Company: Golder Associates Inc				Job #
Address: 3730 Chamblee Tucker Road	Due Date Requested:			
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30341				
Phone: 770-496-1893(Tel)	PO #: PO105298 22			
Email: sgeorge@golder com	WO #:			
Project Name: Trail Ridge Landfill/Trail Ridge SA Event Desc Semi-Annual Grou	Project #: 64005280			
Site: Florida	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C - Total Dissolved Solids	6020 - 7470 Appendix I Metals + Fe, Na, Hg	350 1 - Ammonia (as N)	8260B - Appendix I VOCs	300_ORGFM_28D - Chloride	353 2 - Nitrate	8011 - EDB/DBCP	6020 - Iron, Sodium	Total Number of containers	Special Instructions/Note
			Preservation Code:		X	X	N	D	S	A	N	N	A	D	X	
MWB2I	8-24	1006	G	W	N		1		1		1	2		1		
MWB34I	8-24	0948	G	W	N		1		1		1	2		1		
MWB32I	8-24	1158	G	W	N		1		1		1	2		1		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	8-24-16 / 1800	PRO-TECH	[signature]	08/25/16 0917	SAW
			6804291123	24/20/1.4	1.9 (CF)

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		2.8/2.4/1.8/2.3°C

TestAmerica Tallahassee
2846 Industrial Plaza Drive
Tallahassee, FL 32301
Phone (850) 878-3994 Fax (850) 878-9504

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: DAN ARMOUR	Lab PM: Harvey, Lisa M	Carrier Tracking No(s):	COC No: 640-52651-13478 1
Client Contact: Shannon George	Phone: 225-907-4060	E-Mail: lisa harvey@testamericainc com		Page: Page 1 of 1
Company: Golder Associates Inc				Job #
Address: 3730 Chamblee Tucker Road	Due Date Requested			
City: Atlanta	TAT Requested (days)			
State, Zip: GA, 30341				
Phone: 770-496-1893(Tel)	PO # PO105298 4			
Email: sgeorge@golder com	WO #			
Project Name: Trail Ridge Landfill	Project # 64005280			
Site: Florida	SSOW#			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E - Mercury	351 2, 365 1, Nitrogen,Total	SUBCONTRACT - SM 10200H-Chlorophyll a (ENCO)	5210B - Biochemical Oxygen Demand	2540C, 2540D	5220D Chemical Oxygen Demand	6020 - Appl Metals /2340B - Hardness	SUBCONTRACT - SM9222D-Fecal Coliform (Diversified Env	350 1 - Ammonia / Unionized Ammonia	8260B - Appendix I VOCs	SM5310_TOC_B - Total Organic Carbon	353 2 - Nitrate	8011 EDB/DBCP	Total Number of containers	Special Instructions/Note
			Preservation Code:		X	X	N	S	N	N	N	S	D	N	S	A	S	N	A	X	
SW-1	8-24	0745	G	W	N		3	1	1	1	2	1	1	1	1	3	3	2	3		
SW-3	8-24	0815	G	W	N		3	1	1	1	2	1	1	1	1	3	3	2	3		
TRIP	8-24	—	G	W	N											✓			✓		

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	8-24-16 / 1800	PRO-TECH	[signature]	08-25-16 0917	Sav.
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
			680-129123	2.4/2.0/1.4	1.9 (CF)

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		2.8/2.4/1.8/2.3 °C

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Harvey, Lisa M	Carrier Tracking No(s)	COC No: 680-447395 1
Client Contact: Shipping/Receiving	Phone	E-Mail: lisa harvey@testamericainc com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc				Job #: 680-129072-1
Address: 3355 McLemore Drive,	Due Date Requested: 9/7/2016			
City: Pensacola	TAT Requested (days):			
State Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #			
Email	WO #			
Project Name: Trail Ridge Landfill	Project #: 68016760			
Site	SSOW#			

Analysis Requested

Preservation Codes
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/1631E_Prop Mercury, Low Level (CVAFS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-1 (680-129123-11)	8/24/16	07 45 Eastern		Water			X	3	
SW-3 (680-129123-12)	8/24/16	08 15 Eastern		Water			X	3	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	8-25-16 1538	SAL			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by [signature]	Date/Time 08/26/16 0941	Company TA

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		3.9°C IR5

PO - 68016760

DELI Project # 160824.01

Serial Number [illegible]

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website. www.testamericainc.com
Phone (912) 354-7858
Fax (912) 352-0165

Alternate Laboratory Name/Location: DIVERSIFIED LAB

Phone.
Fax

PROJECT REFERENCE	PROJECT NO	PROJECT LOCATION (STATE)	PAGE	OF
TRAIL RIDGE	S/A SW	FL	1	1

TAL (LAB) PROJECT MANAGER	PO NUMBER	CONTRACT NO
64005280		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Lisa Harvey		

CLIENT NAME	CLIENT E-MAIL
Waste Mgt.	Lisa.Harvey@testamericainc.com

CLIENT ADDRESS: Jacksonville FL

COMPANY CONTRACTING THIS WORK (if applicable):

STANDARD REPORT DELIVERY ⊗

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,)	Ferric Chl	Nitric	REMARKS
8 24	0745	Sul-1	G	X				1		36122
8-24	0815	Sul-3	G	X				1		36123

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
[signature]	8-24-16	0900	[signature]	0900	8-24-16	[signature]	8-24-16	1015

RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
						[signature]	08/24/16	1015

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO	SAVANNAH LOG NO	LABORATORY REMARKS
			YES ○ NO ○			Sample temp 2.8°C Cooler temp 0.6°C

TAL8240-660 (1008)

Serial Number 11436

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location: ENLO

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO	PROJECT LOCATION (STATE)	MATRIX TYPE	REQUIRED ANALYSIS	PAGE 1 OF 1
TRAIL RIDGE	64005280	FL			
TAL (LAB) PROJECT MANAGER: DANIELLE HARRINGTON	P.O. NUMBER	CONTRACT NO			STANDARD REPORT DELIVERY ☒
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX			DATE DUE
CLIENT NAME: WM	CLIENT E-MAIL				EXPEDITED REPORT DELIVERY (SURCHARGE) ☐
CLIENT ADDRESS: JACKSONVILLE FL					DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)					NUMBER OF COOLERS SUBMITTED PER SHIPMENT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) WEEKLY	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT)	CHLORAMINE-B									REMARKS
8-24	0745	SW-1	G	✓				1									
8-24	0815	SW-3	G	✓				1									
								1									

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
[signature]	8-24-16	1700						
RECEIVED BY (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**
[signature]	8-25-16	0935						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO	SAVANNAH LOG NO	LABORATORY REMARKS
			YES ☐ NO ☐			GW 3.3°C

TA 6240-C30 (1008)

Login Sample Receipt Checklist

Client Golder Associates Inc

Job Number 680-129072-1

Login Number. 129072

List Source TestAmerica Savannah

List Number 1

Creator Banda, Christy S

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

Login Sample Receipt Checklist

Client Golder Associates Inc

Job Number 680-129072-1

Login Number 129123

List Source TestAmerica Savannah

List Number 1

Creator Banda, Christy S

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

Login Sample Receipt Checklist

Client Golder Associates Inc

Job Number 680-129072-1

Login Number 129123
List Number 2
Creator Chambers, Cheryle A

List Source TestAmerica Pensacola
List Creation 08/26/16 12 32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter	N/A	
The cooler's custody seal, if present, is intact	True	
Sample custody seals, if present, are intact	N/A	
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	3 9°C IR5
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	True	
There is sufficient vol for all requested analyses, incl any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4")	True	
Multiphasic samples are not present	True	
Samples do not require splitting or compositing	True	
Residual Chlorine Checked	N/A	

Certification Summary

Client Golder Associates Inc
Project/Site Trail Ridge Landfill

TestAmerica Job ID 680-129072-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E87052	06-30-17

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-17
Arkansas DEQ	State Program	6	88-0689	09-01-16 *
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-16
Iowa	State Program	7	367	07-31-16 *
Kansas	NELAP	7	E-10253	10-31-16
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-16
Louisiana	NELAP	6	30976	06-30-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-16
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-17
Rhode Island	State Program	1	LAO00307	12-30-16
South Carolina	State Program	4	96026	06-30-16 *
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

* Certification renewal pending - certification considered valid

Diversified Environmental Laboratories, Inc.

Lisa Harvey
Test America
5102 LaRoche Ave
Savannah, GA 31404

August 25, 2016

Re

DELI Project Number	**160824.01**
Client PO Number	**68016760**
Client Project Description	**Trail Ridge Landfill**

Dear Mrs Harvey

Enclosed is the report of laboratory analysis for the following samples

Sample Number	Sample Description	Date/Time Collected	Date/Time Received
36122	SW-1	08/24/16 07 45	08/24/16 10 15
36123	SW-3	08/24/16 08:15	08/24/16 10:15

If you have any questions or comments concerning this laboratory report, please do not hesitate to contact us

Sincerely,

Franklin A Risk, Jr.
Laboratory Director

Enclosures

NELAP #E821059

Diversified Environmental Laboratories, Inc
3653 Regent Boulevard
Suite 509
Jacksonville, FL 32224

Phone 904 807 9625
Fax 904 807 9627
Email info@delilab com
Website www delilab com

Diversified Environmental Laboratories, Inc

Case Narrative

August 25, 2016

Test America
Lisa Harvey

Re DELI Project Number **160824.01**
Client Project Description **Trail Ridge Landfill**

Enclosed is the case narrative for the above referenced project

There is nothing to report in the case narrative section of this laboratory report

Unless otherwise noted and where applicable
These samples were received at the proper temperature and with the proper preservation The samples were analyzed as received, unless otherwise noted All results in the Quality Control section are labeled appropriately All results meet the requirements of the NELAP standards unless otherwise noted Footnotes are given at the end of the report

Narrative Page 1 of 1 **NELAP #E821059**

Diversified Environmental Laboratories, Inc
3653 Regent Boulevard
Suite 509
Jacksonville, FL 32224

Phone 904 807 9625
Fax 904 807 9627
Email info@delilab com
Website www delilab com

Diversified Environmental Laboratories, Inc.

Report of Laboratory Analysis

DELI Project Number	Test America
160824.01	Project Description: Trail Ridge Landfill

Report Date August 25, 2016

DELI Sample Number 36122 — Matrix: Non Potable Water

Sample Designation SW-1 — Date/Time Collected: 08/24/16 07 45

Parameters	Method	Results	Footnote	Units	DF	MDL	PQL	Prep Date/Time	Analyst	Analysis Date/Time
Coliform, Fecal	SM 9222 D	480		cfu/100mL	20	20	20		ADA	08/24/16 10 30

NELAP #E821059

Diversified Environmental Laboratories, Inc
3653 Regent Boulevard
Suite 509
Jacksonville, FL 32224

Phone 904 807 9625
Fax 904 807 9627
Email info@delilab com
Website www delilab com

Diversified Environmental Laboratories, Inc.

Report of Laboratory Analysis

DELI Project Number	Test America
160824.01	Project Description: Trail Ridge Landfill

Report Date August 25, 2016

DELI Sample Number	36123	Matrix	Non Potable Water
Sample Designation	SW-3	Date/Time Collected	08/24/16 08 15

Parameters	Method	Results	Footnote	Units	DF	MDL	PQL	Prep Date/Time	Analyst	Analysis Date/Time
Coliform, Fecal	SM 9222 D	420		cfu/100mL	20	20	20		ADA	08/24/16 10 30

NELAP #E821059

Diversified Environmental Laboratories, Inc
3653 Regent Boulevard
Suite 509
Jacksonville, FL 32224

Phone 904 807 9625
Fax 904 807 9627
Email info@delilab com
Website www delilab com

Diversified Environmental Laboratories, Inc.

Report of Laboratory Analysis

DELI Project Number	Test America
160824.01	Project Description: Trail Ridge Landfill

Report Date August 25, 2016

Footnotes

DF	Dilution Factor
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MDL	Minimum Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not Detected/None Detected
PQL	Practical Quantification Limit
RPD	Relative Percent Deviation
U,D1	U=Compound analyzed for, but not detected D1=Dilution needed due to matrix interference or foamy matrix

NELAP #E821059

Diversified Environmental Laboratories, Inc
3653 Regent Boulevard
Suite 509
Jacksonville, FL 32224

Phone 904 807 9625
Fax 904 807 9627
Email info@delilab com
Website www delilab com

Diversified Environmental Laboratories Inc.

Quality Control Data

Date Printed: August 25, 2016
QCData for Project Number 160824 01
Page QC–1 of 1

Batch No: **B12162**

TestCode **Coli Fec (MF) 9222D**

Associated Samples
36122, 36123

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	--QC Limits-- %RPD	--QC Limits-- %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- %RPD	---QC Limits--- %Rec	Sample Dup %RPD	--QC Limit-- %RPD	Qualifiers
Parent Sample Number														*36122*		
Coliform, Fecal	<1 U													0	91	
Parent Sample Number																
Coliform, Fecal	<1 U														9:	

* Indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

U Compound analyzed for, but not detected.

NELAP #E821059

Diversified Environmental Laboratories, Inc
3653 Regent Boulevard
Suite 509
Jacksonville, FL 32224

Phone 904 807 9625
Fax 904 807 9627
Email info@delilab.com
Website www.delilab.com

PC - 68016760

DELI Project # 160824.01

Serial Number [illegible]

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

◯ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax (912) 352-0165

⊗ Alternate Laboratory Name/Location
DIVERSIFIED LAB

Phone
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
TRAIL RIDGE	S/A Sw	FL	1	1

TAL (LAB) PROJECT MANAGER	PO NUMBER	CONTRACT NO
6400528C		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Lisa Harvey		

CLIENT NAME	CLIENT E-MAIL
Waste Mgt.	Lisa.Harvey@testamericainc.com

CLIENT ADDRESS: JACKSONVILLE FL

COMPANY CONTRACTING THIS WORK (if applicable):

STANDARD REPORT DELIVERY ⊗

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ..)	Ferric Cl	Ferric Cl	NUMBER OF CONTAINERS SUBMITTED	REMARKS
8-24	0745	Sul-1	G	X				1			36122
8-24	0815	Sul-3	G	X				1			36123

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
[signature]	8-24-16	0900	[signature]	0900	8-24-16	[signature]	8-24-16	1015

RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
						[signature]	08/24/16	1015

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO	SAVANNAH LOG NO	LABORATORY REMARKS
			YES ◯ NO ◯			Sample temp 2.8°C Cooler temp 0.6°C

TAL8240-880 (1008)

9/22/2016

Project Login Form

DELI Project Number 160824.01 Client Name. Test America

Date Received 08/24/16 Received by UMO PLF Completed by UMO

Courier/Shipper Information:

☐ Client ☐ DEL, Inc ☑ Other (describe) Petty Co

Type & Number of Shipping Containers:

#	Shipping Container Description	Crushed Ice	Cooler/Ice Temp. C	Sample Cont. Temp. C
1	(Cooler) Box Other	(Yes) No	0.6	2.8
2	Cooler Box Other.	Yes No		
3	Cooler Box Other.	Yes No		
4	Cooler Box Other	Yes No		
5	Cooler Box Other	Yes No		

Note If thermal preservation was used / required, pick a sample container from each cooler and use the IR gun to measure the sample temperature

Therm Inv # 0364 IR Gun Inv # 0332

Other Information Checklist.	YES	NO	NA
1 Were custody seals used for shipping containers(s)?	☐	☑	☐
2 If Yes, were the custody seals intact? If no, see comments below.	☐	☐	☑
3 Were custody seals used for sample containers(s)?	☐	☑	☐
4 If Yes, were the custody seals intact? If no, see comments below	☐	☐	☑
5 Did custody papers accompany samples? (such as COC, specifics, etc)	☑	☐	☐
6 Were the custody papers properly filled out?	☑	☐	☐
7 Were the sample containers received in good conditon? (If no, see comments)	☑	☐	☐
8 Were the sample container labels properly filled out? (date time, preservation, etc)	☑	☐	☐
9 Were the labels on the sample containers and custody papers consistent?	☑	☐	☐
10 Were the samples in the correct containers for analysis?	☑	☐	☐
11 Were the correct preservations used for each sample container according to analysis?	☑	☐	☐
12 Were the samples received within the appropriate holding times?	☑	☐	☐
13 Were pH preservation checks made?	☐	☐	☑
14 Were the sample containers provided by DEL, Inc ?	☐	☑	☐
15 Was this a sample kit provided by DEL, Inc ? If Yes, DEL, Inc Kit # NA	☐	☐	☑
16 Were the VOA vials free of headspace? (No bubbles present)	☐	☐	☑

Are the samples acceptable for analysis? Yes If yes, proceed with login If no, notify client immediately and list rejection reasons in comments area below Also, please take any needed further action for rejected sample(s)

Container Preservation Check:

Note VOA vials will not be checked for pH at sample login The testing laboratory will perform that check during analysis The pH of microbiological samples will not be checked, due to the risk of contamination The pH of Oil & Grease samples will not be checked during sample login, due to the potential loss of product.

DEL, Inc Sample Number	Parameters	Cooler/ Container #	pH upon receipt	Was a preservative added after pH check?	If Yes, which preservative was added? (incl. Vol)	Preservative Lot #	New pH value	Sample container size & type?
36122	Fecal Coliform	1	–	Yes / (No)	–	–	–	100mL P w/
-36123				Yes / No				sterile pH
				Yes / No				
				Yes / No				
				Yes / No				
				Yes / No				
				Yes / No				
				Yes / No				
				Yes / No				

P = Plastic, G = Glass, AG = Amber Glass, TL = Teflon Lid, WM = Wide Mouth

Comments:

Lab General Form 002, Rev #5 Rev Date 07/19/11, Effective Date 07/20/11

Sample Login Page 1 of 1

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, August 31, 2016
Test America - Savannah (TE023)
Attn. Lisa Harvey
5102 LaRoche Avenue
Savannah, GA 31404

RE: Laboratory Results for
Project Number: 680-129123, Project Name/Desc: Test America -
ENCO Workorder(s): AZ05939

Dear Lisa Harvey,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, August 25, 2016.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Carlene S. Pasipanki

Carlene S Pasipanki For David Camacho
Project Manager
Enclosure(s)

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID. SW-1 | **Lab ID: AZ05939-01** | **Sampled: 08/24/16 07:45** | **Received· 08/25/16 09:35**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
SM 10200H-2001	08/26/16 07 45	09/08/16	08/25/16	14 00	08/30/16 14 16

Client ID: SW-3 | **Lab ID: AZ05939-02** | **Sampled: 08/24/16 08:15** | **Received: 08/25/16 09:35**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
SM 10200H-2001	08/26/16 08·15	09/08/16	08/25/16	14 00	08/30/16 14 16

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SAMPLE DETECTION SUMMARY

Client ID: SW-1 **Lab ID: AZ05939-01**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Chlorophyll a	25		0.50	0.50	mg/m3	SM 10200H-2001	

Client ID: SW-3 **Lab ID: AZ05939-02**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Chlorophyll a	7 2		0 50	0 50	mg/m3	SM 10200H-2001	

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ANALYTICAL RESULTS

Description: SW-1 **Lab Sample ID:** AZ05939-01 **Received.** 08/25/16 09:35
Matrix. Water **Sampled:** 08/24/16 07 45 **Work Order:** AZ05939
Project: Test America - **Sampled By:**

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte (NELAC E83182)

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Chlorophyll a [42617-16-3]^	25		mg/m3	1	0 50	0 50	6H25036	SM 10200H-2001	08/30/16 14.16	M1N	

Description: SW-3 **Lab Sample ID:** AZ05939-02 **Received:** 08/25/16 09 35
Matrix: Water **Sampled:** 08/24/16 08:15 **Work Order:** AZ05939
Project: Test America - **Sampled By:**

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte (NELAC E83182)

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Chlorophyll a [42617-16-3]^	7.2		mg/m3	1	0 50	0.50	6H25036	SM 10200H-2001	08/30/16 14 16	M1N	

QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 6H25036 - NO PREP

Blank (6H25036-BLK1) Prepared 08/25/2016 14 00 Analyzed 08/30/2016 14 16

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorophyll a	0 50	U	0 50	mg/m3							

Duplicate (6H25036-DUP1) Prepared 08/25/2016 14 00 Analyzed 08/30/2016 14 16

Source: AZ05939-01

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorophyll a	25		0.50	mg/m3		25			0	25	

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low, Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.

Serial Number 113436

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Abbreviated Laboratory Name/Location: GAO

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO	PROJECT LOCATION (STATE)	MATRIX TYPE	REQUESTED ANALYSIS	DATE	OF
The Pine Ridge	6100	FL			1	1
TA-LAB PROJECT MANAGER: Danielle Morrison	P.O. NUMBER	CONTRACT NO			STANDARD REPORT DELIVERY ☒	
CLIENT CONTACT	CLIENT PHONE	CLIENT FAX			DATE DUE	
CLIENT NAME: Wren	CLIENT E-MAIL				EXPEDITED REPORT DELIVERY (SURCHARGE) ☐	
CLIENT ADDRESS: Jacksonville FL					DATE DUE	
COMPANY CONTRACTING THIS WORK IN ADDITION					NUMBER OF LOCALLY SUBMITTED PER SHIPMENT	

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (W) OR SOLID (S)	SOIL OR SEDIMENT	AIR	NONHOLDING (NOT FOR DELIVERY)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
8-24	0745	Sub 1	G	W				1	
8-24	0815	Sub 3	G	W				1	

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
[signature]	8-25-16	1700						
RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
[signature]	8-25-16	0935						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO	SAMPLING LOCATION	LABORATORY REMARKS
			YES ☐ NO ☐			GW 3.5°C

Appendix C
Hydraulic Gradient Calculations
Trail Ridge Landfill, Jacksonville, Florida
FDEP Permit 0013493-025-SO-01 / WACS Facility ID 33628

Made by: DH
Checked by: LDH
Reviewed by: LS

Purpose: To determine groundwater flow direction and calculate horizontal hydraulic gradients for shallow, intermediate, and deep portions of the surficial aquifer at the Trail Ridge Landfill

Method for Determination of Horizontal Hydraulic Gradient:

$$I = \frac{\Delta h}{\Delta s} = \frac{GWE_A - GWE_B}{\underline{AB}}$$

Where

I	Hydraulic gradient (dimensionless)
Δh	Difference of hydraulic head
Δs	Horizontal distance between two points
$GWE_{A\ B}$	Groundwater elevation of points A and B (in feet)
$\underline{AB}$	The horizontal distance between points A and B (in feet), where AB is perpendicular to potentiometric contours

Using the following groundwater elevation data:

	GWE_A	GWE_B
Shallow	140' contour	MWB-22(S)
Intermediate	135' contour	MWB-12(I)
Deep	130' contour	MWB-12 (D)

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Hydraulic Gradient Calculations
Trail Ridge Landfill, Jacksonville, Florida
FDEP Permit 0013493-025-SO-01 / WACS Facility ID 33628

Made by: DH
Checked by: LDH
Reviewed by: LS

Goal: Calculate the hydraulic gradient for the surficial aquifer - shallow depth

Condition Static

$$I = \frac{\Delta h}{\Delta s} = \frac{GWE_A - GWE_B}{AB}$$

Shallow gradient:

$$I = \frac{140' \text{ contour - MWB-22(S)}}{2720} = \frac{140' - 114\ 05'}{2720}$$

$$\boxed{I = 0\ 010 \quad \text{ft/ft}}$$

Intermediate gradient:

$$I = \frac{135' \text{ contour - MWB-12(I)}}{2820} = \frac{135' - 112\ 97'}{2820}$$

$$\boxed{I = 0\ 008 \quad \text{ft/ft}}$$

Deep gradient:

$$I = \frac{130' \text{ contour - MWB-12 (D)}}{2190} = \frac{130' - 115\ 19'}{2190}$$

$$\boxed{I = 0\ 007 \quad \text{ft/ft}}$$

Average gradient. $\boxed{I = 0\ 008 \quad \text{ft/ft}}$

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Appendix C
Hydraulic Gradient Calculations
Trail Ridge Landfill, Jacksonville, Florida
FDEP Permit 0013493-025-SO-01 / WACS Facility ID 33628

Made by: DH
Checked by LDH
Reviewed by: LS

Horizontal Hydraulic Gradients:

Shallow horizontal gradient is	0 010	ft/ft
Intermediate horizontal gradient is	0 008	ft/ft
Deep horizontal gradient is	0 007	ft/ft
Average horizontal gradient is	0 008	ft/ft

Groundwater Flow Direction

Groundwater flow is to the east moving perpendicular to potentiometric contours from high to low hydraulic head values

APPENDIX D
ADAPT DATA PACKAGE
PDF)

CD HAS BEEN
REMOVED AND
INSERTED INTO
OCULUS

APPENDIX E
GROUNDWATER MONITORING REPORT CERTIFICATION

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(31), F.A.C.
Form Title: Water Quality Monitoring Certification
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name Trail Ridge Landfill, Inc.

Address 5110 U.S. Highway 301

City Baldwin, FL Zip 32234 County Duval

Telephone Number (850)474-8846

(2) WACS Facility ID 33628

(3) DEP Permit Number 0013495-025-SO-01

(4) Authorized Representative's Name Eric Parker Title Env. Protection Manager

Address 5110 U.S. Highway 301

City Baldwin, FL Zip 32234 County Duval

Telephone Number (904)289-9100 Ex. 212

Email address (if available) EParker1@wm com

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

10/31/2016
(Date)

(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Professional Tech. Support Services (ProTech)

Analytical Lab NELAC / HRS Certification # Florida E87052

Lab Name TestAmerica Laboratories, Inc. / TestAmerica Savannah

Address 5102 LaRoche Avenue, Savannah, GA 31404

Phone Number (912)354-7858

Email address (if available) lisa.harvey@testamaricainc.com

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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