



2017 Annual GW Monitoring Report

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

BYPRODUCT STORAGE AREA
C.D. MCINTOSH POWER PLANT
LAKELAND, FLORIDA

Prepared for: LAKELAND ELECTRIC

Submitted to: Lakeland Electric
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Submitted by: Golder Associates Inc.
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January 30, 2018

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January 30, 2018

Mr. Sean McGinnis, Environmental Coordinator
Lakeland Electric
501 East Lemon Street
Lakeland, FL

**RE: 2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
BYPRODUCT STORAGE AREA – C.D. MCINTOSH POWER PLANT
LAKELAND, FLORIDA**

Dear Mr. McGinnis:

Golder Associates Inc. (Golder) is providing Lakeland Electric (LE) with this 2017 Annual Groundwater Monitoring and Corrective Action Report for the Byproduct Storage Area at the C.D. McIntosh Power Plant in Lakeland, Florida. Pursuant to the Coal Combustion Residual (CCR) Rule¹, this Annual Report documents the activities completed to establish the coal combustion residual (CCR) groundwater monitoring program and actions through the 2017 calendar year as required by §257.90(e).

Golder appreciates the opportunity to assist LE with this project. Should you have any questions or need any additional information, please do not hesitate to contact us.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in blue ink, appearing to read 'Sam F. Stafford'.

Samuel F. Stafford, PE
Senior Project Engineer

A handwritten signature in blue ink, appearing to read 'Anthony L. Grasso'.

Anthony L. Grasso, PG
Principal

¹ 40 Code of Federal Regulations Part 257 (40 CFR 257), Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, Published in Federal Register/ Vol 80, No. 74, April 17, 2015.





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1.0 INTRODUCTION

This Annual Groundwater Monitoring and Corrective Action Report has been prepared for the Byproduct Storage Area (BSA) at the C.D. McIntosh Jr. Power Plant (MPP or the plant) on behalf of Lakeland Electric (LE) pursuant to the Coal Combustion Residual (CCR) Rule¹

1.1 Site Information and Background

The MPP facility is located at 3030 East Lake Parker Drive in Lakeland, Florida. A site location map is provided as **Figure 1**. The plant has a combined generation capacity of 874 megawatts consisting of multiple units including: two diesel peaking units, a natural gas and oil fired generator (Unit 2), a coal fired generator (Unit 3), and a combined cycle natural gas unit (Unit 5). The BSA, formerly referred to as the Southern Landfill Area, encompasses approximately 44 acres is located in the eastern portion of the property and receives CCRs generated by Unit 3.

1.2 Site Hydrogeology

The BSA is underlain by two aquifers, the surficial aquifer and the Floridan aquifer which are separated by an intermediate confining unit. The surficial aquifer represents the “uppermost aquifer” as defined in the CCR Rule. The groundwater flow in the surficial aquifer at the site generally flows from topographic highs to topographic lows discharging to the numerous lakes surrounding the site (Golder 2005). Groundwater in the vicinity of the BSA has been observed to flow radially away from the BSA, with flow to the north toward Lake B, to the west toward Fish Lake, and to the east toward Lakes C and D. The area to the southwest of the BSA is hydraulically upgradient or side-gradient to the BSA, depending on site conditions that affect groundwater flow (e.g., surface water elevations, amount of precipitation, etc.), while the areas to the west, north and east are hydraulically downgradient of the BSA. There is a smaller component of groundwater flow in the surficial aquifer that is vertically downgradient toward the intermediate confining unit and Floridan aquifer. This vertical flow component is restricted by the clayey materials of the intermediate confining unit.

1.3 CCR Groundwater Monitoring Network

The CCR groundwater monitoring network for the BSA at MPP consists of two background monitoring wells (CCR-1 and CCR-2) and twelve downgradient monitoring wells (CCR-3 through CCR-14). Background and downgradient monitoring wells were installed with screen intervals in the surficial aquifer (total depth of approximately 25 feet below ground surface). The background wells (CCR-1 and CCR-2) are located such that they represent background groundwater quality estimated not to have been affected by the BSA and represent groundwater quality in the same zone as the downgradient monitoring wells. Downgradient monitoring wells (CCR-3 through CCR-14) have been installed as close as practical to the waste boundary

¹ 40 Code of Federal Regulations Part 257 (40 CFR 257), Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, Published in Federal Register / Vol. 80, No. 74, April 17, 2015.



to represent the quality of groundwater passing the waste boundary. The monitoring wells have been encased in a manner that maintains the integrity of the monitoring well borehole. CCR groundwater monitoring well locations (CCR 1 through CCR-14) are shown on **Figure 2** and monitoring well construction data are provided in **Table 1**.



2.0 CCR GROUNDWATER MONITORING ACTIVITIES

The following sections describe the groundwater monitoring activities performed during the preceding calendar year, in accordance with §257.90(e). Since this is the first annual groundwater report, the following sections also describe the CCR groundwater monitoring activities related activities prior to 2017 for the BSA.

2.1 Monitoring Well Installation and Decommissioning

The monitoring wells that form the CCR groundwater monitoring well network (CCR-1 through CCR-14) were installed in June 2016. Following installation and development, the wells were fitted with dedicated sampling equipment. Following completion of the background monitoring period, the dedicated sampling equipment was removed by LE personnel.

2.2 Groundwater Sampling Activities

This section describes the groundwater sampling activities related to the CCR groundwater monitoring program that occurred in 2017 and preceding years.

2.2.1 Background Monitoring

Background monitoring (the collection of a minimum of eight independent samples prior to October 2017) began in August 2016 and was completed in August 2017. During that time, groundwater samples were collected on a monthly basis and analyzed for Appendix III and Appendix IV parameters pursuant to §257.94(b). During the background sampling events, background and downgradient wells were sampled in accordance with the procedures presented in the Groundwater Sampling Methodology and Analytical Procedures Technical Memorandum (Golder, 2016). Samples collected during the background events were analyzed by TestAmerica Laboratories, Inc. of Pensacola, Florida. Background laboratory analytical results are provided in **Appendix A**. A summary of the background sampling events is presented in the table below:



Monitoring Event	Sample Dates
Background Event #1	8/3 – 8/5/2016
Background Event #2	9/14 – 9/16/2016
Background Event #3	10/11, 10/12, 10/14/2016
Background Event #4	11/2 – 11/3/2016
Background Event #5	12/14 – 12/15/2016
Background Event #6	1/11 – 1/12/2017
Background Event #7	2/1 – 2/2/2017
Background Event #8	3/15 – 3/16/2017
Background Event #9	4/12 – 4/13/2017
Background Event #10	5/17 – 5/18/2017
Background Event #11	6/13 – 6/14/2017
Background Event #12	7/11, 7/13/2017
Background Event #13	8/14, 8/16/2017

2.2.2 Detection Monitoring

The initial detection monitoring samples were collected by LE personnel on October 12-13, 2017. Verification sampling was performed on November 29, 2017 through December 1, 2017. Monitoring wells CCR-10, CCR-11, and CCR-14 were resampled on December 7, 2017 due to field stabilization parameter issues. Groundwater samples were analyzed by the City of Lakeland McIntosh Main Laboratory. Detection monitoring laboratory analytical results are provided in **Appendix A**.

2.3 Groundwater Sampling Methodology

CCR groundwater sampling is performed in accordance with §257.93(a) and with the procedures presented in the Groundwater Sampling Methodology and Analytical Procedures Technical Memorandum (Golder, 2016). Prior to purging, the depth to water level was measured for each well using an electronic water level indicator. The monitoring wells were purged and sampled using dedicated low-flow pneumatic bladder pumps or using non-dedicated sampling equipment. Calibrated water quality meters were used to monitor field stabilization parameters including; pH specific conductance, temperature, dissolved oxygen, oxygen reduction potential and turbidity. After the water quality parameters stabilized, groundwater samples were collected and placed into iced coolers under chain-of-custody control pending delivery to the laboratory. Groundwater samples were collected for both Appendix III and Appendix IV parameters during the background monitoring period (November 2015 to June 2017). Groundwater samples collected for detection monitoring were required to be analyzed for Appendix III parameters only.



3.0 CCR GROUNDWATER DATA EVALUATION

3.1 Groundwater Flow Rate and Direction

Groundwater elevation measurements were recorded for the CCR groundwater monitoring network during each sampling event at the BSA. A summary of the groundwater elevations recorded for the background and detection monitoring events is provided in **Table 2**. Groundwater elevation data were used to develop a potentiometric surface map for the initial detection monitoring event in October 2017 (**Figure 3**). Consistent with past observations (Golder 2005), groundwater flow is inferred to flow radially under the BSA, as shown on **Figure 3** with horizontal hydraulic gradients ranging from 0.002 to 0.02 feet per foot. The groundwater flow rate in the vicinity of the BSA is estimated to range from 0.08 to 0.8 feet per day based on the horizontal hydraulic gradients, an average hydraulic conductivity of 5.7 feet per day, estimated from 1 slug tests conducted in monitoring wells CCR-1 through CCR-14, and an estimated effective porosity of 0.15.

3.2 Statistical Analysis

The statistical analysis of Appendix III background monitoring data and detection monitoring data is described in the sections below. A statistical analysis of Appendix IV data has not been performed since the facility is in the detection monitoring phase and has not initiated an assessment monitoring program as of January 2018.

3.2.1 Background Statistical Analysis

Appendix III groundwater quality data are evaluated using the interwell prediction limit approach outlined in the Statistical Analysis Plan (Golder, 2017). Data from detection monitoring events are compared to the prediction limits from the background monitoring data to determine if statistically significant increases over background levels have occurred. Golder also performed the data evaluation outlined in the Statistical Analysis Plan to process non-detect data, evaluate outliers, trend evaluation, and normality evaluation. Appendix III background sampling results from the background monitoring wells are shown in **Table 3**. Statistical analysis worksheets are provided in **Appendix B**.

3.2.1.1 Boron

The prediction limit for boron was established based on the pooled groundwater data from CCR-1 and CCR-2. Background boron results from these background wells did not exhibit significant spatial variability and were therefore pooled to calculate the prediction limit. The data evaluation summary for pooled dataset and background concentration limit for boron is shown in the table below:



Background Basis:	CCR-1 + CCR-2
Non-Detect Percentage:	8%
Outlier:	No
Distribution:	Normal
Mean:	0.035 milligrams per liter (mg/L)
Standard Deviation:	0.012 mg/L
k (w=12, n=26)	2.22
Upper Prediction Limit:	0.062 mg/L / 62 micrograms per liter (µg/L)

3.2.1.2 Calcium

The prediction limit for calcium was established based on the groundwater data from CCR-1. Background calcium results from CCR-1 and CCR-2 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. CCR-1 was selected as it was the background well most directly upgradient from the BSA. The calcium dataset distribution for CCR-1 was non-normal and the target per-constituent false positive rate could not be achieved for a non-parametric prediction limit, therefore, a non-parametric upper tolerance limit was selected (maximum value). The calcium data evaluation summary for CCR-1 and calculated background concentration limit for calcium is shown below:

Background Basis:	CCR-1
Non-Detect Percentage:	0%
Trend:	No
Outlier:	No
Distribution:	Non-normal
Mean:	28.2 mg/L
Standard Deviation:	2.2 mg/L
Non-parametric Upper Tolerance Limit	32 mg/L
Level of Confidence	95%
Percent Coverage	79.4%

3.2.1.3 Chloride

The prediction limit for chloride was established based on the groundwater data from CCR-1. Background chloride results from CCR-1 and CCR-2 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. CCR-1 was selected as it was the background well most directly upgradient from the BSA. The chloride data evaluation summary for CCR-1 and calculated background concentration limit for chloride is shown in below:



Background Basis:	CCR-1
Non-Detect Percentage:	0%
Trend:	No
Outlier:	No
Distribution:	Normal
Mean:	7.3 mg/L
Standard Deviation:	2.2 mg/L
k (w=12, n=13)	2.58
Upper Prediction Limit:	13 mg/L

3.2.1.4 Fluoride

The prediction limit for fluoride was established based on the groundwater data from CCR-1. Background fluoride results from CCR-1 and CCR-2 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. CCR-1 was selected as it was the background well most directly upgradient from the BSA. There were no detections for fluoride at CCR-1 above the laboratory practical quantification limit/reporting limit (PQL/RL), therefore, the double quantification rule will be used to determine if there is an SSI over background. The fluoride data evaluation summary for CCR-1 and calculated background concentration limit for fluoride is shown below:

Background Basis:	CCR-1
Non-Detect Percentage:	92% < MDL, 100% < PQL
Trend:	No
Outlier:	Yes, 0.07 mg/L (I value)
Distribution:	Non-normal
Background Limit:	Current PQL/RL (0.1 mg/L)

3.2.1.5 pH

The prediction limit for pH was established based on the groundwater field data from CCR-1. Background pH results from CCR-1 and CCR-2 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. CCR-1 was selected as it was the background well most directly upgradient from the BSA. The pH data evaluation summary for CCR-1 and calculated background concentration limit for pH is shown in the table below:

Background Basis:	CCR-1
Non-Detect Percentage:	0%
Outlier:	No
Trend:	Yes, negative
Distribution:	Normal
Mean:	4.94 standard units (S.U.)
Standard Deviation:	0.12 S.U.
k (w=12, n=13)	2.58
Lower Prediction Limit	5.25 S.U.
Upper Prediction Limit:	4.63 S.U.



3.2.1.6 Sulfate

The prediction limit for sulfate was established based on the groundwater data from CCR-1. Background sulfate results from CCR-1 and CCR-2 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. CCR-1 was selected as it was the background well most directly upgradient from the BSA. One lower non-detect value (<1.4 mg/L) was identified as an outlier using Dixon's Test. The suspected outlier was removed from the dataset (appears to be an anomalous result) and resulting dataset fit a normal distribution. The sulfate data evaluation summary and background concentration limit for sulfate are shown in the table below:

Background Basis:	CCR-1
Non-Detect Percentage:	8%
Trend:	Yes, Negative
Outlier:	Yes, < 1.4 mg/L
Distribution:	Normal
Mean:	50.9 mg/L
Standard Deviation:	9.7 mg/L
k (w=12, n=12)	2.63
Upper Prediction Limit:	76.4 mg/L

3.2.1.7 Total Dissolved Solids

The prediction limit for total dissolved solids was established based on the groundwater data from CCR-1. Background total dissolved solids results from CCR-1 and CCR-2 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. CCR-1 was selected as it was the background well most directly upgradient from the BSA. Based on Dixon's Test, one lower outlier was identified at a 5% significance level within the dataset, however, the outlier was not removed as the data fit a normal distribution and there was not further justification for its removal. The total dissolved solids data evaluation summary and background concentration limits for total dissolved solids are shown below:

Background Basis:	CCR-1
Non-Detect Percentage:	0%
Trend:	No
Outlier:	Yes, 78 mg/L
Distribution:	Normal
Mean:	149 mg/L
Standard Deviation:	30.5 mg/L
k (w=12, n=13)	2.58
Upper Prediction Limit:	228 mg/L



3.2.2 Initial Detection Monitoring Statistical Analysis

The goal of the detection monitoring program is determine if there is a SSI relative to background concentrations of any Appendix III parameter at any downgradient monitoring well. LE collected the initial detection monitoring samples on October 12-13, 2017. The results of the initial detection monitoring event are shown in **Table 4**. Golder reviewed the results of the initial detection monitoring event and identified potential SSIs for the following wells and parameters:

- CCR-3: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids
- CCR-4: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids
- CCR-5: Boron, Calcium, Chloride, Sulfate, Total Dissolved Solids
- CCR-6: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids
- CCR-7: Boron, Calcium, Chloride, Sulfate, Total Dissolved Solids
- CCR-8: Boron, Calcium, Fluoride, Sulfate, Total Dissolved Solids
- CCR-9: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids
- CCR-10: Boron, Calcium, pH, Total Dissolved Solids
- CCR-11: Boron, Calcium, Chloride, Fluoride, Sulfate, Total Dissolved Solids
- CCR-12: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids
- CCR-13: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids
- CCR-14: Boron, Calcium, Chloride, Fluoride, pH, Sulfate, Total Dissolved Solids

Verification sampling was performed on November 29, 2017 through December 1, 2017. Monitoring wells CCR-10, CCR-11, and CCR-14 were resampled on December 7, 2017 due to field stabilization parameter issues. The results of the verification sampling are shown in **Table 4**. The SSI evaluation is summarized in the table below:

Constituent	Background Limit	Monitoring Wells – Verified SSIs
Boron	62 µg/L	CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-10, CCR-11, CCR-12, CCR-13, CCR-14
Calcium	32 mg/L	CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-10, CCR-11, CCR-12, CCR-13, CCR-14
Chloride	13 mg/L	CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-9, CCR-11, CCR-12, CCR-13, CCR-14
Fluoride	PQL/RL (0.1 mg/L)	CCR-4, CCR-6, CCR-8, CCR-9, CCR-11, CCR-12, CCR-13, CCR-14
pH	4.63 / 5.25 S.U.	CCR-3, CCR-4, CCR-6, CCR-8, CCR-10, CCR-11, CCR-12, CCR-13, CCR-14
Sulfate	76.4 mg/L	CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-11, CCR-12, CCR-13, CCR-14
Total Dissolved Solids	228 mg/L	CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-10, CCR-11, CCR-12, CCR-13, CCR-14



4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the statistical evaluations presented herein and pursuant to §257.90(e), Golder recommends proceeding with either an alternate source demonstration showing that a source other than the BSA was the cause of the SSI or advancing to assessment monitoring in accordance with §257.95. Based on the SSI determination date of January 15, 2018, the alternate source demonstration or initiation of assessment monitoring is required no later than April 15, 2018.



5.0 REFERENCES

- Golder. 2005. Phase 2 Contamination Assessment Report, C.D. McIntosh, Jr. Power Plant, Lakeland, Florida, Volume I, II, and III, dated January 24, 2005
- Golder. 2016. Monitoring Well Installation Report, CCR Rule Compliance Support, Byproduct Storage Area, Lakeland Electric, C.D. McIntosh Power Plant, Lakeland, Florida, dated September 1, 2016.
- Golder. 2017a. Technical Memorandum, Groundwater Sampling Methodology and Analytical Procedures, CCR Groundwater Monitoring, Byproduct Storage Area – C.D. McIntosh Power Plant, dated April 5, 2017.
- Golder. 2017b. CCR Groundwater Monitoring Network Documentation, C.D. McIntosh Power Plant, Byproduct Storage Area, Lakeland Electric, Lakeland, Florida, dated October 2017.
- Golder. 2017c. Statistical Analysis Plan, CCR Groundwater Monitoring, Lakeland Electric, C.D. McIntosh Power Plant, dated October 2017.

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TABLES

TABLE 1
SUMMARY OF CCR MONITORING WELL CONSTRUCTION DETAILS

Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Power Plant

Well ID	Date Installed	Northing (ft NAD83)	Easting (ft NAD83)	Ground Surface Elevation (ft NAVD88)	TOC Elevation (ft NAVD88)	Stick-up Height (feet)	Well Depth (ft bgs)	Screen Interval Depth (ft bgs)
CCR-1	6/24/2016	1362405.16	681287.15	138.34	141.30	2.96	25.7	15.7 - 25.2
CCR-2	6/23/2016	1362203.90	681787.58	137.61	140.57	2.97	25.8	15.7 - 25.2
CCR-3	6/23/2016	1362334.65	682451.34	137.52	137.04	-0.48	25.8	15.9 - 25.3
CCR-4	6/24/2016	1362450.01	683042.68	140.25	143.13	2.88	25.7	15.6 - 25.1
CCR-5	6/22/2016	1362715.99	683376.86	138.60	141.07	2.47	26.2	16.2 - 25.7
CCR-6	6/22/2016	1363168.38	683578.57	138.48	141.34	2.86	25.7	15.7 - 25.2
CCR-7	6/22/2016	1363631.86	683772.21	139.11	142.10	2.98	25.8	15.7 - 25.2
CCR-8	6/22/2016	1363917.60	683411.55	139.41	142.12	2.71	26.0	15.9 - 25.4
CCR-9	6/21/2016	1364085.18	683045.25	138.59	141.67	3.08	25.6	15.5 - 25.0
CCR-10	6/20/2016	1364309.40	682722.17	135.91	138.54	2.62	24.5	14.4 - 23.9
CCR-11	6/20/2016	1363835.45	682577.20	134.33	137.12	2.79	25.6	15.6 - 25.1
CCR-12	6/20/2016	1363353.12	682430.55	134.10	136.99	2.89	25.8	15.7 - 25.2
CCR-13	6/21/2016	1362936.56	682164.10	134.98	137.95	2.97	25.7	15.6 - 25.1
CCR-14	6/21/2016	1362771.09	681761.16	135.75	138.70	2.95	25.5	15.4 - 24.9
<p>Notes:</p> <p>TOC - Top of Casing</p> <p>ft bgs - feet below ground surface</p> <p>ft TOC - feet below top of casing</p> <p>NAD83 - Horizontal Control: North American Datum, State Plan Coordinate System Florida, East Zone</p> <p>NAVD88 - Vertical Control: North American Vertical Datum of 1988</p>								

**TABLE 2
SUMMARY OF GROUNDWATER ELEVATION MEASUREMENTS**

**Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Power Plant**

Well ID	Groundwater Elevation (ft NAVD88)													
	8/3/2016	9/15/2016	10/11/2016	11/2/2016	12/14/2016	1/11/2017	2/1/2017	3/15/2017	4/12/2017	5/17/2017	6/13/2017	7/11/2017	8/14/2017	10/12/2017
CCR-1	131.05	133.32	133.04	131.85	130.67	130.16	129.89	129.46	129.18	128.46	131.56	131.36	132.94	133.16
CCR-2	130.89	131.97	132.14	131.18	130.26	129.80	129.56	129.22	128.88	128.24	130.87	131.17	131.85	132.20
CCR-3	130.04	131.63	132.14	131.30	130.24	129.61	129.28	128.79	128.53	128.09	129.11	130.04	132.34	132.99
CCR-4	128.58	129.19	129.41	128.88	128.63	128.48	128.41	128.23	127.72	127.53	128.98	129.08	129.64	129.98
CCR-5	129.92	130.74	131.09	130.57	130.23	130.01	129.79	129.57	129.34	128.97	130.24	130.42	131.67	132.19
CCR-6	130.98	132.29	133.08	132.32	131.76	131.39	131.19	130.80	130.60	130.10	132.16	131.94	133.62	134.18
CCR-7	131.05	132.56	133.48	132.52	131.80	131.42	131.20	130.82	130.58	130.05	132.55	132.36	133.83	134.45
CCR-8	131.51	132.54	133.19	132.94	132.40	132.03	131.87	131.47	131.19	130.68	131.68	132.08	133.71	135.14
CCR-9	130.22	131.37	132.02	131.29	130.79	130.35	130.25	129.75	129.47	128.83	130.68	131.12	132.05	133.23
CCR-10	130.46	131.52	132.06	131.19	130.59	130.30	130.15	129.60	129.23	128.98	131.62	131.09	131.85	132.76
CCR-11	130.80	131.72	132.14	131.61	131.15	130.87	130.70	130.07	129.70	129.04	131.14	130.90	132.02	133.17
CCR-12	130.53	131.34	131.80	131.35	130.83	130.49	130.32	129.80	129.29	128.57	130.14	130.22	131.21	132.80
CCR-13	130.76	131.54	131.99	131.45	130.97	130.64	130.45	129.99	129.66	128.99	130.85	130.66	131.93	132.82
CCR-14	130.70	131.70	132.15	131.31	130.60	130.16	129.95	129.50	129.26	128.72	130.80	130.68	132.19	132.54

Notes:

NAVD88 - Vertical Control: North American Vertical Datum of 1988

TABLE 3
APPENDIX III BACKGROUND SAMPLING RESULTS
BACKGROUND MONITORING WELLS

Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Power Plant

Monitoring Well	Sampling Date	Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	Total Dissolved Solids mg/L
CCR-1	8/3/2016	0.028 I	27	5.9	0.032 U	5.11	46	210
	9/14/2016	0.048 I	26	6.4	0.032 U	5.05	50	78
	10/11/2016	0.039 I	27	5.6	0.032 U	5.00	55	170
	11/2/2016	0.035 I	26	5.6	0.032 U	4.99	29	180
	12/14/2016	0.035 I	26	7.4 V	0.032 U	4.89	54	140
	1/11/2017	0.037 I	30	8.8	0.032 U	4.95	62	160
	2/1/2017	0.034 I	31	8.9	0.032 U	5.13	1.4 U	140
	3/15/2017	0.031 I	32	9.4	0.032 U	4.95	58	130
	4/12/2017	0.022 I	29	8.8	0.032 U	4.95	52	160
	5/17/2017	0.044 I	26	12 V	0.032 U	4.82	48	150
	6/13/2017	0.048 I	31	3.9	0.032 U	4.78	42	140
	7/11/2017	0.054	27	5	0.032 U	4.81	49	140
8/14/2017	0.031 I	29	7.8	0.07 I	4.80	66	140	
CCR-2	8/3/2016	0.021 U	19	9.4	0.05 I	4.24	47	150
	9/14/2016	0.026 I	19	7.8	0.05 I	4.57	46	28
	10/11/2016	0.022 I	34	10	0.07 I	4.43	83	220
	11/2/2016	0.027 I	46	9.1	0.06 I	4.51	120	210
	12/14/2016	0.021 U	27	5.8 V	0.06 I	4.86	67	140
	1/11/2017	0.036 I	45	10	0.07 I	4.7	95 I	240
	2/1/2017	0.038 I	46	11	0.07 I	4.88	91	210
	3/15/2017	0.056	50	13	0.08 I	4.45	120	230
	4/12/2017	0.027 I	55	12	0.08 I	4.50	120	260
	5/17/2017	0.053	66	14	0.1	4.49	150	310
	6/13/2017	0.042 I	55	9.6	0.1	4.39	140	260
	7/11/2017	0.039 I	53	8.9	0.08 I	4.45	110	210
8/14/2017	0.024 I	51	10	0.1	4.72	110	240	

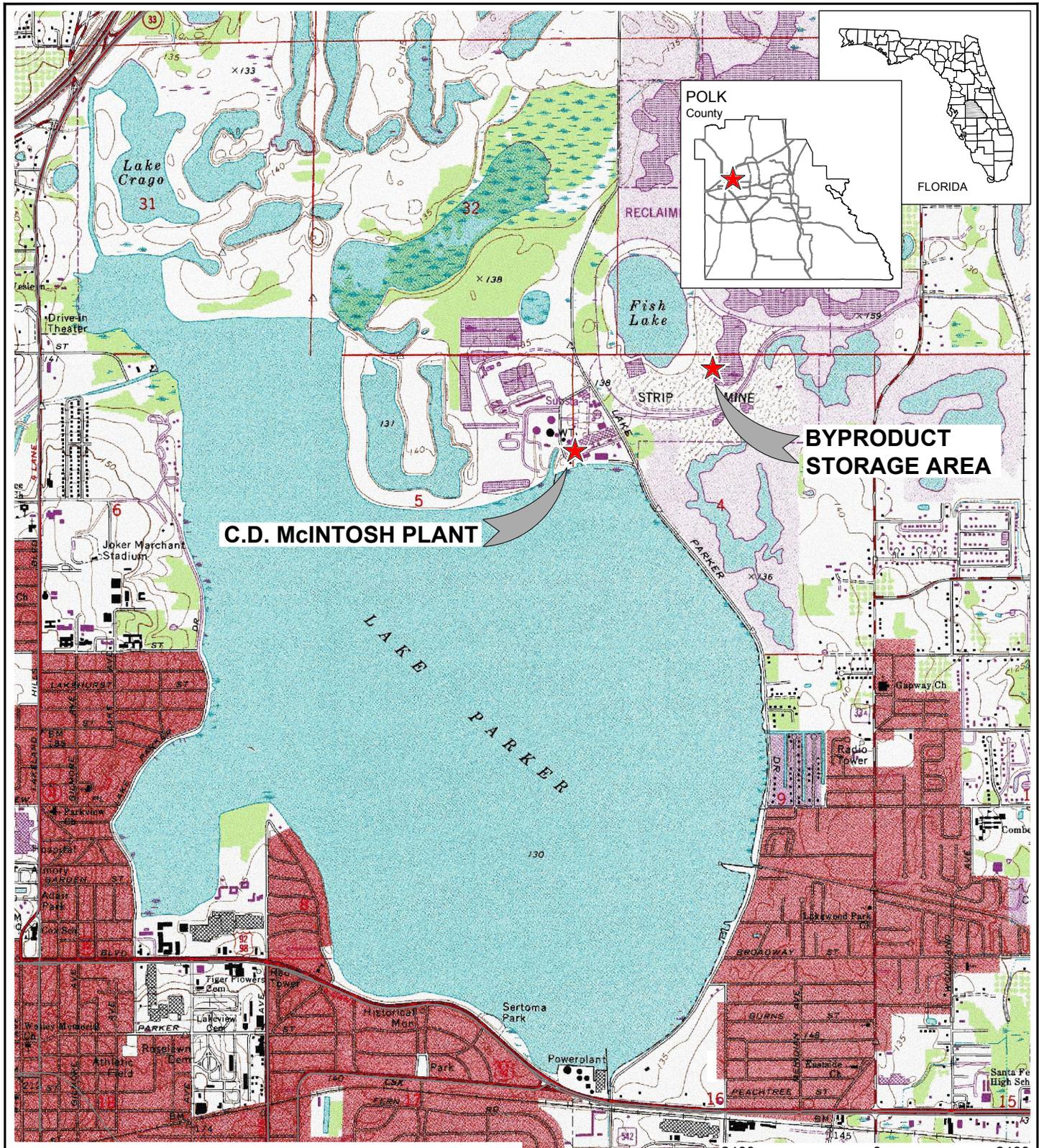
Notes: mg/L - milligrams per liter
 SU - standard units
 I - Reported value is between the method detection limit and practical quantification limit
 U - Result less than method detection limit
 V - Constituent detected in both the sample and the associated method blank

**TABLE 4
DETECTION MONITORING ANALYTICAL RESULTS**

**Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Power Plant**

Monitoring Well	Sampling Date	Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	Total Dissolved Solids mg/L
CCR-1	10/12/2017	0.0407	31.2	6.75	0.050 U	5.16	71.6	189
CCR-2	10/12/2017	0.0369	18.4	1.99	0.050 I	5.55	25	147
CCR-3	10/12/2017	1.860	473	53	0.162 I	5.4	1240	2000
	11/29/2017	1.760	964	38.4	0.185 I	5.42	1070	1770
CCR-4	10/12/2017	0.863	677	1460	0.264	4.03	929	3800
	11/29/2017	0.752	405	2670	0.405	3.93	677	5370
CCR-5	10/12/2017	0.670	1380	4210	0.056 I	5.13	325	7750
	11/29/2017	0.698	1310	4060	--	5.17	319	7540
CCR-6	10/13/2017	0.372	151	19.8	0.228	6.39	264	610
	11/30/2017	0.434	231	439	0.272	6.05	237	1260
CCR-7	10/13/2017	0.104	34.1	19.9	0.0894 I	5.08	95.2	245
	11/30/2017	0.561	196	311	--	4.67	419	1180
CCR-8	10/13/2017	0.0892	81.3	4.57	0.321	8.8	93	323
	11/30/2017	0.100	92.6	--	0.343	6.63	119	335
CCR-9	10/13/2017	0.246	922	1920	0.204	5.2	1030	4830
	11/30/2017	0.264	831	1750	0.217	5.06	1080	4700
CCR-10	10/13/2017	0.165	44.9	11.5	0.114 I	6.08	19	300
	12/7/2017	0.159	49	14.5	--	5.94	--	276
CCR-11	10/13/2017	0.445	516	505	0.511	4.88	1550	3330
	12/7/2017	0.448	455	517	0.572	4.55	1630	3300
CCR-12	10/13/2017	0.567	591	21.6	0.582	6.64	1250	2190
	12/1/2017	0.562	542	22.1	0.592	6.65	1230	2260
CCR-13	10/13/2017	0.305	548	288	1.05	4.59	1480	2810
	12/1/2017	0.249	461	428	1.08	4.28	1430	3000
CCR-14	10/13/2017	1.150	504	104	0.533	5.32	1290	2150
	12/7/2017	1.080	456	91.7	0.511	5.32	1310	2100
Notes: mg/L - milligrams per liter SU - standard units I - Reported value is between the method detection limit and practical quantification limit U - Result less than method detection limit								

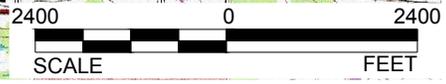
FIGURES



C.D. McINTOSH PLANT

BYPRODUCT STORAGE AREA

REFERENCE(S)
 1.) USGS TOPOGRAPHIC MAP, 7.5 MIN. QUADRANGLE MAP SERIES: LAKELAND QUADRANGLE, POLK COUNTY, FLORIDA.



CLIENT
LAKELAND ELECTRIC

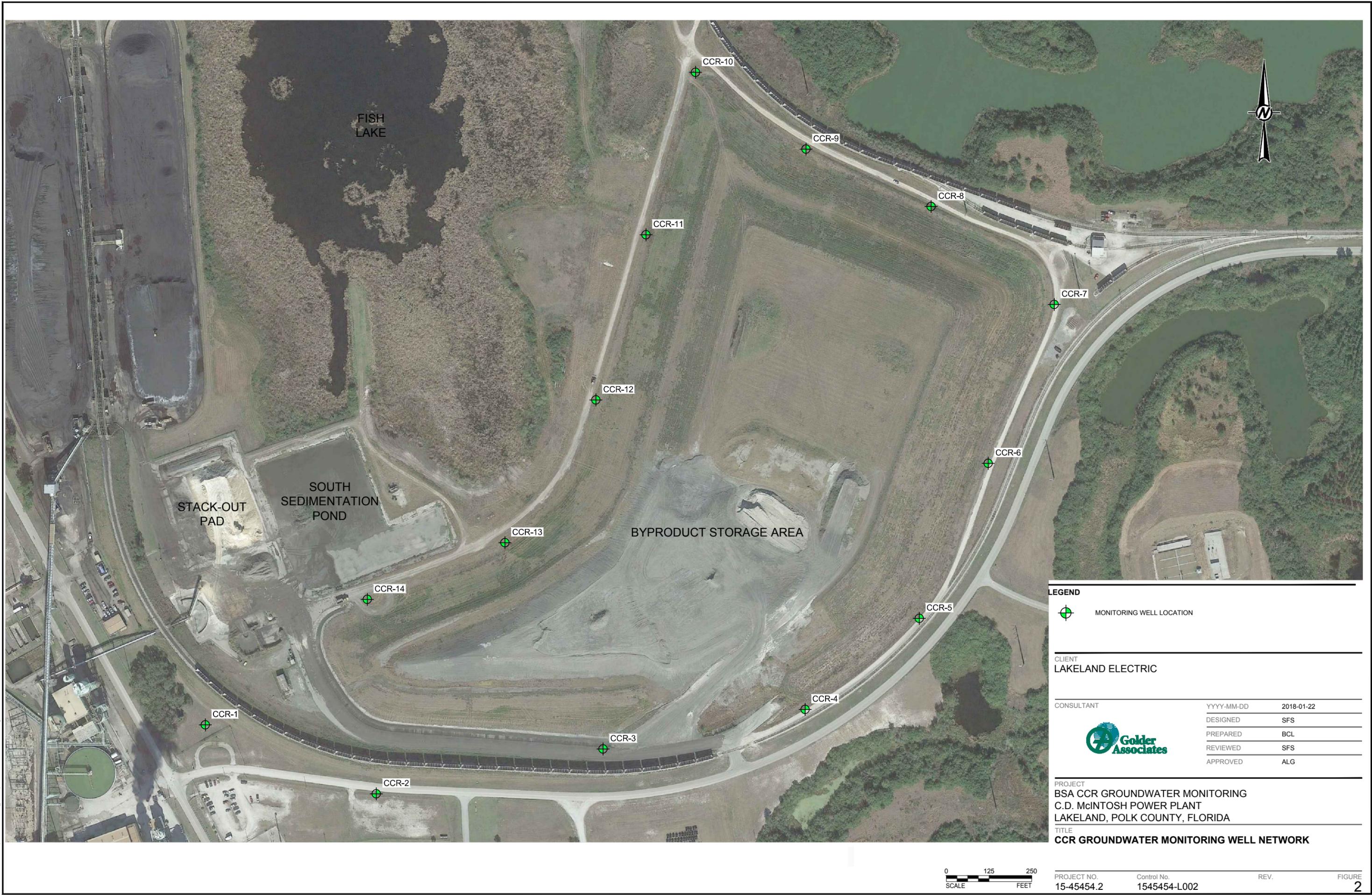
PROJECT
**BSA CCR GROUNDWATER MONITORING
 C.D. McINTOSH POWER PLANT
 LAKELAND, POLK COUNTY, FLORIDA**

CONSULTANT	YYYY-MM-DD	2018-01-22
	DESIGNED	SFS
	PREPARED	BCL
	REVIEWED	SFS
	APPROVED	ALG

TITLE
SITE LOCATION MAP



PROJECT NO. 15-45454.2 Control No. 1545454-L001 REV. FIGURE 1



Path: C:\Users\jstump\Documents\DWG\Acad\Pub\1545454_2\1545454-L002.dwg

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB

LEGEND

 MONITORING WELL LOCATION

CLIENT
LAKELAND ELECTRIC

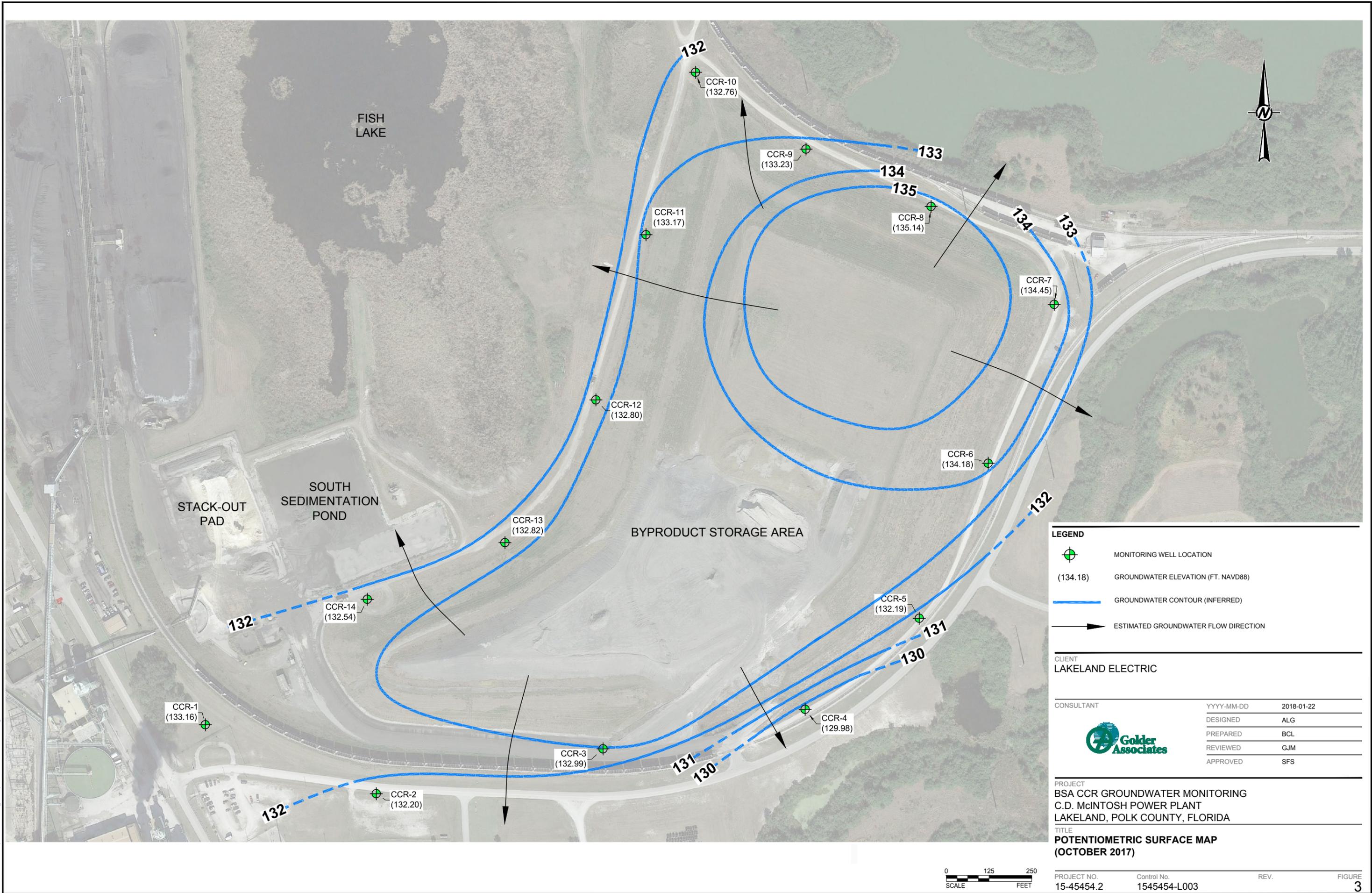
CONSULTANT	YYYY-MM-DD	2018-01-22
	DESIGNED	SFS
	PREPARED	BCL
	REVIEWED	SFS
	APPROVED	ALG

PROJECT
**BSA CCR GROUNDWATER MONITORING
C.D. MCINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA**

TITLE
CCR GROUNDWATER MONITORING WELL NETWORK

0 125 250
SCALE FEET

PROJECT NO. 15-45454.2	Control No. 1545454-L002	REV.	FIGURE 2
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LEGEND

- MONITORING WELL LOCATION
- (134.18) GROUNDWATER ELEVATION (FT. NAVD88)
- GROUNDWATER CONTOUR (INFERRED)
- ESTIMATED GROUNDWATER FLOW DIRECTION

CLIENT
LAKELAND ELECTRIC

CONSULTANT	YYYY-MM-DD	2018-01-22
	DESIGNED	ALG
	PREPARED	BCL
	REVIEWED	GJM
	APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER MONITORING
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
POTENTIOMETRIC SURFACE MAP
(OCTOBER 2017)



PROJECT NO. 15-45454.2	Control No. 1545454-L003	REV.	FIGURE 3
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Path: C:\Users\jstump\OneDrive\Public\1545454-L003.dwg
 Plot: C:\Users\jstump\OneDrive\Public\1545454-L003.dwg

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB
 1"

APPENDIX A
LABORATORY ANALYTICAL RESULTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-125423-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
9/9/2016 5:42:10 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



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www.testamericainc.com

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

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Job ID: 400-125423-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-125423-1

RAD

Method(s) 9315: Radium-226 Prep Batch 160-263980: The matrix spike (MS) recovery (139%) is outside the upper control limit of 138%. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. The data have been qualified and reported. CCR-1 (400-125423-1), CCR-2 (400-125423-2), CCR-4 (400-125423-3), FD-01 (400-125423-4), FB-01 (400-125423-5), (LCS 160-263980/2-A), (MB 160-263980/1-A), (490-108938-A-1-A), (490-108938-A-1-B MS) and (490-108938-A-1-C MSD)

Method(s) 9320: Radium-228 Prep Batch: 160-263985: The following sample did not meet the Ra-228 detection goal (1.00 pCi/L) due to the reduced sample volume attributed to matrix interferences (see Prep NCM 160-90329). In addition, the barium carrier recovery was low (60.1%). The data have been qualified and reported. CCR-2 (400-125423-2)

Method(s) PrecSep_0: Radium-228 Prep Batch 160-263985: The following sample was prepared at a reduced aliquot due to sediment: CCR-2 (400-125423-2).

Method(s) PrecSep_0: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with Ra228 analytical batch 160-264334.

Method(s) PrecSep_0: Radium-228 Prep Batch 160-263958: The yttrium carrier recovery is outside the lower control limit (40%) for the following sample: CCR-5 (400-125423-6). The carrier pellet appeared small throughout the out-of-ingrowth process. The sample was re-prepped 08/29/2016 in batch 160-267156.

Method(s) PrecSep_0: Radium-228 Prep Batch 160-267156: Sample CCR-5 (400-125423-6) was prepared at a reduced aliquot due to sediment. This sample was not used to prepare a sample duplicate (DUP) to avoid matrix interference with homogeneity. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-263980: The following sample was prepared at a reduced aliquot due to sediment: CCR-2 (400-125423-2).

Method(s) PrecSep-21: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with Ra 226 analytical batch 160-264328.

Metals

Method(s) 7470A: The matrix spike (MS) recoveries for prep batch 317690 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 317555 and analytical batch 318622 were outside control limits for Calcium. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The continuing calibration verification (CCV) associated with batch 318622 recovered above the upper control limit for Antimony. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: CCR-5 (400-125423-6), CCR-6 (400-125423-7), CCR-3 (400-125423-8), CCR-7 (400-125423-9), CCR-8 (400-125423-10), CCR-9 (400-125423-11), CCR-10 (400-125423-12), CCR-11 (400-125423-13) and CCR-12 (400-125423-14).

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-4 (400-125423-3), FD-01 (400-125423-4), CCR-5 (400-125423-6), CCR-6 (400-125423-7), CCR-3 (400-125423-8), CCR-7 (400-125423-9), CCR-9 (400-125423-11), CCR-10 (400-125423-12), CCR-11 (400-125423-13), CCR-12 (400-125423-14), CCR-13 (400-125423-15) and CCR-14 (400-125423-16). Elevated reporting limits (RLs) are provided.

Method(s) 6020: The post-digestion spike (PDS) and matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 318368 and analytical batch 318622 were outside control limits. Sample matrix interference (from high targets) is suspected because

Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Job ID: 400-125423-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

the associated laboratory control sample (LCS) recovery was within acceptance limits.

General Chemistry

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 317582 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 317705 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-125423-1	CCR-1	Water	08/03/16 10:49	08/04/16 09:04
400-125423-2	CCR-2	Water	08/03/16 12:55	08/04/16 09:04
400-125423-3	CCR-4	Water	08/03/16 14:45	08/04/16 09:04
400-125423-4	FD-01	Water	08/03/16 00:00	08/04/16 09:04
400-125423-5	FB-01	Water	08/03/16 15:55	08/04/16 09:04
400-125423-6	CCR-5	Water	08/04/16 09:35	08/05/16 09:34
400-125423-7	CCR-6	Water	08/04/16 10:47	08/05/16 09:34
400-125423-8	CCR-3	Water	08/04/16 11:54	08/05/16 09:34
400-125423-9	CCR-7	Water	08/04/16 13:02	08/05/16 09:34
400-125423-10	CCR-8	Water	08/04/16 14:07	08/05/16 09:34
400-125423-11	CCR-9	Water	08/04/16 15:08	08/05/16 09:34
400-125423-12	CCR-10	Water	08/05/16 09:32	08/06/16 09:15
400-125423-13	CCR-11	Water	08/05/16 10:56	08/06/16 09:15
400-125423-14	CCR-12	Water	08/05/16 11:46	08/06/16 09:15
400-125423-15	CCR-13	Water	08/05/16 12:53	08/06/16 09:15
400-125423-16	CCR-14	Water	08/05/16 13:52	08/06/16 09:15

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-1

Date Collected: 08/03/16 10:49

Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/05/16 10:30	08/12/16 14:55	5
Arsenic	0.00098	I	0.0013	0.00046	mg/L		08/05/16 10:30	08/12/16 14:55	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/05/16 10:30	08/12/16 14:55	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/05/16 10:30	08/12/16 14:55	5
Barium	0.029		0.0025	0.00049	mg/L		08/05/16 10:30	08/12/16 14:55	5
Calcium	27		0.25	0.13	mg/L		08/05/16 10:30	08/12/16 14:55	5
Lead	0.00039	I	0.0013	0.00035	mg/L		08/05/16 10:30	08/12/16 14:55	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/05/16 10:30	08/12/16 14:55	5
Cobalt	0.00041	I	0.0025	0.00040	mg/L		08/05/16 10:30	08/12/16 14:55	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/05/16 10:30	08/12/16 14:55	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/05/16 10:30	08/12/16 14:55	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/05/16 10:30	08/12/16 14:55	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.028	I	0.050	0.021	mg/L		08/05/16 10:30	08/15/16 13:02	5
Chromium	0.0024	I	0.0025	0.0011	mg/L		08/05/16 10:30	08/15/16 13:02	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/05/16 10:42	08/08/16 12:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		5.0	3.4	mg/L			08/09/16 17:53	1
Chloride	5.9		2.0	0.60	mg/L			08/05/16 10:38	1
Fluoride	0.032	U	0.10	0.032	mg/L			08/08/16 12:44	1
Sulfate	46		25	7.0	mg/L			08/05/16 12:03	5

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.74		0.233	0.340	1.00	0.0719	pCi/L	08/08/16 20:06	08/30/16 14:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		40 - 110					08/08/16 20:06	08/30/16 14:00	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.487		0.292	0.295	1.00	0.443	pCi/L	08/08/16 21:19	08/22/16 17:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		40 - 110					08/08/16 21:19	08/22/16 17:22	1
Y Carrier	81.1		40 - 110					08/08/16 21:19	08/22/16 17:22	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-1
Date Collected: 08/03/16 10:49
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-1
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.23		0.374	0.450	5.00	0.443	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.11				SU			08/03/16 09:49	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-2
Date Collected: 08/03/16 12:55
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-2
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/05/16 10:30	08/12/16 14:59	5
Arsenic	0.00054	I	0.0013	0.00046	mg/L		08/05/16 10:30	08/12/16 14:59	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/05/16 10:30	08/12/16 14:59	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/05/16 10:30	08/12/16 14:59	5
Barium	0.079		0.0025	0.00049	mg/L		08/05/16 10:30	08/12/16 14:59	5
Calcium	19		0.25	0.13	mg/L		08/05/16 10:30	08/12/16 14:59	5
Lead	0.0013		0.0013	0.00035	mg/L		08/05/16 10:30	08/12/16 14:59	5
Selenium	0.00034	I	0.0013	0.00024	mg/L		08/05/16 10:30	08/12/16 14:59	5
Cobalt	0.00049	I	0.0025	0.00040	mg/L		08/05/16 10:30	08/12/16 14:59	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/05/16 10:30	08/12/16 14:59	5
Molybdenum	0.00089	I	0.010	0.00085	mg/L		08/05/16 10:30	08/12/16 14:59	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/05/16 10:30	08/12/16 14:59	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.021	U	0.050	0.021	mg/L		08/05/16 10:30	08/15/16 13:07	5
Chromium	0.0059		0.0025	0.0011	mg/L		08/05/16 10:30	08/15/16 13:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00012	I	0.00020	0.000070	mg/L		08/05/16 10:42	08/08/16 12:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	150		5.0	3.4	mg/L			08/09/16 17:53	1
Chloride	9.4		2.0	0.60	mg/L			08/05/16 10:38	1
Fluoride	0.050	I	0.10	0.032	mg/L			08/08/16 12:49	1
Sulfate	47		25	7.0	mg/L			08/05/16 12:04	5

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	7.39		0.622	0.910	1.00	0.206	pCi/L	08/08/16 20:06	08/30/16 14:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.1		40 - 110					08/08/16 20:06	08/30/16 14:00	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.45	G	0.785	0.796	1.00	1.15	pCi/L	08/08/16 21:19	08/22/16 17:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.1		40 - 110					08/08/16 21:19	08/22/16 17:22	1
Y Carrier	81.5		40 - 110					08/08/16 21:19	08/22/16 17:22	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-2
Date Collected: 08/03/16 12:55
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-2
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.84		1.00	1.21	5.00	1.15	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.24				SU			08/03/16 11:55	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-4
Date Collected: 08/03/16 14:45
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-3
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0015	I	0.0025	0.0010	mg/L		08/05/16 10:30	08/12/16 15:18	5
Arsenic	0.0017		0.0013	0.00046	mg/L		08/05/16 10:30	08/12/16 15:18	5
Beryllium	0.00036	I	0.0020	0.00034	mg/L		08/05/16 10:30	08/12/16 15:18	5
Cadmium	0.0018		0.0010	0.00034	mg/L		08/05/16 10:30	08/12/16 15:18	5
Barium	0.17		0.0025	0.00049	mg/L		08/05/16 10:30	08/12/16 15:18	5
Lead	0.00061	I	0.0013	0.00035	mg/L		08/05/16 10:30	08/12/16 15:18	5
Selenium	0.00084	I	0.0013	0.00024	mg/L		08/05/16 10:30	08/12/16 15:18	5
Cobalt	0.0039		0.0025	0.00040	mg/L		08/05/16 10:30	08/12/16 15:18	5
Thallium	0.00034	I	0.00050	0.000085	mg/L		08/05/16 10:30	08/12/16 15:18	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/05/16 10:30	08/12/16 15:18	5
Lithium	0.021		0.0025	0.0032	mg/L		08/05/16 10:30	08/12/16 15:18	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	870		5.0	2.5	mg/L		08/05/16 10:30	08/15/16 13:16	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.82		0.050	0.021	mg/L		08/05/16 10:30	08/15/16 13:11	5
Chromium	0.0026		0.0025	0.0011	mg/L		08/05/16 10:30	08/15/16 13:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/05/16 10:42	08/08/16 12:43	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6500		25	17	mg/L			08/09/16 17:53	1
Chloride	2000		200	60	mg/L			08/05/16 11:20	100
Fluoride	0.10		0.10	0.032	mg/L			08/08/16 12:53	1
Sulfate	660		600	170	mg/L			08/05/16 12:04	120

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	31.7		0.752	2.95	1.00	0.0670	pCi/L	08/08/16 20:06	08/30/16 14:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					08/08/16 20:06	08/30/16 14:00	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	7.94		0.752	1.05	1.00	0.623	pCi/L	08/08/16 21:19	08/22/16 17:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					08/08/16 21:19	08/22/16 17:23	1
Y Carrier	77.8		40 - 110					08/08/16 21:19	08/22/16 17:23	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-4
Date Collected: 08/03/16 14:45
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-3
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	39.7		1.06	3.13	5.00	0.623	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.02				SU			08/03/16 13:45	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: FD-01
Date Collected: 08/03/16 00:00
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-4
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/05/16 10:30	08/12/16 15:22	5
Arsenic	0.0017		0.0013	0.00046	mg/L		08/05/16 10:30	08/12/16 15:22	5
Beryllium	0.00036	I	0.0020	0.00034	mg/L		08/05/16 10:30	08/12/16 15:22	5
Cadmium	0.0022		0.0010	0.00034	mg/L		08/05/16 10:30	08/12/16 15:22	5
Barium	0.17		0.0025	0.00049	mg/L		08/05/16 10:30	08/12/16 15:22	5
Lead	0.00061	I	0.0013	0.00035	mg/L		08/05/16 10:30	08/12/16 15:22	5
Selenium	0.00078	I	0.0013	0.00024	mg/L		08/05/16 10:30	08/12/16 15:22	5
Cobalt	0.0036		0.0025	0.00040	mg/L		08/05/16 10:30	08/12/16 15:22	5
Thallium	0.00036	I	0.00050	0.000085	mg/L		08/05/16 10:30	08/12/16 15:22	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/05/16 10:30	08/12/16 15:22	5
Lithium	0.022		0.0025	0.0032	mg/L		08/05/16 10:30	08/12/16 15:22	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000		5.0	2.5	mg/L		08/05/16 10:30	08/15/16 13:25	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.81		0.050	0.021	mg/L		08/05/16 10:30	08/15/16 13:20	5
Chromium	0.0026		0.0025	0.0011	mg/L		08/05/16 10:30	08/15/16 13:20	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/05/16 10:42	08/08/16 12:44	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6100		25	17	mg/L			08/04/16 17:04	1
Chloride	2000		200	60	mg/L			08/05/16 11:20	100
Fluoride	0.090	I	0.10	0.032	mg/L			08/08/16 12:15	1
Sulfate	670		600	170	mg/L			08/05/16 12:04	120

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	33.7		0.813	3.14	1.00	0.106	pCi/L	08/08/16 20:06	08/30/16 17:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		40 - 110					08/08/16 20:06	08/30/16 17:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.91		0.702	0.947	1.00	0.596	pCi/L	08/08/16 21:19	08/22/16 17:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		40 - 110					08/08/16 21:19	08/22/16 17:24	1
Y Carrier	75.9		40 - 110					08/08/16 21:19	08/22/16 17:24	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: FD-01
Date Collected: 08/03/16 00:00
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-4
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	40.6		1.07	3.28	5.00	0.596	pCi/L		09/02/16 15:37	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: FB-01
Date Collected: 08/03/16 15:55
Date Received: 08/04/16 09:04

Lab Sample ID: 400-125423-5
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/05/16 10:30	08/12/16 15:27	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		08/05/16 10:30	08/12/16 15:27	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/05/16 10:30	08/12/16 15:27	5
Barium	0.00088	I	0.0025	0.00049	mg/L		08/05/16 10:30	08/12/16 15:27	5
Calcium	0.13	U	0.25	0.13	mg/L		08/05/16 10:30	08/12/16 15:27	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/05/16 10:30	08/12/16 15:27	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/05/16 10:30	08/12/16 15:27	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/05/16 10:30	08/12/16 15:27	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/05/16 10:30	08/12/16 15:27	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/05/16 10:30	08/15/16 13:29	5
Boron	0.021	U	0.050	0.021	mg/L		08/05/16 10:30	08/15/16 13:29	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/05/16 10:30	08/15/16 13:29	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/05/16 10:30	08/15/16 13:29	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/05/16 10:30	08/15/16 13:29	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/05/16 10:42	08/08/16 12:45	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	28		5.0	3.4	mg/L			08/09/16 17:53	1
Chloride	0.60	U	2.0	0.60	mg/L			08/05/16 10:38	1
Fluoride	0.032	U	0.10	0.032	mg/L			08/08/16 12:55	1
Sulfate	1.4	U	5.0	1.4	mg/L			08/05/16 11:48	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0272	U	0.0534	0.0534	1.00	0.109	pCi/L	08/08/16 20:06	08/30/16 17:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					08/08/16 20:06	08/30/16 17:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.166	U	0.273	0.273	1.00	0.461	pCi/L	08/08/16 21:19	08/22/16 17:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					08/08/16 21:19	08/22/16 17:24	1
Y Carrier	80.4		40 - 110					08/08/16 21:19	08/22/16 17:24	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: FB-01

Lab Sample ID: 400-125423-5

Date Collected: 08/03/16 15:55

Matrix: Water

Date Received: 08/04/16 09:04

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.138	U	0.278	0.279	5.00	0.461	pCi/L		09/02/16 15:37	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-5

Lab Sample ID: 400-125423-6

Date Collected: 08/04/16 09:35

Matrix: Water

Date Received: 08/05/16 09:34

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 15:06	5
Arsenic	0.00078	I	0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 15:06	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 15:06	5
Boron	0.53		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 15:06	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 15:06	5
Barium	0.073		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 15:06	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 15:06	5
Lead	0.00050	I	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 15:06	5
Selenium	0.00097	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 15:06	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 15:06	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 15:06	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 15:06	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		5.0	2.5	mg/L		08/08/16 11:10	08/15/16 15:20	100
Lithium	2.4		0.050	0.064	mg/L		08/08/16 11:10	08/15/16 15:20	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 12:49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000		50	34	mg/L			08/10/16 17:44	1
Chloride	3600		240	72	mg/L			08/09/16 10:59	120
Fluoride	0.050	I	0.10	0.032	mg/L			08/08/16 13:17	1
Sulfate	320		250	70	mg/L			08/09/16 12:14	50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.0		0.654	1.26	1.00	0.134	pCi/L	08/08/16 15:29	08/30/16 17:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		40 - 110					08/08/16 15:29	08/30/16 17:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.70		0.919	1.11	1.00	0.799	pCi/L	08/29/16 21:02	09/02/16 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.2		40 - 110					08/29/16 21:02	09/02/16 15:58	1
Y Carrier	80.0		40 - 110					08/29/16 21:02	09/02/16 15:58	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-5
Date Collected: 08/04/16 09:35
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-6
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	18.7		1.13	1.68	5.00	0.799	pCi/L		09/07/16 19:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.06				SU			08/04/16 08:35	1

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- 2
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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-6

Date Collected: 08/04/16 10:47

Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 15:11	5
Arsenic	0.00073	I	0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 15:11	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 15:11	5
Boron	0.59		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 15:11	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 15:11	5
Barium	0.051		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 15:11	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 15:11	5
Lead	0.00037	I	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 15:11	5
Selenium	0.00047	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 15:11	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 15:11	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 15:11	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 15:11	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	740		5.0	2.5	mg/L		08/08/16 11:10	08/15/16 15:24	100
Lithium	0.41		0.050	0.064	mg/L		08/08/16 11:10	08/15/16 15:24	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4400		50	34	mg/L			08/10/16 17:44	1
Chloride	1600		100	30	mg/L			08/09/16 10:35	50
Fluoride	0.090	I	0.10	0.032	mg/L			08/08/16 16:01	1
Sulfate	550		500	140	mg/L			08/09/16 11:47	100

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	7.76		0.537	0.881	1.00	0.162	pCi/L	08/08/16 15:29	08/31/16 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.6		40 - 110					08/08/16 15:29	08/31/16 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.95		0.455	0.489	1.00	0.512	pCi/L	08/08/16 16:23	08/29/16 16:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.6		40 - 110					08/08/16 16:23	08/29/16 16:24	1
Y Carrier	70.7		40 - 110					08/08/16 16:23	08/29/16 16:24	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-6
Date Collected: 08/04/16 10:47
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-7
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	9.71		0.704	1.01	5.00	0.512	pCi/L		09/02/16 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.42				SU			08/04/16 09:47	1

- 1
- 2
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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-3

Lab Sample ID: 400-125423-8

Date Collected: 08/04/16 11:54

Matrix: Water

Date Received: 08/05/16 09:34

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 15:15	5
Arsenic	0.00066	I	0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 15:15	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 15:15	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 15:15	5
Barium	0.055		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 15:15	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 15:15	5
Lead	0.00047	I	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 15:15	5
Selenium	0.00035	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 15:15	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 15:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 15:15	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 15:15	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 15:15	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.25	0.11	mg/L		08/08/16 11:10	08/15/16 15:29	25
Calcium	480		1.3	0.63	mg/L		08/08/16 11:10	08/15/16 15:29	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300		5.0	3.4	mg/L			08/10/16 17:44	1
Chloride	76		10	3.0	mg/L			08/09/16 10:32	5
Fluoride	0.15		0.10	0.032	mg/L			08/08/16 16:06	1
Sulfate	1300		500	140	mg/L			08/09/16 11:47	100

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	18.4		0.781	1.83	1.00	0.130	pCi/L	08/08/16 15:29	08/31/16 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					08/08/16 15:29	08/31/16 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.27		0.689	0.898	1.00	0.625	pCi/L	08/08/16 16:23	08/29/16 16:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					08/08/16 16:23	08/29/16 16:24	1
Y Carrier	76.3		40 - 110					08/08/16 16:23	08/29/16 16:24	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-3
Date Collected: 08/04/16 11:54
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-8
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	24.7		1.04	2.04	5.00	0.625	pCi/L		09/02/16 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.17				SU			08/04/16 10:54	1

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- 2
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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-7

Lab Sample ID: 400-125423-9

Date Collected: 08/04/16 13:02

Matrix: Water

Date Received: 08/05/16 09:34

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 15:33	5
Arsenic	0.00066	I	0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 15:33	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 15:33	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 15:33	5
Barium	0.074		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 15:33	5
Chromium	0.0028		0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 15:33	5
Lead	0.0013		0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 15:33	5
Selenium	0.00042	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 15:33	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 15:33	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 15:33	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 15:33	5
Lithium	0.035		0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 15:33	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.83		0.25	0.11	mg/L		08/08/16 11:10	08/15/16 15:56	25
Calcium	290		1.3	0.63	mg/L		08/08/16 11:10	08/15/16 15:56	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	I	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2500		7.1	4.9	mg/L			08/10/16 17:44	1
Chloride	810		100	30	mg/L			08/09/16 10:35	50
Fluoride	0.24		0.10	0.032	mg/L			08/08/16 16:10	1
Sulfate	330		250	70	mg/L			08/09/16 12:14	50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.52		0.489	0.764	1.00	0.145	pCi/L	08/08/16 15:29	08/31/16 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.1		40 - 110					08/08/16 15:29	08/31/16 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.727		0.306	0.314	1.00	0.420	pCi/L	08/08/16 16:23	08/29/16 16:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.1		40 - 110					08/08/16 16:23	08/29/16 16:19	1
Y Carrier	80.0		40 - 110					08/08/16 16:23	08/29/16 16:19	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-7
Date Collected: 08/04/16 13:02
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-9
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.24		0.577	0.826	5.00	0.420	pCi/L		09/02/16 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.44				SU			08/04/16 12:02	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-8
Date Collected: 08/04/16 14:07
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-10
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 15:51	5
Arsenic	0.0015		0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 15:51	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 15:51	5
Boron	0.096		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 15:51	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 15:51	5
Barium	0.032		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 15:51	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 15:51	5
Calcium	95		0.25	0.13	mg/L		08/08/16 11:10	08/15/16 15:51	5
Lead	0.00045	I	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 15:51	5
Selenium	0.00089	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 15:51	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 15:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 15:51	5
Molybdenum	0.015		0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 15:51	5
Lithium	0.011		0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 15:51	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	340		5.0	3.4	mg/L			08/10/16 17:44	1
Chloride	4.6		2.0	0.60	mg/L			08/09/16 10:13	1
Fluoride	0.28		0.10	0.032	mg/L			08/08/16 16:12	1
Sulfate	82		50	14	mg/L			08/09/16 11:55	10

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	19.2		0.888	1.94	1.00	0.153	pCi/L	08/08/16 15:29	08/31/16 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.7		40 - 110					08/08/16 15:29	08/31/16 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.87		0.588	0.644	1.00	0.691	pCi/L	08/08/16 16:23	08/29/16 16:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.7		40 - 110					08/08/16 16:23	08/29/16 16:19	1
Y Carrier	80.7		40 - 110					08/08/16 16:23	08/29/16 16:19	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	22.0		1.06	2.04	5.00	0.691	pCi/L		09/02/16 15:29	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-8
Date Collected: 08/04/16 14:07
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-10
Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.32				SU			08/04/16 13:07	1

- 1
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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-9

Date Collected: 08/04/16 15:08

Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 16:00	5
Arsenic	0.0068		0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 16:00	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 16:00	5
Boron	0.24		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 16:00	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 16:00	5
Barium	0.12		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 16:00	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 16:00	5
Lead	0.0012	I	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 16:00	5
Selenium	0.0012	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 16:00	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 16:00	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 16:00	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 16:00	5
Lithium	0.073		0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 16:00	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	820		5.0	2.5	mg/L		08/08/16 11:10	08/15/16 16:14	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:17	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6500		50	34	mg/L			08/10/16 17:44	1
Chloride	2000		240	72	mg/L			08/09/16 10:35	120
Fluoride	0.20		0.10	0.032	mg/L			08/08/16 16:14	1
Sulfate	960		500	140	mg/L			08/09/16 11:47	100

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.69		0.371	0.498	1.00	0.161	pCi/L	08/08/16 15:29	08/31/16 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		40 - 110					08/08/16 15:29	08/31/16 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0804	U	0.233	0.233	1.00	0.406	pCi/L	08/08/16 16:23	08/29/16 16:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		40 - 110					08/08/16 16:23	08/29/16 16:19	1
Y Carrier	80.4		40 - 110					08/08/16 16:23	08/29/16 16:19	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-9
Date Collected: 08/04/16 15:08
Date Received: 08/05/16 09:34

Lab Sample ID: 400-125423-11
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.77		0.438	0.549	5.00	0.406	pCi/L		09/02/16 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.83				SU			08/04/16 14:08	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-10

Lab Sample ID: 400-125423-12

Date Collected: 08/05/16 09:32

Matrix: Water

Date Received: 08/06/16 09:15

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 16:05	5
Arsenic	0.0015		0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 16:05	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 16:05	5
Boron	0.20		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 16:05	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 16:05	5
Barium	0.034		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 16:05	5
Chromium	0.0025		0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 16:05	5
Lead	0.00056	I	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 16:05	5
Selenium	0.00035	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 16:05	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 16:05	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 16:05	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 16:05	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 16:05	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		1.3	0.63	mg/L		08/08/16 11:10	08/15/16 16:18	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:37	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	690		5.0	3.4	mg/L			08/10/16 17:44	1
Chloride	71		10	3.0	mg/L			08/09/16 10:32	5
Fluoride	0.090	I	0.10	0.032	mg/L			08/08/16 16:16	1
Sulfate	270		250	70	mg/L			08/09/16 12:14	50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.48		0.173	0.219	1.00	0.0735	pCi/L	08/10/16 13:45	09/01/16 07:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.4		40 - 110					08/10/16 13:45	09/01/16 07:39	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.31		0.399	0.417	1.00	0.524	pCi/L	08/10/16 15:49	08/23/16 15:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.4		40 - 110					08/10/16 15:49	08/23/16 15:18	1
Y Carrier	85.6		40 - 110					08/10/16 15:49	08/23/16 15:18	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-10
Date Collected: 08/05/16 09:32
Date Received: 08/06/16 09:15

Lab Sample ID: 400-125423-12
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.79		0.435	0.471	5.00	0.524	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.66				SU			08/05/16 08:32	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-11

Lab Sample ID: 400-125423-13

Date Collected: 08/05/16 10:56

Matrix: Water

Date Received: 08/06/16 09:15

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 16:09	5
Arsenic	0.079		0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 16:09	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 16:09	5
Boron	0.57		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 16:09	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 16:09	5
Barium	0.071		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 16:09	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 16:09	5
Lead	0.0014		0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 16:09	5
Selenium	0.0018		0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 16:09	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 16:09	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 16:09	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 16:09	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 16:09	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	440		1.3	0.63	mg/L		08/08/16 11:10	08/15/16 16:27	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2800		10	6.8	mg/L			08/10/16 17:44	1
Chloride	520		100	30	mg/L			08/09/16 10:59	50
Fluoride	0.39		0.10	0.032	mg/L			08/08/16 16:19	1
Sulfate	1400		500	140	mg/L			08/09/16 11:51	100

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.98		0.309	0.621	1.00	0.0738	pCi/L	08/10/16 13:45	09/01/16 07:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					08/10/16 13:45	09/01/16 07:39	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.23		0.416	0.511	1.00	0.371	pCi/L	08/10/16 15:49	08/23/16 15:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					08/10/16 15:49	08/23/16 15:18	1
Y Carrier	87.5		40 - 110					08/10/16 15:49	08/23/16 15:18	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-11
Date Collected: 08/05/16 10:56
Date Received: 08/06/16 09:15

Lab Sample ID: 400-125423-13
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	9.21		0.519	0.804	5.00	0.371	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.02				SU			08/05/16 09:56	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-12

Date Collected: 08/05/16 11:46

Date Received: 08/06/16 09:15

Lab Sample ID: 400-125423-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/08/16 11:10	08/15/16 16:23	5
Arsenic	0.074		0.0013	0.00046	mg/L		08/08/16 11:10	08/15/16 16:23	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/08/16 11:10	08/15/16 16:23	5
Boron	0.61		0.050	0.021	mg/L		08/08/16 11:10	08/15/16 16:23	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/08/16 11:10	08/15/16 16:23	5
Barium	0.013		0.0025	0.00049	mg/L		08/08/16 11:10	08/15/16 16:23	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/08/16 11:10	08/15/16 16:23	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/08/16 11:10	08/15/16 16:23	5
Selenium	0.00095	I	0.0013	0.00024	mg/L		08/08/16 11:10	08/15/16 16:23	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/08/16 11:10	08/15/16 16:23	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/08/16 11:10	08/15/16 16:23	5
Molybdenum	0.0066	I	0.010	0.00085	mg/L		08/08/16 11:10	08/15/16 16:23	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/08/16 11:10	08/15/16 16:23	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	460		5.0	2.5	mg/L		08/08/16 11:10	08/15/16 17:32	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		5.0	3.4	mg/L			08/11/16 17:20	1
Chloride	25		2.0	0.60	mg/L			08/09/16 10:13	1
Fluoride	0.58		0.10	0.032	mg/L			08/08/16 16:21	1
Sulfate	760		500	140	mg/L			08/09/16 11:51	100

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.55		0.215	0.314	1.00	0.0635	pCi/L	08/10/16 13:45	09/01/16 07:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		40 - 110					08/10/16 13:45	09/01/16 07:39	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.450		0.284	0.287	1.00	0.437	pCi/L	08/10/16 15:49	08/23/16 15:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		40 - 110					08/10/16 15:49	08/23/16 15:18	1
Y Carrier	86.4		40 - 110					08/10/16 15:49	08/23/16 15:18	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-12
Date Collected: 08/05/16 11:46
Date Received: 08/06/16 09:15

Lab Sample ID: 400-125423-14
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.00		0.357	0.426	5.00	0.437	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.49				SU			08/05/16 10:46	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-13

Lab Sample ID: 400-125423-15

Date Collected: 08/05/16 12:53

Matrix: Water

Date Received: 08/06/16 09:15

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0014	I	0.0025	0.0010	mg/L		08/12/16 12:10	08/15/16 17:14	5
Arsenic	0.0013		0.0013	0.00046	mg/L		08/12/16 12:10	08/15/16 17:14	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/12/16 12:10	08/15/16 17:14	5
Boron	0.82		0.050	0.021	mg/L		08/12/16 12:10	08/15/16 17:14	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/12/16 12:10	08/15/16 17:14	5
Barium	0.027		0.0025	0.00049	mg/L		08/12/16 12:10	08/15/16 17:14	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		08/12/16 12:10	08/15/16 17:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/12/16 12:10	08/15/16 17:14	5
Selenium	0.00077	I	0.0013	0.00024	mg/L		08/12/16 12:10	08/15/16 17:14	5
Cobalt	0.0010	I	0.0025	0.00040	mg/L		08/12/16 12:10	08/15/16 17:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/12/16 12:10	08/15/16 17:14	5
Molybdenum	0.0010	I	0.010	0.00085	mg/L		08/12/16 12:10	08/15/16 17:14	5
Lithium	0.097		0.0025	0.0032	mg/L		08/12/16 12:10	08/15/16 17:14	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	520		1.3	0.63	mg/L		08/12/16 12:10	08/15/16 17:23	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2500		5.0	3.4	mg/L			08/10/16 17:44	1
Chloride	160		20	6.0	mg/L			08/11/16 15:08	10
Fluoride	0.26		0.10	0.032	mg/L			08/08/16 16:28	1
Sulfate	1400		600	170	mg/L			08/11/16 13:24	120

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	26.5		0.682	2.48	1.00	0.0947	pCi/L	08/10/16 13:45	09/01/16 07:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
<i>Ba Carrier</i>	90.9		40 - 110					08/10/16 13:45	09/01/16 07:39	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.24		0.445	0.536	1.00	0.397	pCi/L	08/10/16 15:49	08/23/16 15:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
<i>Ba Carrier</i>	90.9		40 - 110					08/10/16 15:49	08/23/16 15:23	1
<i>Y Carrier</i>	85.6		40 - 110					08/10/16 15:49	08/23/16 15:23	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-13
Date Collected: 08/05/16 12:53
Date Received: 08/06/16 09:15

Lab Sample ID: 400-125423-15
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	29.7		0.814	2.54	5.00	0.397	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.28				SU			08/05/16 11:53	1

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-14

Lab Sample ID: 400-125423-16

Date Collected: 08/05/16 13:52

Matrix: Water

Date Received: 08/06/16 09:15

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/12/16 12:10	08/15/16 17:18	5
Arsenic	0.0027		0.0013	0.00046	mg/L		08/12/16 12:10	08/15/16 17:18	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/12/16 12:10	08/15/16 17:18	5
Cadmium	0.00055	I	0.0010	0.00034	mg/L		08/12/16 12:10	08/15/16 17:18	5
Barium	0.018		0.0025	0.00049	mg/L		08/12/16 12:10	08/15/16 17:18	5
Chromium	0.0030		0.0025	0.0011	mg/L		08/12/16 12:10	08/15/16 17:18	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/12/16 12:10	08/15/16 17:18	5
Selenium	0.00045	I	0.0013	0.00024	mg/L		08/12/16 12:10	08/15/16 17:18	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/12/16 12:10	08/15/16 17:18	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/12/16 12:10	08/15/16 17:18	5
Molybdenum	0.0012	I	0.010	0.00085	mg/L		08/12/16 12:10	08/15/16 17:18	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/12/16 12:10	08/15/16 17:18	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		1.0	0.42	mg/L		08/12/16 12:10	08/15/16 17:27	100
Calcium	430		5.0	2.5	mg/L		08/12/16 12:10	08/15/16 17:27	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/08/16 11:47	08/09/16 13:52	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.0	3.4	mg/L			08/11/16 17:20	1
Chloride	120		20	6.0	mg/L			08/11/16 15:08	10
Fluoride	0.40		0.10	0.032	mg/L			08/08/16 16:32	1
Sulfate	1000		600	170	mg/L			08/11/16 13:24	120

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	25.4		0.652	2.37	1.00	0.0734	pCi/L	08/10/16 13:45	09/01/16 07:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					08/10/16 13:45	09/01/16 07:39	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.357	U	0.246	0.248	1.00	0.382	pCi/L	08/10/16 15:49	08/23/16 15:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					08/10/16 15:49	08/23/16 15:23	1
Y Carrier	85.2		40 - 110					08/10/16 15:49	08/23/16 15:23	1

TestAmerica Pensacola

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Client Sample ID: CCR-14
Date Collected: 08/05/16 13:52
Date Received: 08/06/16 09:15

Lab Sample ID: 400-125423-16
Matrix: Water

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	25.7		0.697	2.39	5.00	0.382	pCi/L		09/02/16 15:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.30				SU			08/05/16 12:52	1

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Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-125423-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
G	The Sample MDC is greater than the requested RL.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

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

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam.Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 094110-039 COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #:		Analysis Requested  400-125423 COC	
Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air) Preservation Codes		Field Filtered Sample (Yes or No) Return (MSD, Yes or No) D, N, D 9315_Ra226, 9320_Ra228 2540C, 4500_F, C, SM4500_CL_E, SM4500_S04_H 6020, 7470A	
Sample Identification CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7 CCR-8 CCR-9 CCR-10 CCR-11		Special Instructions/Note: Total Number of containers:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:		Date: 8/3-16 Date: 8/3-16 Date:	
Relinquished by: [Signature] Relinquished by:		Date: 8/3-16 Date:	
Relinquished by:		Date:	
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.3°C JRS	



Chain of Custody Record

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Client Information
 Client Contact: Mr. Sam Stafford
 Company: Golder Associates Inc.
 Address: 9428 Baymeadows Road Suite 400
 City: Jacksonville
 State, Zip: FL, 32256
 Phone: 904-363-3430(Tel)
 Email: Sam_Stafford@golder.com
 Project Name: CCR Lakeland
 Site:
 Project #: 40007144
 SSOW#:
 Due Date Requested:
 TAT Requested (days):
 PO #:
 Purchase Order Requested:
 WC #:
 Sampler: *Steven Victory*
 Lab PM: Whitmore, Cheyenne R
 Phone: *407-399-3318*
 E-Mail: cheyenne.whitmore@testamericainc.com
 Camer Tracking No(s): *450-07400*
 COC No: 400-57302-24789.1
 Page: Page 1 of 2
 Job #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastebotl, B=bi-tissue, A=air)	Field Filtered Sample (Yes or No)	Patterns/MS/MD (Yes or No)	Analysis Requested	Preservation Codes	Special Instructions/Note:
CCR-1	8-4-16	935	G	Water	X	X			
CCR-5	8-4-16	935	G	Water	X	X			
CCR-6		1047		Water	X	X			
CCR-3		1154		Water	X	X			
CCR-7		1302		Water	X	X			
CCR-8		1407		Water	X	X			
CCR-9		1508		Water	X	X			
CCR-7				Water					
CCR-8				Water					
CCR-9				Water					
CCR-10				Water					
CCR-11				Water					

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify):
 Empty Kit Relinquished by: *[Signature]* Date: 7-29-16 Time:
 Relinquished by: *[Signature]* Date: 8-4-16 Time: 1700 Company: *[Signature]*
 Relinquished by: *[Signature]* Date:
 Relinquished by: *[Signature]* Date:
 Relinquished by: *[Signature]* Date:
 Custody Seals Intact:
 Yes No Custody Seal No.:
 Cooler Temperature(s) °C and Other Remarks: *4.8°C ARK 2.4°C*

TestAmerica Pensacola
 3365 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information
 Client Contact: **Shawn Victory** Lab P/N: Whitfire, Cheyenne R
 Mr. Sam Stafford Phone: **407-399-3348** E-Mail: cheyenne.whitfire@testamericainc.com
 Company: **Goldier Associates Inc.** Career Tracking No(s): **530-Orlando**

Address: **9428 Baymeadows Road Suite 400** Due Date Requested:
 City: **Jacksonville** TAT Requested (days):
 State, Zip: **FL, 32256** PO #: **40007144**
 Phone: **904-363-3430(Tel)** Purchase Order Requested
 Email: **Sam.Stafford@goldier.com** WO #:
 Project Name: **CCR Lakeland** Project #: **40007144**
 Site: **SSOW#:**

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=soil, O=soil, A=air)	Field Filtered Sample (Yes or No)		Performs MS/MSD (Yes or No)		Analysis Requested	Special Instructions/Note:
					Y	N	Y	N		
CCR-10	8-5-16	932	G	Water	X	X	9315_Ra226, 9320_Ra228	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	6020, 7470A	
CCR-11		1052	G	Water	X	X				
CCR-12		1146	G	Water	X	X				
CCR-13		1253	G	Water	X	X				
CCR-14		1352	G	Water	X	X				
ED-02				Water						
EB-02				Water						



Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *[Signature]* Date/Time: **8-5-16 1515** Company: **THOR**

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

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

Custody Seals Intact: Yes \ No _____ **Custody Seal No.:** _____

Special Instructions/Note: **400-125423 COC**

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Received by: *[Signature]* Date/Time: **08/16/16 9:15** Company: **TA**

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: **1.7°C** **IRL**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-127183-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
10/18/2016 5:58:25 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Job ID: 400-127183-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-127183-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-127183-3), CCR-4 (400-127183-4), CCR-5 (400-127183-5), CCR-6 (400-127183-8), CCR-7 (400-127183-9), CCR-9 (400-127183-11), CCR-10 (400-127183-12) and CCR-11 (400-127183-13). Elevated reporting limits (RLs) are provided.

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-127183-1	CCR-1	Water	09/14/16 09:50	09/15/16 08:54
400-127183-2	CCR-2	Water	09/14/16 10:55	09/15/16 08:54
400-127183-3	CCR-3	Water	09/14/16 11:45	09/15/16 08:54
400-127183-4	CCR-4	Water	09/14/16 12:58	09/15/16 08:54
400-127183-5	CCR-5	Water	09/14/16 14:20	09/15/16 08:54
400-127183-6	FB-01	Water	09/14/16 13:30	09/15/16 08:54
400-127183-7	FD-01	Water	09/15/16 00:00	09/16/16 08:19
400-127183-8	CCR-6	Water	09/15/16 08:53	09/16/16 08:19
400-127183-9	CCR-7	Water	09/15/16 10:22	09/16/16 08:19
400-127183-10	CCR-8	Water	09/15/16 11:25	09/16/16 08:19
400-127183-11	CCR-9	Water	09/15/16 12:56	09/16/16 08:19
400-127183-12	CCR-10	Water	09/15/16 13:55	09/16/16 08:19
400-127183-13	CCR-11	Water	09/15/16 14:58	09/16/16 08:19

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-1

Date Collected: 09/14/16 09:50

Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/19/16 13:57	09/21/16 01:21	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		09/19/16 13:57	09/21/16 01:21	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/19/16 13:57	09/21/16 01:21	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		09/19/16 13:57	09/21/16 01:21	5
Calcium	26		0.25	0.13	mg/L		09/19/16 13:57	09/21/16 01:21	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/19/16 13:57	09/21/16 01:21	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/19/16 13:57	09/21/16 01:21	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/19/16 13:57	09/21/16 01:21	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/19/16 13:57	09/21/16 01:21	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/19/16 13:57	09/21/16 01:21	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/19/16 13:57	09/21/16 16:49	5
Boron	0.048	I	0.050	0.021	mg/L		09/19/16 13:57	09/21/16 16:49	5
Barium	0.024		0.0025	0.00049	mg/L		09/19/16 13:57	09/21/16 16:49	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/19/16 13:57	09/21/16 16:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/15/16 15:16	09/20/16 11:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	78		5.0	3.4	mg/L			09/21/16 17:45	1
Chloride	6.4		2.0	0.60	mg/L			09/21/16 09:32	1
Fluoride	0.032	U	0.10	0.032	mg/L			09/18/16 17:52	1
Sulfate	50		10	2.8	mg/L			09/21/16 10:06	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.05				SU			09/14/16 08:50	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-2

Date Collected: 09/14/16 10:55

Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/19/16 13:57	09/21/16 01:26	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		09/19/16 13:57	09/21/16 01:26	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/19/16 13:57	09/21/16 01:26	5
Chromium	0.0025		0.0025	0.0011	mg/L		09/19/16 13:57	09/21/16 01:26	5
Calcium	19		0.25	0.13	mg/L		09/19/16 13:57	09/21/16 01:26	5
Lead	0.0011	I	0.0013	0.00035	mg/L		09/19/16 13:57	09/21/16 01:26	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/19/16 13:57	09/21/16 01:26	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/19/16 13:57	09/21/16 01:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/19/16 13:57	09/21/16 01:26	5
Molybdenum	0.00096	I	0.010	0.00085	mg/L		09/19/16 13:57	09/21/16 01:26	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/19/16 13:57	09/21/16 16:54	5
Boron	0.026	I	0.050	0.021	mg/L		09/19/16 13:57	09/21/16 16:54	5
Barium	0.038		0.0025	0.00049	mg/L		09/19/16 13:57	09/21/16 16:54	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/19/16 13:57	09/21/16 16:54	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/15/16 15:16	09/20/16 11:55	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	28		5.0	3.4	mg/L			09/21/16 17:45	1
Chloride	7.8		2.0	0.60	mg/L			09/21/16 09:32	1
Fluoride	0.050	I	0.10	0.032	mg/L			09/18/16 17:54	1
Sulfate	46		10	2.8	mg/L			09/21/16 10:06	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.57				SU			09/14/16 09:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-3

Lab Sample ID: 400-127183-3

Date Collected: 09/14/16 11:45

Matrix: Water

Date Received: 09/15/16 08:54

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 16:47	5
Arsenic	0.00055	I	0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 16:47	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 16:47	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 16:47	5
Barium	0.053		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 16:47	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 16:47	5
Lead	0.00037	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 16:47	5
Selenium	0.00042	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 16:47	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 16:47	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 16:47	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 16:47	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 16:47	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		1.0	0.42	mg/L		09/20/16 08:45	09/27/16 12:39	100
Calcium	590		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 12:39	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/15/16 15:16	09/20/16 11:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200		5.0	3.4	mg/L			09/21/16 17:45	1
Chloride	95		10	3.0	mg/L			09/21/16 10:14	5
Fluoride	0.13		0.10	0.032	mg/L			09/18/16 17:57	1
Sulfate	1200		190	52	mg/L			09/21/16 15:40	37

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.15				SU			09/14/16 10:45	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-4
Date Collected: 09/14/16 12:58
Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-4
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 16:52	5
Arsenic	0.0015		0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 16:52	5
Beryllium	0.00044	I	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 16:52	5
Boron	0.94		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 16:52	5
Cadmium	0.0029		0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 16:52	5
Barium	0.19		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 16:52	5
Chromium	0.0032		0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 16:52	5
Lead	0.00087	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 16:52	5
Selenium	0.00071	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 16:52	5
Cobalt	0.0041		0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 16:52	5
Thallium	0.00050		0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 16:52	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 16:52	5
Lithium	0.0095		0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 16:52	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	980		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 12:43	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/15/16 15:16	09/20/16 11:57	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5500		50	34	mg/L			09/21/16 17:45	1
Chloride	2000		100	30	mg/L			09/21/16 10:14	50
Fluoride	0.050	I	0.10	0.032	mg/L			10/03/16 12:28	1
Sulfate	600		100	28	mg/L			09/21/16 11:46	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.01				SU			09/14/16 11:58	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-5

Date Collected: 09/14/16 14:20

Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 16:56	5
Arsenic	0.00087	I	0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 16:56	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 16:56	5
Boron	0.59		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 16:56	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 16:56	5
Barium	0.076		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 16:56	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 16:56	5
Lead	0.00071	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 16:56	5
Selenium	0.00070	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 16:56	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 16:56	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 16:56	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 16:56	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1400		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 12:48	100
Lithium	2.5		0.050	0.064	mg/L		09/20/16 08:45	09/27/16 12:48	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/15/16 15:16	09/20/16 11:59	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	9200		50	34	mg/L			09/21/16 17:45	1
Chloride	3600		150	45	mg/L			09/21/16 10:49	75
Fluoride	0.050	I	0.10	0.032	mg/L			10/03/16 12:36	1
Sulfate	270		50	14	mg/L			09/21/16 11:46	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.13				SU			09/14/16 13:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: FB-01
Date Collected: 09/14/16 13:30
Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-6
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 16:19	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 16:19	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 16:19	5
Boron	0.021	U	0.050	0.021	mg/L		09/20/16 08:45	09/26/16 16:19	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 16:19	5
Barium	0.00049	U	0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 16:19	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 16:19	5
Calcium	0.13	U	0.25	0.13	mg/L		09/20/16 08:45	09/26/16 16:19	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 16:19	5
Selenium	0.00030	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 16:19	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 16:19	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 16:19	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 16:19	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 16:19	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/15/16 15:16	09/20/16 12:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			09/21/16 17:45	1
Chloride	0.60	U	2.0	0.60	mg/L			09/21/16 09:32	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/03/16 12:41	1
Sulfate	1.4	U	5.0	1.4	mg/L			09/21/16 10:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: FD-01
Date Collected: 09/15/16 00:00
Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-7
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:01	5
Arsenic	0.0026		0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:01	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:01	5
Boron	0.11		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:01	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:01	5
Barium	0.026		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:01	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:01	5
Calcium	84		0.25	0.13	mg/L		09/20/16 08:45	09/26/16 17:01	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:01	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:01	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:01	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:01	5
Molybdenum	0.013		0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:01	5
Lithium	0.0055		0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:01	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/26/16 14:26	09/27/16 13:35	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	240		5.0	3.4	mg/L			09/21/16 17:45	1
Chloride	4.5		2.0	0.60	mg/L			09/21/16 09:32	1
Fluoride	0.28		0.10	0.032	mg/L			10/03/16 12:42	1
Sulfate	57		10	2.8	mg/L			09/21/16 11:50	2

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-6

Lab Sample ID: 400-127183-8

Date Collected: 09/15/16 08:53

Matrix: Water

Date Received: 09/16/16 08:19

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:05	5
Arsenic	0.00061	I	0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:05	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:05	5
Boron	0.65		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:05	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:05	5
Barium	0.035		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:05	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:05	5
Lead	0.00041	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:05	5
Selenium	0.00033	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:05	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:05	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:05	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:05	5
Lithium	0.16		0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:05	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	590		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 12:52	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 09:39	09/21/16 14:08	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3200		50	34	mg/L			09/21/16 18:24	1
Chloride	930		50	15	mg/L			09/21/16 10:49	25
Fluoride	0.11		0.10	0.032	mg/L			10/03/16 12:44	1
Sulfate	440		75	21	mg/L			09/22/16 10:35	15

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.58				SU			09/15/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-7

Date Collected: 09/15/16 10:22

Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:10	5
Arsenic	0.00051	I	0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:10	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:10	5
Boron	0.27		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:10	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:10	5
Barium	0.039		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:10	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:10	5
Lead	0.00066	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:10	5
Selenium	0.00024	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:10	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:10	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:10	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:10	5
Lithium	0.0032		0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:10	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 12:57	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 09:39	09/21/16 14:10	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		5.0	3.4	mg/L			09/21/16 18:24	1
Chloride	340		20	6.0	mg/L			09/21/16 10:52	10
Fluoride	0.12		0.10	0.032	mg/L			10/03/16 12:48	1
Sulfate	110		25	7.0	mg/L			09/22/16 09:40	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.61				SU			09/15/16 09:22	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-8

Date Collected: 09/15/16 11:25

Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:14	5
Arsenic	0.0026		0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:14	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:14	5
Boron	0.10		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:14	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:14	5
Barium	0.027		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:14	5
Calcium	82		0.25	0.13	mg/L		09/20/16 08:45	09/26/16 17:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:14	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:14	5
Molybdenum	0.013		0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:14	5
Lithium	0.0057		0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:14	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 09:39	09/21/16 14:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	280		5.0	3.4	mg/L			09/21/16 18:24	1
Chloride	5.5		2.0	0.60	mg/L			09/21/16 09:41	1
Fluoride	0.28		0.10	0.032	mg/L			10/03/16 12:50	1
Sulfate	57		10	2.8	mg/L			09/21/16 10:42	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.20				SU			09/15/16 10:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-9

Date Collected: 09/15/16 12:56

Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:19	5
Arsenic	0.0056		0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:19	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:19	5
Boron	0.29		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:19	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:19	5
Barium	0.11		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:19	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:19	5
Lead	0.00054	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:19	5
Selenium	0.0011	I	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:19	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:19	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:19	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:19	5
Lithium	0.061		0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:19	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 13:02	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 09:39	09/21/16 14:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000		50	34	mg/L			09/21/16 18:24	1
Chloride	2000		150	45	mg/L			09/21/16 10:52	75
Fluoride	0.18		0.10	0.032	mg/L			10/03/16 12:54	1
Sulfate	980		150	42	mg/L			09/21/16 15:21	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.88				SU			09/15/16 11:56	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-10

Date Collected: 09/15/16 13:55

Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:23	5
Arsenic	0.0016		0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:23	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:23	5
Boron	0.22		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:23	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:23	5
Barium	0.032		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:23	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:23	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:23	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:23	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:23	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:23	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:23	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:23	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		1.3	0.63	mg/L		09/20/16 08:45	09/27/16 13:06	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 09:39	09/21/16 14:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	630		5.0	3.4	mg/L			09/21/16 18:24	1
Chloride	57		10	3.0	mg/L			09/21/16 10:52	5
Fluoride	0.080	I	0.10	0.032	mg/L			10/03/16 12:56	1
Sulfate	280		100	28	mg/L			09/21/16 14:38	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.51				SU			09/15/16 12:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Client Sample ID: CCR-11

Date Collected: 09/15/16 14:58

Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/20/16 08:45	09/26/16 17:28	5
Arsenic	0.11		0.0013	0.00046	mg/L		09/20/16 08:45	09/26/16 17:28	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/20/16 08:45	09/26/16 17:28	5
Boron	0.55		0.050	0.021	mg/L		09/20/16 08:45	09/26/16 17:28	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/20/16 08:45	09/26/16 17:28	5
Barium	0.071		0.0025	0.00049	mg/L		09/20/16 08:45	09/26/16 17:28	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		09/20/16 08:45	09/26/16 17:28	5
Lead	0.00098	I	0.0013	0.00035	mg/L		09/20/16 08:45	09/26/16 17:28	5
Selenium	0.0018		0.0013	0.00024	mg/L		09/20/16 08:45	09/26/16 17:28	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/20/16 08:45	09/26/16 17:28	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/20/16 08:45	09/26/16 17:28	5
Molybdenum	0.0010	I	0.010	0.00085	mg/L		09/20/16 08:45	09/26/16 17:28	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/20/16 08:45	09/26/16 17:28	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	600		5.0	2.5	mg/L		09/20/16 08:45	09/27/16 13:24	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 09:39	09/21/16 14:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		50	34	mg/L			09/21/16 18:24	1
Chloride	470		50	15	mg/L			09/21/16 11:56	25
Fluoride	0.39		0.10	0.032	mg/L			10/03/16 15:30	1
Sulfate	1400		200	56	mg/L			09/21/16 15:51	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.89				SU			09/15/16 13:58	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Glossary

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

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN SURVEILLANCE TESTING

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam.Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Sample: <i>Shawn Vitary</i> Phone: <i>907-3993348</i>		Carrier Tracking No(s): 530-Orlando COC No: 400-58013-24789.1 Page: Page 1 of 2 Job #:					
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSO#:		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 9316 Ra228, 9320 Ra228 2640C, 4500, F, C, SM4500, CI, E, SM4500, SO4 E 6020, 7470A							
Sample Identification CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 <i>FB-01</i> CCR-7 CCR-8 CCR-9 CCR-10 CCR-11		Sample Date 9-14-16 	Sample Time 950 1055 1145 1258 1420 1330 	Sample Type (C=comp, G=grab) G 	Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air) Water Water Water Water Water Water Water Water Water Water Water	Preservation Code: X X X X X X X X X X X X	D N D 	Total Number of containers X 	Special Instructions/Note: 400-127183 COC 
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Empty Kit Relinquished by: <i>[Signature]</i> Relinquished by: <i>[Signature]</i> Relinquished by: Relinquished by:		Date: 9-14-16 1600 Date/Time: Date/Time: Date/Time:		Date/Time: 9/15/16 9:22 Date/Time: Date/Time:		Method of Shipment: Received by: <i>[Signature]</i> Received by: Received by:		Company: <i>[Signature]</i> Company: Company:	
Custody Seals Intact Custody Seal No		Cooler Temperature(s) °C and Other Remarks: 1.8°C, 1.6°C, 0.8°C IRG							



Chain of Custody Record

Client Information Company: Golden Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Sample: Shawn Victory Phone: 407-399-3348 Job #:		Carrier Tracking No(s): COC No: 400-58013-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: TA-15454342-01 WO #: 15-45454.2 Project #: 40007144 SSOV#:		Analysis Requested Total Number of Containers:			
Sample Identification Sample ID: <u>CCR-1</u> Sample Date: <u>9-15-16</u> Sample Time: <u>853</u> Sample Type: <u>G</u> Matrix: <u>Water</u> Preservation Code:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) D N D 9316_Ra226, 9320_Ra228 2540C, 4600, F, C, SM4500, CL, E, SM4600, S04, E 6020, 7470A		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 Other:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note:			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:			
Empty Kit Relinquished by: <u>[Signature]</u> Relinquished by: <u>[Signature]</u> Relinquished by: <u>[Signature]</u> Relinquished by:		Date: <u>9-12-16</u> Date: <u>9-15-16</u> Date: <u>1615</u> Date:		Method of Shipment: <u>FA-Samples</u> Date/TIME: <u>9/16/16 8:19</u> Date/TIME: <u>8:19</u> Date/TIME:	
Custody Seals Intact: <input type="checkbox"/> Custody Seal No		Cooler Temperature(s) °C and Other Remarks: <u>0.0°C, 0.0°C IR6</u>			



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-127183-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
10/19/2016 1:27:37 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Job ID: 400-127183-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-127183-2

RAD

Method(s) PrecSep_0: Radium-226 Prep Batch 160-271781: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-1 (400-127183-1), CCR-2 (400-127183-2), CCR-3 (400-127183-3), CCR-4 (400-127183-4), CCR-5 (400-127183-5), FB-01 (400-127183-6), FD-01 (400-127183-7), CCR-6 (400-127183-8), CCR-7 (400-127183-9), CCR-8 (400-127183-10), CCR-9 (400-127183-11), CCR-10 (400-127183-12) and CCR-11 (400-127183-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-271774: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-1 (400-127183-1), CCR-2 (400-127183-2), CCR-3 (400-127183-3), CCR-4 (400-127183-4), CCR-5 (400-127183-5), FB-01 (400-127183-6), FD-01 (400-127183-7), CCR-6 (400-127183-8), CCR-7 (400-127183-9), CCR-8 (400-127183-10), CCR-9 (400-127183-11), CCR-10 (400-127183-12) and CCR-11 (400-127183-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-127183-1	CCR-1	Water	09/14/16 09:50	09/15/16 08:54
400-127183-2	CCR-2	Water	09/14/16 10:55	09/15/16 08:54
400-127183-3	CCR-3	Water	09/14/16 11:45	09/15/16 08:54
400-127183-4	CCR-4	Water	09/14/16 12:58	09/15/16 08:54
400-127183-5	CCR-5	Water	09/14/16 14:20	09/15/16 08:54
400-127183-6	FB-01	Water	09/14/16 13:30	09/15/16 08:54
400-127183-7	FD-01	Water	09/15/16 00:00	09/16/16 08:19
400-127183-8	CCR-6	Water	09/15/16 08:53	09/16/16 08:19
400-127183-9	CCR-7	Water	09/15/16 10:22	09/16/16 08:19
400-127183-10	CCR-8	Water	09/15/16 11:25	09/16/16 08:19
400-127183-11	CCR-9	Water	09/15/16 12:56	09/16/16 08:19
400-127183-12	CCR-10	Water	09/15/16 13:55	09/16/16 08:19
400-127183-13	CCR-11	Water	09/15/16 14:58	09/16/16 08:19

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-1

Lab Sample ID: 400-127183-1

Date Collected: 09/14/16 09:50

Matrix: Water

Date Received: 09/15/16 08:54

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.20		0.252	0.383	1.00	0.0975	pCi/L	09/26/16 13:50	10/18/16 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					09/26/16 13:50	10/18/16 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.769		0.327	0.335	1.00	0.471	pCi/L	09/26/16 15:23	10/11/16 18:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					09/26/16 15:23	10/11/16 18:08	1
Y Carrier	85.6		40 - 110					09/26/16 15:23	10/11/16 18:08	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.97		0.413	0.509	5.00	0.471	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-2

Lab Sample ID: 400-127183-2

Date Collected: 09/14/16 10:55

Matrix: Water

Date Received: 09/15/16 08:54

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.28		0.298	0.487	1.00	0.0824	pCi/L	09/26/16 13:50	10/18/16 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					09/26/16 13:50	10/18/16 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.680		0.356	0.362	1.00	0.532	pCi/L	09/26/16 15:23	10/11/16 18:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					09/26/16 15:23	10/11/16 18:08	1
Y Carrier	87.9		40 - 110					09/26/16 15:23	10/11/16 18:08	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.96		0.465	0.607	5.00	0.532	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-3

Lab Sample ID: 400-127183-3

Date Collected: 09/14/16 11:45

Matrix: Water

Date Received: 09/15/16 08:54

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.21		0.339	0.653	1.00	0.0731	pCi/L	09/26/16 13:50	10/18/16 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					09/26/16 13:50	10/18/16 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.702		0.338	0.344	1.00	0.500	pCi/L	09/26/16 15:23	10/11/16 18:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					09/26/16 15:23	10/11/16 18:08	1
Y Carrier	83.7		40 - 110					09/26/16 15:23	10/11/16 18:08	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.91		0.479	0.738	5.00	0.500	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-4

Lab Sample ID: 400-127183-4

Date Collected: 09/14/16 12:58

Matrix: Water

Date Received: 09/15/16 08:54

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	32.7		0.777	3.05	1.00	0.0836	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.26		0.667	1.01	1.00	0.395	pCi/L	09/26/16 15:23	10/11/16 18:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					09/26/16 15:23	10/11/16 18:08	1
Y Carrier	85.6		40 - 110					09/26/16 15:23	10/11/16 18:08	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	41.0		1.02	3.21	5.00	0.395	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-5
Date Collected: 09/14/16 14:20
Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-5
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.7		0.466	1.15	1.00	0.106	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.30		0.623	0.851	1.00	0.494	pCi/L	09/26/16 15:23	10/11/16 18:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					09/26/16 15:23	10/11/16 18:09	1
Y Carrier	82.2		40 - 110					09/26/16 15:23	10/11/16 18:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	18.0		0.778	1.43	5.00	0.494	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: FB-01
Date Collected: 09/14/16 13:30
Date Received: 09/15/16 08:54

Lab Sample ID: 400-127183-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0186	U	0.0449	0.0449	1.00	0.0812	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.391	U	0.274	0.277	1.00	0.426	pCi/L	09/26/16 15:23	10/11/16 18:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110					09/26/16 15:23	10/11/16 18:09	1
Y Carrier	84.1		40 - 110					09/26/16 15:23	10/11/16 18:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.410	U	0.278	0.280	5.00	0.426	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: FD-01
Date Collected: 09/15/16 00:00
Date Received: 09/16/16 08:19

Lab Sample ID: 400-127183-7
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.95		0.288	0.458	1.00	0.101	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0115	U	0.276	0.276	1.00	0.496	pCi/L	09/26/16 15:23	10/11/16 18:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		40 - 110					09/26/16 15:23	10/11/16 18:09	1
Y Carrier	80.4		40 - 110					09/26/16 15:23	10/11/16 18:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.96		0.399	0.534	5.00	0.496	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-6

Lab Sample ID: 400-127183-8

Date Collected: 09/15/16 08:53

Matrix: Water

Date Received: 09/16/16 08:19

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.79		0.369	0.638	1.00	0.0875	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.84		0.542	0.568	1.00	0.734	pCi/L	09/26/16 15:23	10/11/16 18:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					09/26/16 15:23	10/11/16 18:09	1
Y Carrier	85.2		40 - 110					09/26/16 15:23	10/11/16 18:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.63		0.656	0.854	5.00	0.734	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-7

Lab Sample ID: 400-127183-9

Date Collected: 09/15/16 10:22

Matrix: Water

Date Received: 09/16/16 08:19

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	10.7		0.459	1.07	1.00	0.0969	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.07		0.438	0.477	1.00	0.497	pCi/L	09/26/16 15:23	10/11/16 18:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					09/26/16 15:23	10/11/16 18:20	1
Y Carrier	79.6		40 - 110					09/26/16 15:23	10/11/16 18:20	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	12.8		0.634	1.17	5.00	0.497	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-8

Lab Sample ID: 400-127183-10

Date Collected: 09/15/16 11:25

Matrix: Water

Date Received: 09/16/16 08:19

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.52		0.259	0.409	1.00	0.0786	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.473		0.292	0.295	1.00	0.445	pCi/L	09/26/16 15:23	10/11/16 18:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					09/26/16 15:23	10/11/16 18:20	1
Y Carrier	81.5		40 - 110					09/26/16 15:23	10/11/16 18:20	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.99		0.391	0.505	5.00	0.445	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-9

Lab Sample ID: 400-127183-11

Date Collected: 09/15/16 12:56

Matrix: Water

Date Received: 09/16/16 08:19

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	17.9		0.593	1.72	1.00	0.0762	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.68		0.453	0.516	1.00	0.437	pCi/L	09/26/16 15:23	10/11/16 18:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					09/26/16 15:23	10/11/16 18:22	1
Y Carrier	84.1		40 - 110					09/26/16 15:23	10/11/16 18:22	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	20.6		0.746	1.79	5.00	0.437	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-10

Lab Sample ID: 400-127183-12

Date Collected: 09/15/16 13:55

Matrix: Water

Date Received: 09/16/16 08:19

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.00		0.201	0.269	1.00	0.0763	pCi/L	09/26/16 13:50	10/18/16 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					09/26/16 13:50	10/18/16 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.363	0.375	1.00	0.480	pCi/L	09/26/16 15:23	10/11/16 18:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					09/26/16 15:23	10/11/16 18:22	1
Y Carrier	75.1		40 - 110					09/26/16 15:23	10/11/16 18:22	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.02		0.414	0.461	5.00	0.480	pCi/L		10/19/16 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Client Sample ID: CCR-11

Lab Sample ID: 400-127183-13

Date Collected: 09/15/16 14:58

Matrix: Water

Date Received: 09/16/16 08:19

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.87		0.308	0.611	1.00	0.0706	pCi/L	09/26/16 13:50	10/18/16 07:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.3		40 - 110					09/26/16 13:50	10/18/16 07:08	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.54		0.511	0.660	1.00	0.374	pCi/L	09/26/16 15:23	10/11/16 18:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.3		40 - 110					09/26/16 15:23	10/11/16 18:21	1
Y Carrier	80.7		40 - 110					09/26/16 15:23	10/11/16 18:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	10.4		0.597	0.900	5.00	0.374	pCi/L		10/19/16 08:55	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127183-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN SURVEILLANCE TESTING

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam.Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Sample: <i>Shawn Vitary</i> Phone: <i>907-3993348</i>		Carrier Tracking No(s): 530-Orlando COC No: 400-58013-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSO#:		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 9316 Ra228, 9320 Ra228 2640C, 4500 F, C, SM4500, CI, E, SM4500, SO4 E 6020, 7470A			
Sample Identification Sample ID: CCR-1 Sample Date: 9-14-16 Sample Time: 950 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=oil, A=air): Water Preservation Code:		Total Number of containers: <input checked="" type="checkbox"/>			
CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7 CCR-8 CCR-9 CCR-10 CCR-11		Special Instructions/Note:  400-127183 COC			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by: <i>[Signature]</i> Relinquished by: <i>[Signature]</i> Relinquished by: Relinquished by:		Date: 9-14-16 1600 Date/Time: 9/15/16 9:22 Company: TPA Company: TPA Company: TPA			
Relinquished by: Relinquished by: Relinquished by:		Date/Time: Date/Time: Date/Time:			
Custody Seals Intact <input checked="" type="checkbox"/> Custody Seal No <input type="checkbox"/> Cooler Temperature(s) °C and Other Remarks: 1.8°C, 1.6°C, 0.8°C IRG					



Chain of Custody Record

Client Information Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Sample: Shawn Victory Phone: 407-399-3348 Lab PM: Whitnire, Cheyenne R E-Mail: cheyenne.whitnire@testamericainc.com		Carrier Tracking No(s): COC No: 400-58013-24789.1 Page: 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: TA-15454342-01 WO #: 15-45454.2 Project #: 40007144 SSOV#:		Analysis Requested			
Sample Identification Sample ID: CCR-1 Sample ID: CCR-2 Sample ID: CCR-3 Sample ID: CCR-4 Sample ID: CCR-5 FD-01 Sample ID: CCR-6 Sample ID: CCR-7 Sample ID: CCR-8 Sample ID: CCR-9 Sample ID: CCR-10 Sample ID: CCR-11		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Total Number of Containers	
Sample Date 9-15-16 9-15-16 10-22 11-25 1-25-16 1-15-16 1-15-16		Sample Time 853 1022 1125 1256 1355 1458		Matrix (W=water, S=solid, O=water, BT=Tissue, A=Air) Water Water Water Water Water Water Water Water Water Water	
Preservation Code: A-HCL B-NaOH C-Zn Acetate D-Nitric Acid E-NaHSO4 F-MeOH G-Archlor H-Ascorbic Acid I-Ice J-DI Water K-EDTA L-EDA Other:		Preservation Codes: 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)		Special Instructions/Note: 6020, 7470A 2540C, 4600, F.C, SM4500, CL, E, SM4500, S04, E 9315_Ra226, 9320_Ra228	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
Special Instructions/QC Requirements: <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Date/Time: 9-15-16 1615 Date/Time:		Date: 9-12-16 Date/Time:		Method of Shipment: A-Samples Date/Time: 9/16/16 8:19 Company: TA	
Relinquished by: [Signature] Relinquished by:		Relinquished by: [Signature] Relinquished by:		Relinquished by: [Signature] Relinquished by:	
Custody Seals Intact:		Custody Seal No: 530-Orlando		Cooler Temperature(s) °C and Other Remarks: 0.0°C, 0.0°C IR6	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-127371-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
10/18/2016 5:59:19 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Job ID: 400-127371-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-127371-1

Metals

Method(s) 6020: Due to the high concentration of Calcium, the post-digestion spike (PDS), matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 324120 and analytical batch 324416 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-12 (400-127371-1), CCR-13 (400-127371-2) and CCR-14 (400-127371-3). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 323804 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-127371-1	CCR-12	Water	09/16/16 09:32	09/19/16 09:32
400-127371-2	CCR-13	Water	09/16/16 10:11	09/19/16 09:32
400-127371-3	CCR-14	Water	09/16/16 11:04	09/19/16 09:32
400-127371-4	FB-02	Water	09/16/16 08:45	09/19/16 09:32

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Client Sample ID: CCR-12
Date Collected: 09/16/16 09:32
Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-1
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/26/16 12:03	09/27/16 14:49	5
Arsenic	0.058		0.0013	0.00046	mg/L		09/26/16 12:03	09/27/16 14:49	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/26/16 12:03	09/27/16 14:49	5
Boron	0.54		0.050	0.021	mg/L		09/26/16 12:03	09/27/16 14:49	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/26/16 12:03	09/27/16 14:49	5
Barium	0.014		0.0025	0.00049	mg/L		09/26/16 12:03	09/27/16 14:49	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		09/26/16 12:03	09/27/16 14:49	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/26/16 12:03	09/27/16 14:49	5
Selenium	0.00081	I	0.0013	0.00024	mg/L		09/26/16 12:03	09/27/16 14:49	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/26/16 12:03	09/27/16 14:49	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/26/16 12:03	09/27/16 14:49	5
Molybdenum	0.0058	I	0.010	0.00085	mg/L		09/26/16 12:03	09/27/16 14:49	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/26/16 12:03	09/27/16 14:49	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	490		5.0	2.5	mg/L		09/26/16 12:03	09/27/16 15:29	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 10:33	09/27/16 12:47	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		5.0	3.4	mg/L			09/23/16 19:25	1
Chloride	25		2.0	0.60	mg/L			09/22/16 15:33	1
Fluoride	0.55		0.10	0.032	mg/L			10/03/16 15:23	1
Sulfate	670		100	28	mg/L			09/22/16 16:06	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.26				SU			09/16/16 09:32	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Client Sample ID: CCR-13

Date Collected: 09/16/16 10:11

Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/26/16 12:03	09/27/16 14:44	5
Arsenic	0.00052	I	0.0013	0.00046	mg/L		09/26/16 12:03	09/27/16 14:44	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/26/16 12:03	09/27/16 14:44	5
Boron	0.48		0.050	0.021	mg/L		09/26/16 12:03	09/27/16 14:44	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/26/16 12:03	09/27/16 14:44	5
Barium	0.042		0.0025	0.00049	mg/L		09/26/16 12:03	09/27/16 14:44	5
Chromium	0.0022	I	0.0025	0.0011	mg/L		09/26/16 12:03	09/27/16 14:44	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/26/16 12:03	09/27/16 14:44	5
Selenium	0.00032	I	0.0013	0.00024	mg/L		09/26/16 12:03	09/27/16 14:44	5
Cobalt	0.0011	I	0.0025	0.00040	mg/L		09/26/16 12:03	09/27/16 14:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/26/16 12:03	09/27/16 14:44	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/26/16 12:03	09/27/16 14:44	5
Lithium	0.20		0.0025	0.0032	mg/L		09/26/16 12:03	09/27/16 14:44	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	520		5.0	2.5	mg/L		09/26/16 12:03	09/28/16 12:36	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 10:33	09/27/16 12:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2700		10	6.8	mg/L			09/23/16 19:25	1
Chloride	340		20	6.0	mg/L			09/22/16 16:30	10
Fluoride	0.57		0.10	0.032	mg/L			10/03/16 15:34	1
Sulfate	990		150	42	mg/L			09/22/16 17:32	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.60				SU			09/16/16 10:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Client Sample ID: CCR-14

Date Collected: 09/16/16 11:04

Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/26/16 12:03	09/27/16 15:43	5
Arsenic	0.0019		0.0013	0.00046	mg/L		09/26/16 12:03	09/27/16 15:43	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/26/16 12:03	09/27/16 15:43	5
Boron	1.2		0.050	0.021	mg/L		09/26/16 12:03	09/27/16 15:43	5
Cadmium	0.00044	I	0.0010	0.00034	mg/L		09/26/16 12:03	09/27/16 15:43	5
Barium	0.022		0.0025	0.00049	mg/L		09/26/16 12:03	09/27/16 15:43	5
Chromium	0.0024	I	0.0025	0.0011	mg/L		09/26/16 12:03	09/27/16 15:43	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/26/16 12:03	09/27/16 15:43	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/26/16 12:03	09/27/16 15:43	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/26/16 12:03	09/27/16 15:43	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/26/16 12:03	09/27/16 15:43	5
Molybdenum	0.0023	I	0.010	0.00085	mg/L		09/26/16 12:03	09/27/16 15:43	5
Lithium	0.0033		0.0025	0.0032	mg/L		09/26/16 12:03	09/27/16 15:43	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		5.0	2.5	mg/L		09/26/16 12:03	09/27/16 15:47	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 10:33	09/27/16 12:55	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.6	3.8	mg/L			09/23/16 19:25	1
Chloride	120		20	6.0	mg/L			09/22/16 17:18	10
Fluoride	0.42		0.10	0.032	mg/L			10/03/16 15:36	1
Sulfate	860		130	35	mg/L			09/22/16 17:32	25

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.05				SU			09/16/16 11:04	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Client Sample ID: FB-02
Date Collected: 09/16/16 08:45
Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-4
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		09/26/16 12:03	09/27/16 15:34	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		09/26/16 12:03	09/27/16 15:34	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		09/26/16 12:03	09/27/16 15:34	5
Boron	0.021	U	0.050	0.021	mg/L		09/26/16 12:03	09/27/16 15:34	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		09/26/16 12:03	09/27/16 15:34	5
Barium	0.00049	U	0.0025	0.00049	mg/L		09/26/16 12:03	09/27/16 15:34	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		09/26/16 12:03	09/27/16 15:34	5
Calcium	0.13	U	0.25	0.13	mg/L		09/26/16 12:03	09/27/16 15:34	5
Lead	0.00035	U	0.0013	0.00035	mg/L		09/26/16 12:03	09/27/16 15:34	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		09/26/16 12:03	09/27/16 15:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		09/26/16 12:03	09/27/16 15:34	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		09/26/16 12:03	09/27/16 15:34	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		09/26/16 12:03	09/27/16 15:34	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		09/26/16 12:03	09/27/16 15:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		09/20/16 10:33	09/27/16 12:53	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			09/23/16 19:25	1
Chloride	0.60	U	2.0	0.60	mg/L			09/22/16 16:59	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/03/16 15:39	1
Sulfate	1.4	U	5.0	1.4	mg/L			09/22/16 16:51	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
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.

Glossary

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

Chain of Custody Record

Client Information		Lab PM: Whitmore, Cheyenne R		Carrier Tracking No(s): 400-58013-24789.2	
Mr. Sam Stafford		E-Mail: cheyenne.whitmore@testamericainc.com		Page: Page 2 of 2	
Company: Golder Associates Inc.		Address: 9428 Baymeadows Road Suite 400 Jacksonville, FL 32256		Job #:	
Phone: 904-363-3430 (Tel)		PO #: TA-15454542-01		Analysis Requested:	
Email: Sam_Stafford@golder.com		WC #: 15-45454.2		Total Number of Containers: 400-127371 COC	
Project Name: CCR Lakeland		Project #: 40007144		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNCCO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 R - Na2S2O3 S - H2SO4 G - Amchlor H - Ascorbic Acid T - TSP Dodecahydrate I - Ice J - DI Water U - Acetone V - MCAA K - EDTA W - pH 4.5 L - EDA Z - other (specify) Other:	
Site:		SSOW#:		Special Instructions/Note:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)		Form MS/MSD (Form No)		Analysis Requested		Special Instructions/Note
					Yes	No	D	N	D	N	
CCR-12	9-16-16	932	G	Water	X	X	9316, Ra226, 9320, Fa228	6020, 7470A	X	X	
CCR-13	↓	1011	↓	Water	X	X			X	X	
CCR-14	↓	1104	↓	Water	X	X			X	X	
FB-01				Water							
FB-02				Water							
FB-03				Water							
FB-04				Water							
FB-05				Water							
FB-06				Water							
FB-07				Water							
FB-08				Water							
FB-09				Water							
FB-10				Water							
FB-11				Water							
FB-12				Water							
FB-13				Water							
FB-14				Water							
FB-15				Water							
FB-16				Water							
FB-17				Water							
FB-18				Water							
FB-19				Water							
FB-20				Water							

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: [Signature] Date: 9-16-16 Time: 1330

Relinquished by: [Signature] Date/Time: 9-16-16 1330 Company: T-Hore

Relinquished by: [Signature] Date/Time: Company:

Relinquished by: [Signature] Date/Time: Company:

Custody Seals Intact: Custody Seal No. 3102 [Signature]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment: Date/Time: 9/17/16 9:32 AM Company: [Signature]

Received by: [Signature] Date/Time: Company:

Received by: [Signature] Date/Time: Company:

Received by: [Signature] Date/Time: Company:

Cooler Temperature(s) °C and Other Remarks: 3.10C [Signature]



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-127371-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
10/25/2016 6:27:36 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-127371-1	CCR-12	Water	09/16/16 09:32	09/19/16 09:32
400-127371-2	CCR-13	Water	09/16/16 10:11	09/19/16 09:32
400-127371-3	CCR-14	Water	09/16/16 11:04	09/19/16 09:32
400-127371-4	FB-02	Water	09/16/16 08:45	09/19/16 09:32

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Client Sample ID: CCR-12
Date Collected: 09/16/16 09:32
Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.99		0.201	0.269	1.00	0.0828	pCi/L	09/29/16 12:24	10/20/16 19:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		40 - 110					09/29/16 12:24	10/20/16 19:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.763		0.339	0.346	1.00	0.487	pCi/L	09/29/16 12:24	10/13/16 17:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		40 - 110					09/29/16 12:24	10/13/16 17:45	1
Y Carrier	78.9		40 - 110					09/29/16 12:24	10/13/16 17:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.75		0.394	0.438	5.00	0.487	pCi/L		10/24/16 09:50	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Client Sample ID: CCR-13

Lab Sample ID: 400-127371-2

Date Collected: 09/16/16 10:11

Matrix: Water

Date Received: 09/19/16 09:32

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0721		0.0506	0.0510	1.00	0.0720	pCi/L	09/29/16 12:24	10/20/16 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		40 - 110					09/29/16 12:24	10/20/16 11:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.557		0.303	0.307	1.00	0.451	pCi/L	09/29/16 12:24	10/13/16 17:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		40 - 110					09/29/16 12:24	10/13/16 17:45	1
Y Carrier	78.9		40 - 110					09/29/16 12:24	10/13/16 17:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.629		0.307	0.312	5.00	0.451	pCi/L		10/24/16 09:50	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Client Sample ID: CCR-14

Date Collected: 09/16/16 11:04

Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	30.4		0.723	2.83	1.00	0.0670	pCi/L	09/24/16 16:12	10/18/16 14:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.3		40 - 110					09/24/16 16:12	10/18/16 14:49	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.393	U	0.291	0.293	1.00	0.459	pCi/L	09/24/16 16:51	10/10/16 14:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.3		40 - 110					09/24/16 16:51	10/10/16 14:35	1
Y Carrier	85.2		40 - 110					09/24/16 16:51	10/10/16 14:35	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	30.7		0.780	2.84	5.00	0.459	pCi/L		10/24/16 09:50	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Client Sample ID: FB-02
Date Collected: 09/16/16 08:45
Date Received: 09/19/16 09:32

Lab Sample ID: 400-127371-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	49.9		0.937	4.58	1.00	0.0800	pCi/L	09/29/16 12:24	10/20/16 11:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.7		40 - 110					09/29/16 12:24	10/20/16 11:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.43		0.569	0.757	1.00	0.444	pCi/L	09/29/16 12:24	10/13/16 17:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.7		40 - 110					09/29/16 12:24	10/13/16 17:45	1
Y Carrier	80.7		40 - 110					09/29/16 12:24	10/13/16 17:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	55.3		1.10	4.65	5.00	0.444	pCi/L		10/24/16 09:50	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-127371-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

Chain of Custody Record

Client Information		Lab PM: Whitmire, Cheyenne R		Carrier Tracking No(s): 400-58013-24789.2	
Mr. Sam Stafford		E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 2 of 2	
Company: Golder Associates Inc.		Address: 9428 Baymeadows Road Suite 400 Jacksonville, FL 32256		Job #:	
Phone: 904-363-3430 (Tel)		PO #: TA-15454542-01		Preservation Codes:	
Email: Sam_Stafford@golder.com		WC #: 15-45454.2		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNCCO2 D - Nitric Acid P - Na2SO4 E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: CCR Lakeland		Project #: 40007144		T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Site:		SSOW#:		Special Instructions/Note:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=tissue, As=air)	Field Filtered Sample (Yes or No)		Analysis Requested		Total Number of Containers	Special Instructions/Note
					D	N	D	N		
CCR-12	9-16-16	932	G	Water	X	X	X	X	6020, 7470A	
CCR-13	↓	1011	↓	Water	X	X	X	X	9316, Ra226, 9320, Fa220	
CCR-14	↓	1104	↓	Water	X	X	X	X	6020, 7470A	
FB-01				Water						
FB-02				Water						
FB-03				Water						
FB-04				Water						
FB-05				Water						
FB-06				Water						
FB-07				Water						
FB-08				Water						
FB-09				Water						
FB-10				Water						
FB-11				Water						
FB-12				Water						

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: [Signature] Date: 9-16-16

Relinquished by: [Signature] Date: 9-16-16

Relinquished by: [Signature] Date: 9-16-16

Relinquished by: [Signature] Date: 9-16-16

Custody Seals Intact: **Custody Seal No.:** 3102

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment: [Signature] Date/Time: 9/17/16 9:32 AM Company: [Signature]

Received by: [Signature] Date/Time: [Signature] Company: [Signature]

Received by: [Signature] Date/Time: [Signature] Company: [Signature]

Received by: [Signature] Date/Time: [Signature] Company: [Signature]

Cooler Temperature(s) °C and Other Remarks: 3.10C [Signature]



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-128611-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
10/28/2016 5:28:52 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Job ID: 400-128611-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-128611-1

Metals

Method(s) 6020: The post digestion spike % recovery for Calcium associated with batch 328746 was outside of control limits due to the high recovery in the parent sample.

Method(s) 6020: Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 327630 and analytical batch 328746 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-128611-4), CCR-4 (400-128611-5), CCR-5 (400-128611-6), CCR-6 (400-128611-7), CCR-9 (400-128611-10) and CCR-11 (400-128611-12). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 F C: The sample duplicate precision (RPD) for the following sample associated with batch 327952 was outside control limits: CCR-6 (400-128611-7[MSD]). Non-homogeneity of the sample matrix is suspected.

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 327984 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 327830 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike (MS) recovery for analytical batch 327831 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128611-1	CCR-1	Water	10/11/16 09:36	10/12/16 09:06
400-128611-2	FB-01	Water	10/11/16 08:45	10/12/16 09:06
400-128611-3	CCR-2	Water	10/11/16 10:10	10/12/16 09:06
400-128611-4	CCR-3	Water	10/11/16 10:54	10/12/16 09:06
400-128611-5	CCR-4	Water	10/11/16 11:46	10/12/16 09:06
400-128611-6	CCR-5	Water	10/11/16 12:47	10/12/16 09:06
400-128611-7	CCR-6	Water	10/12/16 09:27	10/14/16 14:20
400-128611-8	CCR-7	Water	10/12/16 10:12	10/14/16 14:20
400-128611-9	CCR-8	Water	10/12/16 10:51	10/14/16 14:20
400-128611-10	CCR-9	Water	10/12/16 11:25	10/14/16 14:20
400-128611-11	CCR-10	Water	10/12/16 12:04	10/14/16 14:20
400-128611-12	CCR-11	Water	10/12/16 12:44	10/14/16 14:20
400-128611-13	FD-01	Water	10/12/16 00:00	10/14/16 14:20

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-1

Date Collected: 10/11/16 09:36

Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 12:44	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 12:44	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 12:44	5
Boron	0.039	I	0.050	0.021	mg/L		10/24/16 13:00	10/28/16 12:44	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 12:44	5
Barium	0.022		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 12:44	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 12:44	5
Calcium	27		0.25	0.13	mg/L		10/24/16 13:00	10/28/16 12:44	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 12:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 12:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 12:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 12:44	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 12:44	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 12:44	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	170		5.0	3.4	mg/L			10/15/16 12:48	1
Chloride	5.6		2.0	0.60	mg/L			10/21/16 15:25	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/23/16 17:23	1
Sulfate	55		25	7.0	mg/L			10/21/16 16:08	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.00				SU			10/11/16 09:36	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: FB-01
Date Collected: 10/11/16 08:45
Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-2
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 12:48	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 12:48	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 12:48	5
Boron	0.021	U	0.050	0.021	mg/L		10/24/16 13:00	10/28/16 12:48	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 12:48	5
Barium	0.00049	U	0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 12:48	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 12:48	5
Calcium	0.13	U	0.25	0.13	mg/L		10/24/16 13:00	10/28/16 12:48	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 12:48	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 12:48	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 12:48	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 12:48	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 12:48	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 12:48	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	26		5.0	3.4	mg/L			10/15/16 12:48	1
Chloride	0.60	U	2.0	0.60	mg/L			10/21/16 15:25	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/23/16 17:26	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/21/16 15:31	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-2

Date Collected: 10/11/16 10:10

Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 12:53	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 12:53	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 12:53	5
Boron	0.022	I	0.050	0.021	mg/L		10/24/16 13:00	10/28/16 12:53	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 12:53	5
Barium	0.048		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 12:53	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 12:53	5
Calcium	34		0.25	0.13	mg/L		10/24/16 13:00	10/28/16 12:53	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 12:53	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 12:53	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 12:53	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 12:53	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 12:53	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 12:53	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:50	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	220		5.0	3.4	mg/L			10/15/16 12:48	1
Chloride	10		2.0	0.60	mg/L			10/21/16 15:25	1
Fluoride	0.070	I	0.10	0.032	mg/L			10/23/16 17:30	1
Sulfate	83		50	14	mg/L			10/21/16 16:13	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.43				SU			10/11/16 10:10	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-3

Lab Sample ID: 400-128611-4

Date Collected: 10/11/16 10:54

Matrix: Water

Date Received: 10/12/16 09:06

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 12:57	5
Arsenic	0.00054	I	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 12:57	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 12:57	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 12:57	5
Barium	0.042		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 12:57	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 12:57	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 12:57	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 12:57	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 12:57	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 12:57	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 12:57	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 12:57	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.50	0.21	mg/L		10/24/16 13:00	10/28/16 14:23	50
Calcium	560		2.5	1.3	mg/L		10/24/16 13:00	10/28/16 14:23	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:51	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300		5.0	3.4	mg/L			10/15/16 12:48	1
Chloride	91		20	6.0	mg/L			10/21/16 16:20	10
Fluoride	0.14		0.10	0.032	mg/L			10/23/16 17:43	1
Sulfate	1300		200	56	mg/L			10/21/16 16:48	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.13				SU			10/11/16 10:54	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-4

Date Collected: 10/11/16 11:46

Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 13:02	5
Arsenic	0.0017		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 13:02	5
Beryllium	0.00048	I	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 13:02	5
Boron	0.83		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 13:02	5
Cadmium	0.0021		0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 13:02	5
Barium	0.21		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 13:02	5
Chromium	0.0021	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 13:02	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 13:02	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 13:02	5
Cobalt	0.0042		0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 13:02	5
Thallium	0.00051		0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 13:02	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 13:02	5
Lithium	0.0079		0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 13:02	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		5.0	2.5	mg/L		10/24/16 13:00	10/28/16 14:27	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:52	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5700		50	34	mg/L			10/15/16 12:48	1
Chloride	2000		100	30	mg/L			10/21/16 16:53	50
Fluoride	0.032	U	0.10	0.032	mg/L			10/23/16 17:47	1
Sulfate	650		150	42	mg/L			10/21/16 16:13	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.00				SU			10/11/16 11:46	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-5

Date Collected: 10/11/16 12:47

Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 13:06	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 13:06	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 13:06	5
Boron	0.52		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 13:06	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 13:06	5
Barium	0.076		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 13:06	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 13:06	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 13:06	5
Selenium	0.00034	I	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 13:06	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 13:06	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 13:06	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 13:06	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1400		5.0	2.5	mg/L		10/24/16 13:00	10/28/16 14:32	100
Lithium	2.5		0.050	0.064	mg/L		10/24/16 13:00	10/28/16 14:32	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:53	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000		50	34	mg/L			10/15/16 12:48	1
Chloride	3800		240	72	mg/L			10/21/16 16:22	120
Fluoride	0.050	I	0.10	0.032	mg/L			10/23/16 17:49	1
Sulfate	260		150	42	mg/L			10/21/16 16:13	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.10				SU			10/11/16 12:47	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-6

Date Collected: 10/12/16 09:27

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 13:11	5
Arsenic	0.00047	I	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 13:11	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 13:11	5
Boron	0.57		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 13:11	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 13:11	5
Barium	0.025		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 13:11	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 13:11	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 13:11	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 13:11	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 13:11	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 13:11	5
Molybdenum	0.0013	I	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 13:11	5
Lithium	0.045		0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 13:11	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	310		1.3	0.63	mg/L		10/24/16 13:00	10/28/16 13:15	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 13:55	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200		5.0	3.4	mg/L			10/18/16 19:03	1
Chloride	560		40	12	mg/L			10/21/16 16:22	20
Fluoride	0.15		0.10	0.032	mg/L			10/23/16 16:23	1
Sulfate	390		150	42	mg/L			10/21/16 16:28	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.75				SU			10/12/16 09:27	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-7

Date Collected: 10/12/16 10:12

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 13:56	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 13:56	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 13:56	5
Boron	0.16		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 13:56	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 13:56	5
Barium	0.021		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 13:56	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 13:56	5
Calcium	70		0.25	0.13	mg/L		10/24/16 13:00	10/28/16 13:56	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 13:56	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 13:56	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 13:56	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 13:56	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 13:56	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 13:56	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 14:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	550		5.0	3.4	mg/L			10/18/16 19:03	1
Chloride	140		40	12	mg/L			10/21/16 16:22	20
Fluoride	0.090	I	0.10	0.032	mg/L			10/24/16 07:56	1
Sulfate	130		25	7.0	mg/L			10/21/16 16:28	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.72				SU			10/12/16 10:12	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-8

Date Collected: 10/12/16 10:51

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 14:00	5
Arsenic	0.0020		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 14:00	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 14:00	5
Boron	0.069		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 14:00	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 14:00	5
Barium	0.027		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 14:00	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 14:00	5
Calcium	82		0.25	0.13	mg/L		10/24/16 13:00	10/28/16 14:00	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 14:00	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 14:00	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 14:00	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 14:00	5
Molybdenum	0.012		0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 14:00	5
Lithium	0.0043		0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 14:00	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 14:02	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		5.0	3.4	mg/L			10/18/16 19:03	1
Chloride	4.5		2.0	0.60	mg/L			10/21/16 15:41	1
Fluoride	0.27		0.10	0.032	mg/L			10/24/16 08:14	1
Sulfate	62		10	2.8	mg/L			10/21/16 16:28	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.35				SU			10/12/16 10:51	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-9

Date Collected: 10/12/16 11:25

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 14:05	5
Arsenic	0.0061		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 14:05	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 14:05	5
Boron	0.25		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 14:05	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 14:05	5
Barium	0.11		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 14:05	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 14:05	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 14:05	5
Selenium	0.00056	I	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 14:05	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 14:05	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 14:05	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 14:05	5
Lithium	0.056		0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 14:05	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	940		2.5	1.3	mg/L		10/24/16 13:00	10/28/16 14:59	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 14:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5400		50	34	mg/L			10/18/16 19:03	1
Chloride	2200		240	72	mg/L			10/21/16 16:20	120
Fluoride	0.17		0.10	0.032	mg/L			10/24/16 08:18	1
Sulfate	1100		180	49	mg/L			10/21/16 16:48	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.91				SU			10/12/16 11:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-10

Date Collected: 10/12/16 12:04

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 14:09	5
Arsenic	0.0018		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 14:09	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 14:09	5
Boron	0.18		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 14:09	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 14:09	5
Barium	0.029		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 14:09	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 14:09	5
Calcium	100		0.25	0.13	mg/L		10/24/16 13:00	10/28/16 14:09	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 14:09	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 14:09	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 14:09	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 14:09	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 14:09	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 14:09	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:09	10/18/16 14:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		5.0	3.4	mg/L			10/18/16 19:03	1
Chloride	57		10	3.0	mg/L			10/21/16 16:20	5
Fluoride	0.090	I	0.10	0.032	mg/L			10/24/16 08:20	1
Sulfate	170		150	42	mg/L			10/21/16 16:08	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.65				SU			10/12/16 12:04	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: CCR-11

Date Collected: 10/12/16 12:44

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 14:14	5
Arsenic	0.061		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 14:14	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 14:14	5
Boron	0.49		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 14:14	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 14:14	5
Barium	0.068		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 14:14	5
Chromium	0.0021	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 14:14	5
Lead	0.00045	I	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 14:14	5
Selenium	0.0013		0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 14:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 14:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 14:14	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 14:14	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 14:14	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	530		2.5	1.3	mg/L		10/24/16 13:00	10/28/16 15:03	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:10	10/18/16 14:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3100		10	6.8	mg/L			10/18/16 19:03	1
Chloride	480		240	72	mg/L			10/21/16 16:20	120
Fluoride	0.40		0.10	0.032	mg/L			10/24/16 08:23	1
Sulfate	1600		250	70	mg/L			10/21/16 17:53	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.81				SU			10/12/16 12:44	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Client Sample ID: FD-01
Date Collected: 10/12/16 00:00
Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-13
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 14:18	5
Arsenic	0.00051	I	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 14:18	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 14:18	5
Boron	0.16		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 14:18	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 14:18	5
Barium	0.021		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 14:18	5
Chromium	0.0022	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 14:18	5
Calcium	72		0.25	0.13	mg/L		10/24/16 13:00	10/28/16 14:18	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 14:18	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 14:18	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 14:18	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 14:18	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 14:18	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 14:18	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/17/16 13:10	10/18/16 14:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	600		5.0	3.4	mg/L			10/18/16 19:03	1
Chloride	150		40	12	mg/L			10/25/16 10:11	20
Fluoride	0.090	I	0.10	0.032	mg/L			10/24/16 08:26	1
Sulfate	130		50	14	mg/L			10/25/16 10:04	10

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Glossary

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

Chain of Custody Record

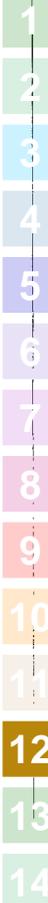
Client Information			Lab PM: Whitmire, Cheyenne R.		Carrier Tracking No(s): 530-Orlando		COC No: 400-57302-24789.1	
Mr. Sam Stafford			E-Mail: cheyenne.whitmire@testamericainc.com				Page: 1 of 2	
Company: Golder Associates Inc.							Job #:	
Address: 9428 Baymeadows Road Suite 400								
City: Jacksonville								
State, Zip: FL, 32256								
Phone: 904-363-3430 (Tel)								
Email: Sam_Stafford@golder.com								
Project Name: CCR Lakeland								
Site: SSOW#:								
Due Date Requested:								
TAT Requested (days):								
PO #:								
Purchase Order Requested								
WO #:								
Project #:								
40007144								
SSOW#:								

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Biological, T=tissue)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Field Sampling Parameters		Analysis Requested		Total Number of Containers	Special Instructions/Note:
					D	N	D	N	6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mn, Se, Ti, Zn	7470A-Hg	2640C-TDS, 4600 F-C-Fluoride, SM4500 Cl-E-Chloride, SM4600 SO4-E-Sulfate			
CCR-1	10-11-16	936	G	Water	X	X	X	X					X	
FB-01		845		Water	X	X	X	X						
CCR-2		1010		Water	X	X	X	X						
CCR-3		1054		Water	X	X	X	X						
CCR-4		1146		Water	X	X	X	X						
CCR-5		1247		Water	X	X	X	X						
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										

QR Code: 

400-128611 COC

Possible Hazard Identification			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological
Deliverable Requested: I, II, III, IV, Other (specify)			Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months		
Empty Kit Relinquished by: <i>Abbas</i>		Date: 10-11-16		Method of Shipment:	
Relinquished by: <i>Abbas</i>		Date/Time: 10-11-16 1450		Received by: <i>GA</i>	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.0°C, 0.0°C IRC	



TestAmerica Pensacola
 3355 McLeMores Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE PRACTICE OF ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Camer Tracking No(s): 530-Orlando	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WC #:		Analysis Requested	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=wastebot) Preservation Code (BT=TBUS, A=AU)		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 9316 Ra228, 9320 Ra228, Ra228Ra228, GFPc 2540C-TDS, 4500 F-C-Fluoride, SM4500 Cl-E-Chloride, SM4500 SO4-E-Sulfate 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A-Hg Field Sampling Parameters	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements: <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by: <i>Shawn Victory</i> Relinquished by: <i>Shawn Victory</i> Relinquished by: Relinquished by:		Method of Shipment: Date/Time: 10-12-16 1420 Date/Time: Date/Time:	
Custody Seals Intact: A Yes Δ No		Cooler Temperature(s) as noted: <i>5.8°C / 50°C JRG</i>	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-128611-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
11/28/2016 4:22:09 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Job ID: 400-128611-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-128611-2

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-274825: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-1 (400-128611-1), FB-01 (400-128611-2), CCR-2 (400-128611-3), CCR-3 (400-128611-4), CCR-4 (400-128611-5) and CCR-5 (400-128611-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium-228 Prep Batch 160-279435: The following samples were run at a reduced aliquot due to limited volume available: CCR-6 (400-128611-7), CCR-7 (400-128611-8), CCR-8 (400-128611-9), CCR-9 (400-128611-10), CCR-10 (400-128611-11), CCR-11 (400-128611-12) and FD-01 (400-128611-13)

Method(s) PrecSep_0: Radium-228 Prep Batch 160-279435: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with CCR-6 (400-128611-7), CCR-7 (400-128611-8), CCR-8 (400-128611-9), CCR-9 (400-128611-10), CCR-10 (400-128611-11), CCR-11 (400-128611-12) and FD-01 (400-128611-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-274749: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-1 (400-128611-1), FB-01 (400-128611-2), CCR-2 (400-128611-3), CCR-3 (400-128611-4), CCR-4 (400-128611-5) and CCR-5 (400-128611-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128611-1	CCR-1	Water	10/11/16 09:36	10/12/16 09:06
400-128611-2	FB-01	Water	10/11/16 08:45	10/12/16 09:06
400-128611-3	CCR-2	Water	10/11/16 10:10	10/12/16 09:06
400-128611-4	CCR-3	Water	10/11/16 10:54	10/12/16 09:06
400-128611-5	CCR-4	Water	10/11/16 11:46	10/12/16 09:06
400-128611-6	CCR-5	Water	10/11/16 12:47	10/12/16 09:06
400-128611-7	CCR-6	Water	10/12/16 09:27	10/14/16 14:20
400-128611-8	CCR-7	Water	10/12/16 10:12	10/14/16 14:20
400-128611-9	CCR-8	Water	10/12/16 10:51	10/14/16 14:20
400-128611-10	CCR-9	Water	10/12/16 11:25	10/14/16 14:20
400-128611-11	CCR-10	Water	10/12/16 12:04	10/14/16 14:20
400-128611-12	CCR-11	Water	10/12/16 12:44	10/14/16 14:20
400-128611-13	FD-01	Water	10/12/16 00:00	10/14/16 14:20

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-1

Lab Sample ID: 400-128611-1

Date Collected: 10/11/16 09:36

Matrix: Water

Date Received: 10/12/16 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.43		0.409	0.513	1.00	0.262	pCi/L	10/17/16 12:58	11/10/16 10:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					10/17/16 12:58	11/10/16 10:51	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.637		0.315	0.321	1.00	0.465	pCi/L	10/17/16 18:10	11/09/16 19:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					10/17/16 18:10	11/09/16 19:36	1
Y Carrier	77.8		40 - 110					10/17/16 18:10	11/09/16 19:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.07		0.516	0.605	5.00	0.465	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: FB-01
Date Collected: 10/11/16 08:45
Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0117	U	0.133	0.133	1.00	0.250	pCi/L	10/17/16 12:58	11/10/16 10:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					10/17/16 12:58	11/10/16 10:51	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.332	U	0.346	0.347	1.00	0.565	pCi/L	10/17/16 18:10	11/09/16 19:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					10/17/16 18:10	11/09/16 19:37	1
Y Carrier	80.4		40 - 110					10/17/16 18:10	11/09/16 19:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.344	U	0.370	0.372	5.00	0.565	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-2
Date Collected: 10/11/16 10:10
Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.40		0.498	0.696	1.00	0.231	pCi/L	10/17/16 12:58	11/10/16 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					10/17/16 12:58	11/10/16 10:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.15		0.375	0.390	1.00	0.504	pCi/L	10/17/16 18:10	11/09/16 19:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					10/17/16 18:10	11/09/16 19:37	1
Y Carrier	77.8		40 - 110					10/17/16 18:10	11/09/16 19:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.55		0.624	0.798	5.00	0.504	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-3

Lab Sample ID: 400-128611-4

Date Collected: 10/11/16 10:54

Matrix: Water

Date Received: 10/12/16 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.59		0.517	0.721	1.00	0.208	pCi/L	10/17/16 12:58	11/10/16 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					10/17/16 12:58	11/10/16 10:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.515		0.315	0.319	1.00	0.483	pCi/L	10/17/16 18:10	11/09/16 19:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					10/17/16 18:10	11/09/16 19:37	1
Y Carrier	83.7		40 - 110					10/17/16 18:10	11/09/16 19:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.11		0.605	0.789	5.00	0.483	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-4

Date Collected: 10/11/16 11:46

Date Received: 10/12/16 09:06

Lab Sample ID: 400-128611-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	36.8		1.40	3.59	1.00	0.267	pCi/L	10/17/16 12:58	11/10/16 10:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.5		40 - 110					10/17/16 12:58	11/10/16 10:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	11.0		0.871	1.34	1.00	0.549	pCi/L	10/17/16 18:10	11/09/16 19:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.5		40 - 110					10/17/16 18:10	11/09/16 19:37	1
Y Carrier	84.9		40 - 110					10/17/16 18:10	11/09/16 19:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	47.8		1.65	3.83	5.00	0.549	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-5

Lab Sample ID: 400-128611-6

Date Collected: 10/11/16 12:47

Matrix: Water

Date Received: 10/12/16 09:06

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.9		0.770	1.39	1.00	0.268	pCi/L	10/17/16 12:58	11/10/16 10:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					10/17/16 12:58	11/10/16 10:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.78		0.591	0.795	1.00	0.452	pCi/L	10/17/16 18:10	11/09/16 19:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					10/17/16 18:10	11/09/16 19:46	1
Y Carrier	82.2		40 - 110					10/17/16 18:10	11/09/16 19:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	18.6		0.971	1.60	5.00	0.452	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-6

Lab Sample ID: 400-128611-7

Date Collected: 10/12/16 09:27

Matrix: Water

Date Received: 10/14/16 14:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.97		0.445	0.571	1.00	0.241	pCi/L	10/20/16 14:44	11/15/16 07:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					10/20/16 14:44	11/15/16 07:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.923		0.433	0.441	1.00	0.624	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.4		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	82.2		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.90		0.621	0.721	5.00	0.624	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-7

Lab Sample ID: 400-128611-8

Date Collected: 10/12/16 10:12

Matrix: Water

Date Received: 10/14/16 14:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.36		0.502	0.696	1.00	0.270	pCi/L	10/20/16 14:44	11/15/16 10:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.8		40 - 110					10/20/16 14:44	11/15/16 10:45	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.47		0.473	0.492	1.00	0.643	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	86.4		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.83		0.690	0.852	5.00	0.643	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-8

Lab Sample ID: 400-128611-9

Date Collected: 10/12/16 10:51

Matrix: Water

Date Received: 10/14/16 14:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.84		0.448	0.566	1.00	0.270	pCi/L	10/20/16 14:44	11/15/16 10:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.1		40 - 110					10/20/16 14:44	11/15/16 10:45	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.479	U	0.330	0.333	1.00	0.510	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	84.5		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.32		0.557	0.656	5.00	0.510	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-9

Lab Sample ID: 400-128611-10

Date Collected: 10/12/16 11:25

Matrix: Water

Date Received: 10/14/16 14:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	16.8		0.849	1.74	1.00	0.226	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.28		0.596	0.668	1.00	0.631	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	78.9		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	20.1		1.04	1.86	5.00	0.631	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-10

Date Collected: 10/12/16 12:04

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-11

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.50		0.301	0.330	1.00	0.265	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.5		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.432	U	0.366	0.368	1.00	0.583	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.5		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	83.7		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.93		0.474	0.495	5.00	0.583	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: CCR-11

Date Collected: 10/12/16 12:44

Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-12

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.66		0.530	0.800	1.00	0.237	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.74		0.625	0.762	1.00	0.543	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	85.6		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	11.4		0.820	1.11	5.00	0.543	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Client Sample ID: FD-01
Date Collected: 10/12/16 00:00
Date Received: 10/14/16 14:20

Lab Sample ID: 400-128611-13
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.11		0.469	0.657	1.00	0.204	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.959		0.444	0.452	1.00	0.646	pCi/L	11/15/16 16:48	11/19/16 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.2		40 - 110					11/15/16 16:48	11/19/16 13:21	1
Y Carrier	86.0		40 - 110					11/15/16 16:48	11/19/16 13:21	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.07		0.645	0.798	5.00	0.646	pCi/L		11/21/16 07:53	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128611-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site: 		Samples: Shawn Vidory Lab PM: Whitmire, Cheyenne R. Phone: 407-399-3348 E-Mail: cheyenne.whitmire@testamerica.com 		Carrier Tracking No(s): 530-Orlando COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #: 				
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 40007144 SSOW #: 		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> X Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X 9316 Ra226, 9320 Ra228, Ra226Ra228, GPPC 2640C-TDS, 4600 F-C-Fluoride, SM4500 Cl-E-Chloride, SM4500 SO4-E-Sulfate 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A-Hg Field Sampling Parameters 						
Sample Identification CCR-1 FB-01 CCR-2 CCR-3 CCR-4 CCR-5		Sample Date 10-11-16 ↓ ↓ ↓ ↓ 	Sample Time 936 845 1010 1054 1146 1247 	Sample Type (C=Comp, G=grab) G ↓ ↓ ↓ 	Matrix (W=water, S=solid, O=water/Oil, BT=bi-tissue, A=air) Water Water Water Water Water Water Water Water Water 	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> X Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X 9316 Ra226, 9320 Ra228, Ra226Ra228, GPPC 2640C-TDS, 4600 F-C-Fluoride, SM4500 Cl-E-Chloride, SM4500 SO4-E-Sulfate 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A-Hg Field Sampling Parameters 	Total Number of containers X 	Special Instructions/Note:  400-128611 COC
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:						
Empty Kit Relinquished by: <i>[Signature]</i>		Method of Shipment:						
Relinquished by: <i>[Signature]</i>		Date/Time: 10-11-16 1450 Company: TAPAL		Date/Time: 10/12/16 906 Company: TA		Date/Time: _____ Company: _____		
Relinquished by: _____		Date/Time: _____ Company: _____		Date/Time: _____ Company: _____		Date/Time: _____ Company: _____		
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: 0.0°C, 0.0°C IRC						



TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE PRACTICE OF ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R. E-Mail: cheyenne.whitmire@testamericainc.com Camper Tracking No(s): 530-Orlando	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WC #:		Analysis Requested	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=Water, S=solid, O=wastebot) Preservation Code (BT=Tissue, A=Al)		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 9316 Ra228, 9320 Ra228, Ra228Ra228, GFPc 2540C-TDS, 4500 F-C-Fluoride, SM4500 Cl-E-Chloride, SM4500 SO4-E-Sulfate 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A-Hg Field Sampling Parameters	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements: <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by: <i>Shawn Victory</i> Relinquished by: <i>Shawn Victory</i> Relinquished by: Relinquished by:		Method of Shipment: Date/Time: 10-12-16 1420 Date/Time: Date/Time: Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) as noted: <i>5.8°C / 50°C JRG</i>	



TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-128763-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
10/31/2016 4:46:12 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Job ID: 400-128763-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-128763-1

Metals

Method(s) 6020: Internal standards in (CCB 400-328746/29) were biased high. The associated compounds were non-detect, therefore data is reported.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-12 (400-128763-1), CCR-13 (400-128763-3) and CCR-14 (400-128763-4). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 327984 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128763-1	CCR-12	Water	10/14/16 09:26	10/15/16 09:13
400-128763-3	CCR-13	Water	10/14/16 10:10	10/15/16 09:13
400-128763-4	CCR-14	Water	10/14/16 10:48	10/15/16 09:13

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Client Sample ID: CCR-12

Lab Sample ID: 400-128763-1

Date Collected: 10/14/16 09:26

Matrix: Water

Date Received: 10/15/16 09:13

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 16:37	5
Arsenic	0.00089	I	0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 16:37	5
Barium	0.048		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 16:37	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 16:37	5
Boron	0.38		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 16:37	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 16:37	5
Chromium	0.0024	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 16:37	5
Cobalt	0.0015	I	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 16:37	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 16:37	5
Lithium	0.26		0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 16:37	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 16:37	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 16:37	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 16:37	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	770		5.0	2.5	mg/L		10/24/16 13:00	10/31/16 13:39	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/18/16 09:48	10/19/16 13:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.6	3.8	mg/L			10/20/16 16:15	1
Chloride	25		2.0	0.60	mg/L			10/25/16 09:28	1
Fluoride	0.50		0.10	0.032	mg/L			10/24/16 08:28	1
Sulfate	990		150	42	mg/L			10/25/16 10:17	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.48				SU			10/14/16 09:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Client Sample ID: CCR-13

Lab Sample ID: 400-128763-3

Date Collected: 10/14/16 10:10

Matrix: Water

Date Received: 10/15/16 09:13

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 16:46	5
Arsenic	0.043		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 16:46	5
Barium	0.014		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 16:46	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 16:46	5
Boron	0.61		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 16:46	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 16:46	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 16:46	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 16:46	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 16:46	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 16:46	5
Molybdenum	0.0064	I	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 16:46	5
Selenium	0.00055	I	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 16:46	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 16:46	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	730		5.0	2.5	mg/L		10/24/16 13:00	10/31/16 13:43	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/18/16 09:48	10/19/16 13:48	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900		10	6.8	mg/L			10/20/16 16:15	1
Chloride	430		40	12	mg/L			10/25/16 10:11	20
Fluoride	0.43		0.10	0.032	mg/L			10/24/16 08:39	1
Sulfate	1400		250	70	mg/L			10/25/16 10:59	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.34				SU			10/14/16 10:10	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Client Sample ID: CCR-14

Date Collected: 10/14/16 10:48

Date Received: 10/15/16 09:13

Lab Sample ID: 400-128763-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/24/16 13:00	10/28/16 16:50	5
Arsenic	0.0027		0.0013	0.00046	mg/L		10/24/16 13:00	10/28/16 16:50	5
Barium	0.023		0.0025	0.00049	mg/L		10/24/16 13:00	10/28/16 16:50	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		10/24/16 13:00	10/28/16 16:50	5
Boron	1.5		0.050	0.021	mg/L		10/24/16 13:00	10/28/16 16:50	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		10/24/16 13:00	10/28/16 16:50	5
Chromium	0.0020	I	0.0025	0.0011	mg/L		10/24/16 13:00	10/28/16 16:50	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/24/16 13:00	10/28/16 16:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/24/16 13:00	10/28/16 16:50	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		10/24/16 13:00	10/28/16 16:50	5
Molybdenum	0.0021	I	0.010	0.00085	mg/L		10/24/16 13:00	10/28/16 16:50	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		10/24/16 13:00	10/28/16 16:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/24/16 13:00	10/28/16 16:50	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	680		5.0	2.5	mg/L		10/24/16 13:00	10/31/16 13:48	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/18/16 09:48	10/19/16 13:49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			10/20/16 16:15	1
Chloride	120		10	3.0	mg/L			10/25/16 10:11	5
Fluoride	0.40		0.10	0.032	mg/L			10/24/16 08:45	1
Sulfate	1300		250	70	mg/L			10/25/16 10:59	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.14				SU			10/14/16 10:48	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-1

Qualifiers

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
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
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
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.

Glossary

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

3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 530-Orlando		Sample: Shawn Victory Phone: 407-399-3348		COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #:		Analysis Requested 9315_Ra226, 9320_Ra228, Ra226Ra228_GPPC 2640C-TDS, 4600_F_C-Fluoride, SM4500_Cl_F-Chloride, 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A-Hg Field Sampling Parameters 400-128763 COC 		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4.5 X - EDTA Y - EDA Z - other (specify) Other:		Special Instructions/Note: Total Number of containers:	
Sample Identification UCR-12 FB-02 CCR-13 CCR-14		Sample Date 10-14-16 ↓ 905 ↓ 1010 ↓ 1018		Sample Type (C=comp, G=grab) G ↓ ↓ ↓		Matrix (W=water, S=solid, O=oil) Water Water Water Water Water Water Water Water Water Water	
Field Filtered Sample (Yes or No) X X X X		Perform MS/MSD (Yes or No) X X X X		Field Filtered Sample (Yes or No) X X X X		Special Instructions/Note: Total Number of containers:	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:							
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Date: 10-14-16 1400 Company: TADAC		Date/Time: 10/15/16 0913 Company:	
Relinquished by:		Relinquished by:		Relinquished by:		Relinquished by:	
Custody Seal Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.1°C		Date/Time:	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-128763-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
11/28/2016 4:25:32 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Job ID: 400-128763-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-128763-2

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-279435: The following samples were run at a reduced aliquot due to limited volume available: CCR-12 (400-128763-1), CCR-13 (400-128763-3) and CCR-14 (400-128763-4)

Method(s) PrecSep_0: Radium-228 Prep Batch 160-279435: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with CCR-12 (400-128763-1), CCR-13 (400-128763-3) and CCR-14 (400-128763-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128763-1	CCR-12	Water	10/14/16 09:26	10/15/16 09:13
400-128763-3	CCR-13	Water	10/14/16 10:10	10/15/16 09:13
400-128763-4	CCR-14	Water	10/14/16 10:48	10/15/16 09:13

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Client Sample ID: CCR-12

Lab Sample ID: 400-128763-1

Date Collected: 10/14/16 09:26

Matrix: Water

Date Received: 10/15/16 09:13

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.25		0.323	0.381	1.00	0.193	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.588	U	0.428	0.432	1.00	0.677	pCi/L	11/15/16 16:48	11/19/16 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/15/16 16:48	11/19/16 13:20	1
Y Carrier	85.6		40 - 110					11/15/16 16:48	11/19/16 13:20	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.84		0.536	0.576	5.00	0.677	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Client Sample ID: CCR-13

Lab Sample ID: 400-128763-3

Date Collected: 10/14/16 10:10

Matrix: Water

Date Received: 10/15/16 09:13

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	62.0		1.56	5.79	1.00	0.192	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.25		0.778	1.09	1.00	0.577	pCi/L	11/15/16 16:48	11/19/16 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					11/15/16 16:48	11/19/16 13:20	1
Y Carrier	86.4		40 - 110					11/15/16 16:48	11/19/16 13:20	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	70.2		1.74	5.89	5.00	0.577	pCi/L		11/21/16 07:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Client Sample ID: CCR-14
Date Collected: 10/14/16 10:48
Date Received: 10/15/16 09:13

Lab Sample ID: 400-128763-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	28.3		1.13	2.78	1.00	0.240	pCi/L	10/20/16 14:44	11/15/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					10/20/16 14:44	11/15/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.171	U	0.362	0.362	1.00	0.618	pCi/L	11/15/16 16:48	11/19/16 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		40 - 110					11/15/16 16:48	11/19/16 13:20	1
Y Carrier	84.5		40 - 110					11/15/16 16:48	11/19/16 13:20	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	28.4		1.19	2.81	5.00	0.618	pCi/L		11/21/16 07:53	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-128763-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 530-Orlando		Sample: Shawn Victory Phone: 407-399-3348		COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #:		Analysis Requested 9315_Ra226, 9320_Ra228, Ra226Ra228_GPPC 2846C-TDS, 4600_F_C-Fluoride, SM4500_Cl_F-Chloride, 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A-Hg		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 Other:		Special Instructions/Note: Total Number of containers:	
Sample Identification UCR-12 FB-02 CCR-13 CCR-14		Sample Date 10-14-16 ↓ 905 ↓ 1010 ↓ 1018		Sample Type (C=comp, G=grab) G ↓ ↓ ↓		Matrix (W=water, S=solid, O=oil) Water Water Water Water Water Water Water Water Water Water	
Field Filtered Sample (Yes or No) X X X X		Perform MS/MSD (Yes or No) X X X X		Field Sampling Parameters 9315_Ra226, 9320_Ra228, Ra226Ra228_GPPC 2846C-TDS, 4600_F_C-Fluoride, SM4500_Cl_F-Chloride, 6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A-Hg		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4.5 Z - other (specify)	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date: 10-14-16 1400		Method of Shipment:		Date/Time: 10/15/16 0913	
Relinquished by:		Company: TADAC		Received by:		Company:	
Relinquished by:		Company:		Received by:		Company:	
Relinquished by:		Company:		Received by:		Company:	
Custody Seal Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.1°C		Date/Time:	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-129637-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
12/7/2016 9:29:53 AM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Job ID: 400-129637-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-129637-1

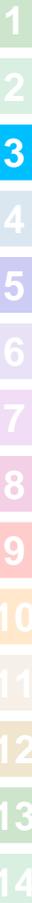
Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-129637-4), CCR-4 (400-129637-5), CCR-5 (400-129637-6) and CCR-6 (400-129637-7). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 Cl- E: The method reporting limit standard (MRL) result for batch 331353 was above the upper control limit. The initial and continuing calibration verification (ICV, CCV), the lab control sample (LCS) and the matrix spike and duplicate (MS/MSD) passed criteria therefore the data have been reported as qualified data.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 331849 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-129637-1	FB-01	Water	11/02/16 09:10	11/03/16 09:03
400-129637-2	CCR-1	Water	11/02/16 09:53	11/03/16 09:03
400-129637-3	CCR-2	Water	11/02/16 10:25	11/03/16 09:03
400-129637-4	CCR-3	Water	11/02/16 11:05	11/03/16 09:03
400-129637-5	CCR-4	Water	11/02/16 11:38	11/03/16 09:03
400-129637-6	CCR-5	Water	11/02/16 12:52	11/03/16 09:03
400-129637-7	CCR-6	Water	11/02/16 13:28	11/03/16 09:03
400-129637-8	CCR-7	Water	11/02/16 14:06	11/03/16 09:03

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: FB-01
Date Collected: 11/02/16 09:10
Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-1
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 20:44	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 20:44	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 20:44	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 20:44	5
Boron	0.021	U	0.050	0.021	mg/L		11/07/16 13:15	11/11/16 20:44	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 20:44	5
Calcium	0.13	U	0.25	0.13	mg/L		11/07/16 13:15	11/11/16 20:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 20:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 20:44	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 20:44	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 20:44	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 20:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 20:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 20:44	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:02	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	62		5.0	3.4	mg/L			11/09/16 17:36	1
Chloride	0.60	U	2.0	0.60	mg/L			11/15/16 15:44	1
Fluoride	0.032	U	0.10	0.032	mg/L			11/17/16 12:31	1
Sulfate	1.4	U	5.0	1.4	mg/L			11/15/16 14:01	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-1

Date Collected: 11/02/16 09:53

Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 20:49	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 20:49	5
Barium	0.021		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 20:49	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 20:49	5
Boron	0.035	I	0.050	0.021	mg/L		11/07/16 13:15	11/11/16 20:49	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 20:49	5
Calcium	26		0.25	0.13	mg/L		11/07/16 13:15	11/11/16 20:49	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 20:49	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 20:49	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 20:49	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 20:49	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 20:49	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 20:49	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 20:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:04	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	180		5.0	3.4	mg/L			11/09/16 18:44	1
Chloride	5.6		2.0	0.60	mg/L			11/15/16 15:44	1
Fluoride	0.032	U	0.10	0.032	mg/L			11/17/16 12:34	1
Sulfate	29		5.0	1.4	mg/L			11/15/16 14:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.99				SU			11/02/16 09:53	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-2

Date Collected: 11/02/16 10:25

Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 21:16	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 21:16	5
Barium	0.062		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 21:16	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 21:16	5
Boron	0.027	I	0.050	0.021	mg/L		11/07/16 13:15	11/11/16 21:16	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 21:16	5
Calcium	46		0.25	0.13	mg/L		11/07/16 13:15	11/11/16 21:16	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 21:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 21:16	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 21:16	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 21:16	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 21:16	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 21:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 21:16	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:09	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		5.0	3.4	mg/L			11/09/16 18:44	1
Chloride	9.1		2.0	0.60	mg/L			11/17/16 12:20	1
Fluoride	0.060	I	0.10	0.032	mg/L			11/17/16 12:37	1
Sulfate	120		50	14	mg/L			11/20/16 08:34	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.51				SU			11/02/16 10:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-3

Lab Sample ID: 400-129637-4

Date Collected: 11/02/16 11:05

Matrix: Water

Date Received: 11/03/16 09:03

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 21:20	5
Arsenic	0.00061	I	0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 21:20	5
Barium	0.052		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 21:20	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 21:20	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 21:20	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 21:20	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 21:20	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 21:20	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 21:20	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 21:20	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 21:20	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 21:20	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.50	0.21	mg/L		11/07/16 13:15	11/11/16 21:25	50
Calcium	510		2.5	1.3	mg/L		11/07/16 13:15	11/11/16 21:25	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300		5.0	3.4	mg/L			11/09/16 18:44	1
Chloride	88		10	3.0	mg/L			11/17/16 14:06	5
Fluoride	0.12		0.10	0.032	mg/L			11/17/16 12:39	1
Sulfate	1700		250	70	mg/L			11/20/16 08:34	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.11				SU			11/02/16 11:05	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-4

Lab Sample ID: 400-129637-5

Date Collected: 11/02/16 11:38

Matrix: Water

Date Received: 11/03/16 09:03

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/09/16 10:50	11/11/16 16:50	5
Arsenic	0.0016		0.0013	0.00046	mg/L		11/09/16 10:50	11/11/16 16:50	5
Barium	0.23		0.0025	0.00049	mg/L		11/09/16 10:50	11/11/16 16:50	5
Beryllium	0.00045	I	0.0020	0.00034	mg/L		11/09/16 10:50	11/11/16 16:50	5
Boron	0.81		0.050	0.021	mg/L		11/09/16 10:50	11/11/16 16:50	5
Cadmium	0.0020		0.0010	0.00034	mg/L		11/09/16 10:50	11/11/16 16:50	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		11/09/16 10:50	11/11/16 16:50	5
Cobalt	0.0038		0.0025	0.00040	mg/L		11/09/16 10:50	11/11/16 16:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/09/16 10:50	11/11/16 16:50	5
Lithium	0.0085		0.0025	0.0032	mg/L		11/09/16 10:50	11/11/16 16:50	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/09/16 10:50	11/11/16 16:50	5
Selenium	0.00081	I	0.0013	0.00024	mg/L		11/09/16 10:50	11/11/16 16:50	5
Thallium	0.00047	I	0.00050	0.000085	mg/L		11/09/16 10:50	11/11/16 16:50	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	830		5.0	2.5	mg/L		11/09/16 10:50	11/11/16 16:55	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:20	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6500		25	17	mg/L			11/09/16 18:44	1
Chloride	2200		100	30	mg/L			11/17/16 14:25	50
Fluoride	0.032	U	0.10	0.032	mg/L			11/17/16 12:42	1
Sulfate	800		250	70	mg/L			11/20/16 08:34	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.80				SU			11/02/16 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-5

Date Collected: 11/02/16 12:52

Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/09/16 10:50	11/11/16 16:59	5
Arsenic	0.0014		0.0013	0.00046	mg/L		11/09/16 10:50	11/11/16 16:59	5
Barium	0.071		0.0025	0.00049	mg/L		11/09/16 10:50	11/11/16 16:59	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/09/16 10:50	11/11/16 16:59	5
Boron	0.48		0.050	0.021	mg/L		11/09/16 10:50	11/11/16 16:59	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/09/16 10:50	11/11/16 16:59	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		11/09/16 10:50	11/11/16 16:59	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/09/16 10:50	11/11/16 16:59	5
Lead	0.00053	I	0.0013	0.00035	mg/L		11/09/16 10:50	11/11/16 16:59	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/09/16 10:50	11/11/16 16:59	5
Selenium	0.00086	I	0.0013	0.00024	mg/L		11/09/16 10:50	11/11/16 16:59	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/09/16 10:50	11/11/16 16:59	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		5.0	2.5	mg/L		11/09/16 10:50	11/11/16 17:04	100
Lithium	2.4		0.050	0.064	mg/L		11/09/16 10:50	11/11/16 17:04	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:21	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	9400		50	34	mg/L			11/09/16 18:44	1
Chloride	3700		200	60	mg/L			11/16/16 11:48	100
Fluoride	0.040	I	0.10	0.032	mg/L			11/21/16 16:45	1
Sulfate	320		130	35	mg/L			11/20/16 08:34	25

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.02				SU			11/02/16 12:52	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-6

Date Collected: 11/02/16 13:28

Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/09/16 10:50	11/11/16 17:08	5
Arsenic	0.00092	I	0.0013	0.00046	mg/L		11/09/16 10:50	11/11/16 17:08	5
Barium	0.022		0.0025	0.00049	mg/L		11/09/16 10:50	11/11/16 17:08	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/09/16 10:50	11/11/16 17:08	5
Boron	0.58		0.050	0.021	mg/L		11/09/16 10:50	11/11/16 17:08	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/09/16 10:50	11/11/16 17:08	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		11/09/16 10:50	11/11/16 17:08	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/09/16 10:50	11/11/16 17:08	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/09/16 10:50	11/11/16 17:08	5
Lithium	0.069		0.0025	0.0032	mg/L		11/09/16 10:50	11/11/16 17:08	5
Molybdenum	0.0020	I	0.010	0.00085	mg/L		11/09/16 10:50	11/11/16 17:08	5
Selenium	0.00036	I	0.0013	0.00024	mg/L		11/09/16 10:50	11/11/16 17:08	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/09/16 10:50	11/11/16 17:08	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	330		1.3	0.63	mg/L		11/09/16 10:50	11/11/16 17:13	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:22	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300		5.6	3.8	mg/L			11/09/16 18:44	1
Chloride	620		60	18	mg/L			11/16/16 11:48	30
Fluoride	0.13		0.10	0.032	mg/L			11/21/16 16:47	1
Sulfate	490		150	42	mg/L			11/20/16 08:56	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.68				SU			11/02/16 13:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Client Sample ID: CCR-7

Date Collected: 11/02/16 14:06

Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/09/16 10:50	11/11/16 17:17	5
Arsenic	0.00067	I	0.0013	0.00046	mg/L		11/09/16 10:50	11/11/16 17:17	5
Barium	0.035		0.0025	0.00049	mg/L		11/09/16 10:50	11/11/16 17:17	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/09/16 10:50	11/11/16 17:17	5
Boron	0.18		0.050	0.021	mg/L		11/09/16 10:50	11/11/16 17:17	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/09/16 10:50	11/11/16 17:17	5
Calcium	92		0.25	0.13	mg/L		11/09/16 10:50	11/11/16 17:17	5
Chromium	0.0028		0.0025	0.0011	mg/L		11/09/16 10:50	11/11/16 17:17	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/09/16 10:50	11/11/16 17:17	5
Lead	0.0011	I	0.0013	0.00035	mg/L		11/09/16 10:50	11/11/16 17:17	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/09/16 10:50	11/11/16 17:17	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/09/16 10:50	11/11/16 17:17	5
Selenium	0.00031	I	0.0013	0.00024	mg/L		11/09/16 10:50	11/11/16 17:17	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/09/16 10:50	11/11/16 17:17	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/08/16 09:26	11/10/16 13:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		5.0	3.4	mg/L			11/09/16 18:44	1
Chloride	240		40	12	mg/L			11/16/16 11:48	20
Fluoride	0.080	I	0.10	0.032	mg/L			11/21/16 16:50	1
Sulfate	140		100	28	mg/L			11/20/16 08:56	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.66				SU			11/02/16 14:06	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-1

Qualifiers

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

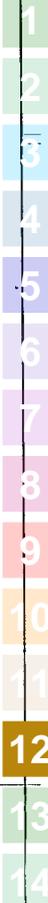
Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

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

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 530-Orlando COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 40007144 SSOV#:		Analysis Requested Field Sampling Parameters 9316_Ra226, 9320_Ra228, Ra226Ra228_GFP 2640C-TDS, 4600_F-C-Fluoride, SM4600_Cl-E-Chloride, SM4600_SO4-E-Sulfate 6020-Sb,As,Ba,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mo,Se,Tl,7470A-Hg Total Number of Containers:	
Sample Identification Sample ID: FR-01 CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Matrix (W=Water, S=Solid, O=Other) <input checked="" type="checkbox"/> W <input type="checkbox"/> S <input type="checkbox"/> O Sample Type (C=Comp, G=Grab) <input checked="" type="checkbox"/> C <input type="checkbox"/> G Sample Time: 910, 953, 1025, 1105, 1138, 1252, 1328, 1406 Sample Date: 11-2-16 Preservation Code:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note: Field Time - 8 hours  400-129637 COC	
Empty Kit Relinquished by: Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Custody Seals Intact: Δ Yes Δ No		Method of Shipment: Date/Time: 11/3/16 903 Date/Time: 4.3°C, 2.4°C Date/Time:	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-129637-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
12/7/2016 10:24:34 AM

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Job ID: 400-129637-2

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-129637-2**

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-278470: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: FB-01 (400-129637-1), CCR-1 (400-129637-2), CCR-2 (400-129637-3), CCR-3 (400-129637-4), CCR-4 (400-129637-5), CCR-5 (400-129637-6), CCR-6 (400-129637-7) and CCR-7 (400-129637-8). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-278466: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: FB-01 (400-129637-1), CCR-1 (400-129637-2), CCR-2 (400-129637-3), CCR-3 (400-129637-4), CCR-4 (400-129637-5), CCR-5 (400-129637-6), CCR-6 (400-129637-7) and CCR-7 (400-129637-8). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-129637-1	FB-01	Water	11/02/16 09:10	11/03/16 09:03
400-129637-2	CCR-1	Water	11/02/16 09:53	11/03/16 09:03
400-129637-3	CCR-2	Water	11/02/16 10:25	11/03/16 09:03
400-129637-4	CCR-3	Water	11/02/16 11:05	11/03/16 09:03
400-129637-5	CCR-4	Water	11/02/16 11:38	11/03/16 09:03
400-129637-6	CCR-5	Water	11/02/16 12:52	11/03/16 09:03
400-129637-7	CCR-6	Water	11/02/16 13:28	11/03/16 09:03
400-129637-8	CCR-7	Water	11/02/16 14:06	11/03/16 09:03



Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: FB-01
Date Collected: 11/02/16 09:10
Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0311	U	0.111	0.111	1.00	0.213	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.346	U	0.273	0.275	1.00	0.434	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	86.7		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.377	U	0.295	0.297	5.00	0.434	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-1

Lab Sample ID: 400-129637-2

Date Collected: 11/02/16 09:53

Matrix: Water

Date Received: 11/03/16 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.90		0.489	0.602	1.00	0.224	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.811		0.310	0.319	1.00	0.434	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	80.4		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.71		0.579	0.681	5.00	0.434	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-2

Lab Sample ID: 400-129637-3

Date Collected: 11/02/16 10:25

Matrix: Water

Date Received: 11/03/16 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.93		0.547	0.704	1.00	0.216	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.59		0.379	0.406	1.00	0.467	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	80.7		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.52		0.665	0.813	5.00	0.467	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-3

Lab Sample ID: 400-129637-4

Date Collected: 11/02/16 11:05

Matrix: Water

Date Received: 11/03/16 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.65		0.596	0.784	1.00	0.213	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.1		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.05		0.366	0.378	1.00	0.502	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.1		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	80.7		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.70		0.699	0.870	5.00	0.502	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-4
Date Collected: 11/02/16 11:38
Date Received: 11/03/16 09:03

Lab Sample ID: 400-129637-5
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	36.8		1.47	3.62	1.00	0.230	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	11.5		0.760	1.30	1.00	0.407	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	84.9		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	48.2		1.65	3.85	5.00	0.407	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-5

Lab Sample ID: 400-129637-6

Date Collected: 11/02/16 12:52

Matrix: Water

Date Received: 11/03/16 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.2		0.842	1.31	1.00	0.198	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.86		0.607	0.812	1.00	0.464	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	83.0		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	17.0		1.04	1.54	5.00	0.464	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-6

Lab Sample ID: 400-129637-7

Date Collected: 11/02/16 13:28

Matrix: Water

Date Received: 11/03/16 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.22		0.532	0.605	1.00	0.320	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	58.1		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.486	U	0.370	0.372	1.00	0.579	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	58.1		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	82.2		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.70		0.648	0.711	5.00	0.579	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Client Sample ID: CCR-7

Lab Sample ID: 400-129637-8

Date Collected: 11/02/16 14:06

Matrix: Water

Date Received: 11/03/16 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.75		0.520	0.674	1.00	0.212	pCi/L	11/09/16 14:28	12/04/16 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					11/09/16 14:28	12/04/16 16:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.15		0.352	0.367	1.00	0.465	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	82.6		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.90		0.628	0.767	5.00	0.465	pCi/L		12/06/16 10:20	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129637-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 530-Orlando COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 40007144 SSOV#:		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> D Field Sampling Parameters 9316_Ra226, 9320_Ra228, Ra226Ra228_GFP 2640C-TDS, 4600_F-C-Fluoride, SM4600_Cl-E-Chloride, SM4500_SO4_E-Sulfate 6020-Sb,As,Ba,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mn,Se,Tl,7470A-Hg	
Sample Identification Sample ID: FR-01 CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7		Matrix (W=Water, S=Solid, O=Other) Sample Type (C=Comp, G=Grab) Sample Time Sample Date Preservation Code	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note: Field Time - 8 hours  400-129637 COC	
Empty Kit Relinquished by: <i>Shawn Watson</i> Relinquished by: <i>Shawn Watson</i> Relinquished by:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Date/Time: 10-2-16 1515 Date/Time:		Method of Shipment:	
Date/Time:		Date/Time:	
Date/Time:		Date/Time: 11/3/16 903 Company: TH	
Custody Seal No.: Δ Yes Δ No		Cooler Temperature: 4.3°C, 2.4°C Other Remarks: IR5	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-129641-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
12/7/2016 9:32:01 AM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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

- 1
- 2
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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Job ID: 400-129641-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-129641-1

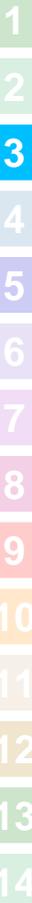
Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-9 (400-129641-3), CCR-11 (400-129641-5), CCR-12 (400-129641-6), CCR-13 (400-129641-7) and CCR-14 (400-129641-8). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 332036 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The method reporting limit standard (MRL) result for batch 331353 was above the upper control limit. The initial and continuing calibration verification (ICV, CCV), the lab control sample (LCS) and the matrix spike and duplicate (MS/MSD) passed criteria therefore the data have been reported as qualified data.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-129641-1	FB-02	Water	11/03/16 08:53	11/04/16 08:53
400-129641-2	CCR-8	Water	11/03/16 09:28	11/04/16 08:53
400-129641-3	CCR-9	Water	11/03/16 10:00	11/04/16 08:53
400-129641-4	CCR-10	Water	11/03/16 10:33	11/04/16 08:53
400-129641-5	CCR-11	Water	11/03/16 11:10	11/04/16 08:53
400-129641-6	CCR-12	Water	11/03/16 11:52	11/04/16 08:53
400-129641-7	CCR-13	Water	11/03/16 12:30	11/04/16 08:53
400-129641-8	CCR-14	Water	11/03/16 13:04	11/04/16 08:53
400-129641-9	DUP-02	Water	11/03/16 00:00	11/04/16 08:53

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: FB-02
Date Collected: 11/03/16 08:53
Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-1
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 19:14	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 19:14	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 19:14	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 19:14	5
Boron	0.021	U	0.050	0.021	mg/L		11/07/16 13:15	11/11/16 19:14	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 19:14	5
Calcium	0.13	U	0.25	0.13	mg/L		11/07/16 13:15	11/11/16 19:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 19:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 19:14	5
Lead	0.00047	I	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 19:14	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 19:14	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 19:14	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 19:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 19:14	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/10/16 19:54	1
Chloride	0.60	U	2.0	0.60	mg/L			11/16/16 10:44	1
Fluoride	0.032	U	0.10	0.032	mg/L			11/21/16 17:08	1
Sulfate	1.4	U	5.0	1.4	mg/L			11/22/16 11:03	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-8

Date Collected: 11/03/16 09:28

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 19:18	5
Arsenic	0.0016		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 19:18	5
Barium	0.027		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 19:18	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 19:18	5
Boron	0.079		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 19:18	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 19:18	5
Calcium	86		0.25	0.13	mg/L		11/07/16 13:15	11/11/16 19:18	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 19:18	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 19:18	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 19:18	5
Lithium	0.0064		0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 19:18	5
Molybdenum	0.013		0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 19:18	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 19:18	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 19:18	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		5.0	3.4	mg/L			11/10/16 19:54	1
Chloride	4.7		2.0	0.60	mg/L			11/16/16 10:44	1
Fluoride	0.23		0.10	0.032	mg/L			11/21/16 17:10	1
Sulfate	73		50	14	mg/L			11/22/16 11:35	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.32				SU			11/03/16 09:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-9

Date Collected: 11/03/16 10:00

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 19:23	5
Arsenic	0.0054		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 19:23	5
Barium	0.13		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 19:23	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 19:23	5
Boron	0.24		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 19:23	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 19:23	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 19:23	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 19:23	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 19:23	5
Lithium	0.095		0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 19:23	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 19:23	5
Selenium	0.00089	I	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 19:23	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 19:23	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000		2.5	1.3	mg/L		11/07/16 13:15	11/11/16 19:27	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:37	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6400		250	170	mg/L			11/10/16 19:54	1
Chloride	2400		200	60	mg/L			11/16/16 11:50	100
Fluoride	0.14		0.10	0.032	mg/L			11/21/16 17:58	1
Sulfate	1200		200	56	mg/L			11/22/16 12:19	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.83				SU			11/03/16 10:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-10

Date Collected: 11/03/16 10:33

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 19:32	5
Arsenic	0.0021		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 19:32	5
Barium	0.028		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 19:32	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 19:32	5
Boron	0.18		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 19:32	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 19:32	5
Calcium	100		0.25	0.13	mg/L		11/07/16 13:15	11/11/16 19:32	5
Chromium	0.0022	I	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 19:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 19:32	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 19:32	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 19:32	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 19:32	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 19:32	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 19:32	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	510		5.0	3.4	mg/L			11/10/16 19:54	1
Chloride	60		4.0	1.2	mg/L			11/16/16 12:47	2
Fluoride	0.080	I	0.10	0.032	mg/L			11/21/16 18:04	1
Sulfate	180		100	28	mg/L			11/22/16 11:40	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.55				SU			11/03/16 10:33	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-11

Date Collected: 11/03/16 11:10

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 19:36	5
Arsenic	0.060		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 19:36	5
Barium	0.060		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 19:36	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 19:36	5
Boron	0.50		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 19:36	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 19:36	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 19:36	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 19:36	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 19:36	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 19:36	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 19:36	5
Selenium	0.0017		0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 19:36	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 19:36	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	470		2.5	1.3	mg/L		11/07/16 13:15	11/11/16 19:41	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3100		83	57	mg/L			11/10/16 19:54	1
Chloride	580		200	60	mg/L			11/16/16 12:47	100
Fluoride	0.35		0.10	0.032	mg/L			11/21/16 18:08	1
Sulfate	1600		250	70	mg/L			11/22/16 12:27	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.69				SU			11/03/16 11:10	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-12

Date Collected: 11/03/16 11:52

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 20:08	5
Arsenic	0.041		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 20:08	5
Barium	0.014		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 20:08	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 20:08	5
Boron	0.59		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 20:08	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 20:08	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 20:08	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 20:08	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 20:08	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 20:08	5
Molybdenum	0.0061	I	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 20:08	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 20:08	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 20:08	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.5	1.3	mg/L		11/07/16 13:15	11/11/16 20:13	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		50	34	mg/L			11/10/16 19:54	1
Chloride	28		2.0	0.60	mg/L			11/16/16 12:19	1
Fluoride	0.45		0.10	0.032	mg/L			11/21/16 18:10	1
Sulfate	1100		200	56	mg/L			11/22/16 11:56	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.32				SU			11/03/16 11:52	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-13

Date Collected: 11/03/16 12:30

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 20:17	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 20:17	5
Barium	0.050		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 20:17	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 20:17	5
Boron	0.26		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 20:17	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 20:17	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 20:17	5
Cobalt	0.0016	I	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 20:17	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 20:17	5
Lithium	0.31		0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 20:17	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 20:17	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 20:17	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 20:17	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		2.5	1.3	mg/L		11/07/16 13:15	11/11/16 20:22	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:48	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		50	34	mg/L			11/10/16 19:54	1
Chloride	500		40	12	mg/L			11/16/16 12:47	20
Fluoride	0.38		0.10	0.032	mg/L			11/21/16 18:13	1
Sulfate	1500		230	63	mg/L			11/22/16 12:19	45

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.17				SU			11/03/16 12:30	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: CCR-14

Date Collected: 11/03/16 13:04

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 20:26	5
Arsenic	0.0025		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 20:26	5
Barium	0.021		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 20:26	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 20:26	5
Boron	1.2		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 20:26	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 20:26	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 20:26	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 20:26	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 20:26	5
Lithium	0.0041		0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 20:26	5
Molybdenum	0.0018	I	0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 20:26	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 20:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 20:26	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		2.5	1.3	mg/L		11/07/16 13:15	11/11/16 20:31	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		50	34	mg/L			11/10/16 19:54	1
Chloride	120		20	6.0	mg/L			11/16/16 12:47	10
Fluoride	0.35		0.10	0.032	mg/L			11/21/16 18:16	1
Sulfate	1300		200	56	mg/L			11/22/16 11:56	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.04				SU			11/03/16 13:04	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Client Sample ID: DUP-02

Date Collected: 11/03/16 00:00

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		11/07/16 13:15	11/11/16 20:35	5
Arsenic	0.0013		0.0013	0.00046	mg/L		11/07/16 13:15	11/11/16 20:35	5
Barium	0.026		0.0025	0.00049	mg/L		11/07/16 13:15	11/11/16 20:35	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		11/07/16 13:15	11/11/16 20:35	5
Boron	0.084		0.050	0.021	mg/L		11/07/16 13:15	11/11/16 20:35	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		11/07/16 13:15	11/11/16 20:35	5
Calcium	84		0.25	0.13	mg/L		11/07/16 13:15	11/11/16 20:35	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/07/16 13:15	11/11/16 20:35	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/07/16 13:15	11/11/16 20:35	5
Lead	0.00035	U	0.0013	0.00035	mg/L		11/07/16 13:15	11/11/16 20:35	5
Lithium	0.0052		0.0025	0.0032	mg/L		11/07/16 13:15	11/11/16 20:35	5
Molybdenum	0.013		0.010	0.00085	mg/L		11/07/16 13:15	11/11/16 20:35	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		11/07/16 13:15	11/11/16 20:35	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		11/07/16 13:15	11/11/16 20:35	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		11/07/16 10:10	11/09/16 13:50	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		5.0	3.4	mg/L			11/10/16 19:54	1
Chloride	5.0		2.0	0.60	mg/L			11/16/16 12:19	1
Fluoride	0.23		0.10	0.032	mg/L			11/21/16 18:18	1
Sulfate	78		25	7.0	mg/L			11/22/16 11:56	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.32				SU			11/03/16 00:00	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-1

Qualifiers

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
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Glossary

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

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 11681 E. Bayshore Blvd., Suite 200, Tampa, FL 33604

Client Information		Lab P/I:		Carrier Tracking No(s):		COC No:	
Mr. Sam Stafford		Whitire, Cheyenne R		530-Orlando		400-57302-247891	
E-Mail: cheyenne.whitire@testamericainc.com		E-Mail: cheyenne.whitire@testamericainc.com				Page: Page 1 of 2	
Company: Golden Associates Inc.		Lab P/I: Shawn Victory				Job #:	
Address: 9428 Baymeadows Road Suite 400		Phone: 407-399-3348					
City: Jacksonville		Due Date Requested:					
State, Zip: FL, 32256		TAT Requested (days):					
Phone: 904-363-3430 (Tel)		PO #:					
Email: Sam_Stafford@golr/cr.com		Purchase Order Requested					
Project Name: CCR Lakeland		NO #:					
Site:		Project #:					
		SSOW#:					
Sample Identification	Sample Date	Sample Time	Sample Type (C-comp G-grab)	Matrix (Water, Soil, Gas, etc.)	Field Filtered Sample (Yes/No)	Field Sampling Parameters	Special Instructions/Note:
FBS-02	11-3-16	853	G	Water	X	6020-Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, Zn, 7470A-Hg	Field Time - 7.5 hours
CCR-8		928		Water	X	SM4500_S04_F-Sulfate	
CCR-9		1000		Water	X	SM4500-TDS, 4500_F-C-Filtrate, SM4500_Cl-F-Chloride	
CCR-10		1033		Water	X	8315_Ra226, 9320_Ra228, Ra226Ra228_GFP	
CCR-11		1110		Water	X		
CCR-12		1152		Water	X		
CCR-13		1230		Water	X		
CCR-14		1304		Water	X		
DUP-02				Water	X		400-129641 COC
				Water	X		
				Water	X		
				Water	X		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *Shawn Victory* Date/Time: 11-3-16 1345
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Company: *JACR* Company: *JACR*
 Date/Time: 11/04/16 8:53
 Date/Time: _____
 Date/Time: _____

Cooler Temperature(s) °C and Other Remarks: 0.70C, 2.40C WP-6

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-129641-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
12/7/2016 10:42:14 AM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Job ID: 400-129641-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-129641-2

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-278470: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: FB-02 (400-129641-1), CCR-8 (400-129641-2), CCR-9 (400-129641-3), CCR-10 (400-129641-4), CCR-11 (400-129641-5), CCR-12 (400-129641-6), CCR-13 (400-129641-7), CCR-14 (400-129641-8) and DUP-02 (400-129641-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-278466: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: FB-02 (400-129641-1), CCR-8 (400-129641-2), CCR-9 (400-129641-3), CCR-10 (400-129641-4), CCR-11 (400-129641-5), CCR-12 (400-129641-6), CCR-13 (400-129641-7), CCR-14 (400-129641-8) and DUP-02 (400-129641-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-129641-1	FB-02	Water	11/03/16 08:53	11/04/16 08:53
400-129641-2	CCR-8	Water	11/03/16 09:28	11/04/16 08:53
400-129641-3	CCR-9	Water	11/03/16 10:00	11/04/16 08:53
400-129641-4	CCR-10	Water	11/03/16 10:33	11/04/16 08:53
400-129641-5	CCR-11	Water	11/03/16 11:10	11/04/16 08:53
400-129641-6	CCR-12	Water	11/03/16 11:52	11/04/16 08:53
400-129641-7	CCR-13	Water	11/03/16 12:30	11/04/16 08:53
400-129641-8	CCR-14	Water	11/03/16 13:04	11/04/16 08:53
400-129641-9	DUP-02	Water	11/03/16 00:00	11/04/16 08:53

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- 12
- 13

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: FB-02
Date Collected: 11/03/16 08:53
Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.108	U	0.0720	0.0726	1.00	0.219	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.511		0.259	0.263	1.00	0.381	pCi/L	11/09/16 15:08	12/02/16 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 15:08	12/02/16 13:36	1
Y Carrier	85.6		40 - 110					11/09/16 15:08	12/02/16 13:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.403		0.269	0.273	5.00	0.381	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-8
Date Collected: 11/03/16 09:28
Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.33		0.455	0.545	1.00	0.233	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.381		0.237	0.240	1.00	0.360	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	85.6		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.71		0.514	0.596	5.00	0.360	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-9
Date Collected: 11/03/16 10:00
Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	18.4		1.07	1.97	1.00	0.207	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.2		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.00		0.409	0.493	1.00	0.332	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.2		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	85.6		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	21.4		1.15	2.04	5.00	0.332	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-10

Lab Sample ID: 400-129641-4

Date Collected: 11/03/16 10:33

Matrix: Water

Date Received: 11/04/16 08:53

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.32		0.321	0.342	1.00	0.245	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.1		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0344	U	0.262	0.262	1.00	0.476	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.1		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	86.0		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.28		0.414	0.430	5.00	0.476	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-11

Lab Sample ID: 400-129641-5

Date Collected: 11/03/16 11:10

Matrix: Water

Date Received: 11/04/16 08:53

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.51		0.519	0.659	1.00	0.208	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.54		0.436	0.544	1.00	0.382	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	88.6		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.05		0.678	0.855	5.00	0.382	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-12

Lab Sample ID: 400-129641-6

Date Collected: 11/03/16 11:52

Matrix: Water

Date Received: 11/04/16 08:53

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.72		0.420	0.487	1.00	0.226	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.337	U	0.232	0.234	1.00	0.357	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	89.0		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.06		0.480	0.540	5.00	0.357	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-13

Lab Sample ID: 400-129641-7

Date Collected: 11/03/16 12:30

Matrix: Water

Date Received: 11/04/16 08:53

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	66.4		1.96	6.29	1.00	0.259	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.7		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.18		0.619	0.975	1.00	0.352	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.7		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	85.6		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	74.6		2.06	6.37	5.00	0.352	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: CCR-14

Lab Sample ID: 400-129641-8

Date Collected: 11/03/16 13:04

Matrix: Water

Date Received: 11/04/16 08:53

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	26.4		1.26	2.69	1.00	0.209	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.586		0.269	0.274	1.00	0.387	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	84.5		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	27.0		1.29	2.71	5.00	0.387	pCi/L		12/06/16 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Client Sample ID: DUP-02

Date Collected: 11/03/16 00:00

Date Received: 11/04/16 08:53

Lab Sample ID: 400-129641-9

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.92		0.444	0.516	1.00	0.256	pCi/L	11/09/16 14:28	12/04/16 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					11/09/16 14:28	12/04/16 16:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.214	U	0.258	0.258	1.00	0.425	pCi/L	11/09/16 15:08	12/02/16 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					11/09/16 15:08	12/02/16 13:37	1
Y Carrier	82.2		40 - 110					11/09/16 15:08	12/02/16 13:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.14		0.514	0.577	5.00	0.425	pCi/L		12/06/16 10:20	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-129641-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 11681 E. Bay Street, Pensacola, FL 32514

Client Information		Lab P/I: Whitmire, Cheyenne R		Carrier Tracking No(s): 530-Orlando		COC No: 400-57302-24789.1	
Client Contact: Mr. Sam Stafford		E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 2		Job #:	
Company: Golden Associates Inc.		Due Date Requested:		Analysis Requested		Preservation Codes:	
Address: 9428 Baymeadows Road Suite 400		TAT Requested (days):		Field Sampling Parameters		M - Hexane N - None O - 13NaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EPA Z - other (specify)	
City: Jacksonville		PO #:		9020-Sb, Aa, Ba, Be, Bc, Cd, Ca, Cr, Co, Pb, Ll, Mo, Se, Tl, Zn, TOA-Hg		Other:	
State, Zip: FL, 32256		Purchase Order Requested		8M4500_S04_F-Sulfate			
Phone: 904-363-3430 (Tel)		NO #:		2640G-TDS, 4500_F-C-Fluoride, 5M4500_CL-F-Chloride			
Email: Sam_Stafford@goldr.com		Project #:		8315_Ra226, 9320_Ra228, Ra228Ra228_GFPc			
Project Name: CCR Lakeland		SSOW#:		Field Filtered Sample (Yes/No)		Special Instructions/Note:	
Site:				D N D		Field Time - 7.5 hours	
Sample Identification	Sample Date	Sample Time	Sample Type (C-comp G-grab)	Matrix (Water, Seawater, Other)	Field Filtered Sample (Yes/No)	Field Sampling Parameters	Total Number of Containers
FBS-02	11-3-16	853	G	Water	X	X X	
CCR-8		928		Water	X	X X	
CCR-9		1000		Water	X	X X	
CCR-10		1033		Water	X	X X	
CCR-11		1110		Water	X	X X	
CCR-12		1152		Water	X	X X	
CCR-13		1230		Water	X	X X	
CCR-14		1304		Water	X	X X	
DUP-02				Water	X	X X	
				Water			
				Water			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)							
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Date:		Method of Shipment:			
Relinquished by: Shawn Victory		Date: 11-3-16		Company: TAOR		Date/Time: 11/03/16 8:53	
Relinquished by:		Date: 1345		Company:		Date/Time:	
Relinquished by:		Date:		Company:		Date/Time:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			
Yes <input type="checkbox"/> No <input type="checkbox"/>				0.70C, 2.40C WP-6			



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-131652-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
1/4/2017 5:30:58 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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www.testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Job ID: 400-131652-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-131652-1

Metals

Method(s) 6020: The method blank for preparation batch 335508 and analytical batch 335790 contained Arsenic above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: Due to the high matrix of the samples run previous to (CCB 400-335914/42) and (CCV 400-335914/39) the internal standards fail biased high. The recoveries of job specific analytes all recover within method specified criteria.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 335508 and analytical batch 335914 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-131652-3), CCR-4 (400-131652-4), CCR-5 (400-131652-5), CCR-6 (400-131652-6), CCR-7 (400-131652-7), CCR-9 (400-131652-9), CCR-11 (400-131652-12), CCR-12 (400-131652-13), CCR-13 (400-131652-14) and CCR-14 (400-131652-15). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 Cl- E: The method blank for analytical batch 336404 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

Method(s) SM 4500 Cl- E: The method blank for analytical batch 336745 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

Method(s) SM 4500 Cl- E: The method blank for analytical batch 336840 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

Method(s) SM 4500 SO4 E: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 336758 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) SM 4500 SO4 E: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 337046 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-131652-1	CCR-1	Water	12/14/16 09:16	12/15/16 08:56
400-131652-2	CCR-2	Water	12/14/16 10:02	12/15/16 08:56
400-131652-3	CCR-3	Water	12/14/16 10:38	12/15/16 08:56
400-131652-4	CCR-4	Water	12/14/16 11:08	12/15/16 08:56
400-131652-5	CCR-5	Water	12/14/16 11:45	12/15/16 08:56
400-131652-6	CCR-6	Water	12/14/16 12:20	12/15/16 08:56
400-131652-7	CCR-7	Water	12/14/16 13:12	12/15/16 08:56
400-131652-8	CCR-8	Water	12/14/16 13:45	12/15/16 08:56
400-131652-9	CCR-9	Water	12/15/16 08:55	12/16/16 09:01
400-131652-10	FB-01	Water	12/15/16 09:00	12/16/16 09:01
400-131652-11	CCR-10	Water	12/15/16 09:36	12/16/16 09:01
400-131652-12	CCR-11	Water	12/15/16 10:14	12/16/16 09:01
400-131652-13	CCR-12	Water	12/15/16 10:55	12/16/16 09:01
400-131652-14	CCR-13	Water	12/15/16 11:37	12/16/16 09:01
400-131652-15	CCR-14	Water	12/15/16 12:12	12/16/16 09:01
400-131652-16	FD-01	Water	12/15/16 00:00	12/16/16 09:01

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-1

Date Collected: 12/14/16 09:16

Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 12:07	5
Arsenic	0.0028	V	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 12:07	5
Barium	0.022		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 12:07	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 12:07	5
Boron	0.035	I	0.050	0.021	mg/L		12/19/16 07:50	12/20/16 12:07	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 12:07	5
Calcium	26		0.25	0.13	mg/L		12/19/16 07:50	12/20/16 12:07	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 12:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 12:07	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 12:07	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 12:07	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 12:07	5
Selenium	0.00098	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 12:07	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 12:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:03	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			12/17/16 15:18	1
Chloride	7.4	V	2.0	0.60	mg/L			12/23/16 13:30	1
Fluoride	0.032	U	0.10	0.032	mg/L			12/28/16 18:01	1
Sulfate	54		10	2.8	mg/L			12/28/16 14:41	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.89				SU			12/14/16 08:16	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-2

Date Collected: 12/14/16 10:02

Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 12:12	5
Arsenic	0.00087	I V	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 12:12	5
Barium	0.037		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 12:12	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 12:12	5
Boron	0.021	U	0.050	0.021	mg/L		12/19/16 07:50	12/20/16 12:12	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 12:12	5
Calcium	27		0.25	0.13	mg/L		12/19/16 07:50	12/20/16 12:12	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 12:12	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 12:12	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 12:12	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 12:12	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 12:12	5
Selenium	0.00074	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 12:12	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 12:12	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:05	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			12/17/16 15:18	1
Chloride	5.8	V	2.0	0.60	mg/L			12/28/16 12:53	1
Fluoride	0.060	I	0.10	0.032	mg/L			12/28/16 18:04	1
Sulfate	67		25	7.0	mg/L			12/28/16 14:41	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.86				SU			12/14/16 09:02	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-3

Lab Sample ID: 400-131652-3

Date Collected: 12/14/16 10:38

Matrix: Water

Date Received: 12/15/16 08:56

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 12:16	5
Arsenic	0.00071	I V	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 12:16	5
Barium	0.045		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 12:16	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 12:16	5
Boron	1.9		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 12:16	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 12:16	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 12:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 12:16	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 12:16	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 12:16	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 12:16	5
Selenium	0.00077	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 12:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 12:16	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	460		2.5	1.3	mg/L		12/19/16 07:50	12/20/16 12:21	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:06	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.0	3.4	mg/L			12/17/16 15:18	1
Chloride	61		4.0	1.2	mg/L			12/28/16 14:48	2
Fluoride	0.14		0.10	0.032	mg/L			12/28/16 18:07	1
Sulfate	1200		180	49	mg/L			12/28/16 15:51	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.17				SU			12/14/16 09:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-4

Date Collected: 12/14/16 11:08

Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 12:25	5
Arsenic	0.0013	V	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 12:25	5
Barium	0.27		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 12:25	5
Beryllium	0.00053	I	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 12:25	5
Boron	0.77		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 12:25	5
Cadmium	0.0019		0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 12:25	5
Chromium	0.0021	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 12:25	5
Cobalt	0.0036		0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 12:25	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 12:25	5
Lithium	0.011		0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 12:25	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 12:25	5
Selenium	0.0013		0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 12:25	5
Thallium	0.00040	I	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 12:25	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	920		5.0	2.5	mg/L		12/19/16 07:50	12/20/16 12:30	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:07	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6300		25	17	mg/L			12/17/16 15:18	1
Chloride	2800		400	120	mg/L			12/28/16 15:44	200
Fluoride	0.032	U	0.10	0.032	mg/L			12/28/16 18:11	1
Sulfate	540		100	28	mg/L			12/28/16 15:34	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.77				SU			12/14/16 10:08	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-5

Lab Sample ID: 400-131652-5

Date Collected: 12/14/16 11:45

Matrix: Water

Date Received: 12/15/16 08:56

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 12:34	5
Arsenic	0.00086	I V	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 12:34	5
Barium	0.064		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 12:34	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 12:34	5
Boron	0.54		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 12:34	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 12:34	5
Chromium	0.0017	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 12:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 12:34	5
Lead	0.00046	I	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 12:34	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 12:34	5
Selenium	0.00087	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 12:34	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 12:34	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	980		5.0	2.5	mg/L		12/19/16 07:50	12/20/16 12:39	100
Lithium	2.4		0.050	0.064	mg/L		12/19/16 07:50	12/20/16 12:39	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:08	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8300		83	57	mg/L			12/17/16 15:18	1
Chloride	3600		400	120	mg/L			12/28/16 15:44	200
Fluoride	0.050	I	0.10	0.032	mg/L			12/28/16 19:03	1
Sulfate	260		50	14	mg/L			12/28/16 14:53	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.96				SU			12/14/16 10:45	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-6

Lab Sample ID: 400-131652-6

Date Collected: 12/14/16 12:20

Matrix: Water

Date Received: 12/15/16 08:56

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:24	5
Arsenic	0.00055	I	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:24	5
Barium	0.025		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:24	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:24	5
Boron	0.61		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:24	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:24	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:24	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:24	5
Lithium	0.13		0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:24	5
Molybdenum	0.0017	I	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:24	5
Selenium	0.00033	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:24	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:24	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	400		2.5	1.3	mg/L		12/19/16 07:50	12/20/16 16:12	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:10	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		25	17	mg/L			12/17/16 15:18	1
Chloride	790		40	12	mg/L			12/28/16 14:48	20
Fluoride	0.16		0.10	0.032	mg/L			12/28/16 19:05	1
Sulfate	400		75	21	mg/L			12/28/16 15:34	15

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.63				SU			12/14/16 11:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-7

Date Collected: 12/14/16 13:12

Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:28	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:28	5
Barium	0.037		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:28	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:28	5
Boron	0.60		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:28	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:28	5
Chromium	0.0022	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:28	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:28	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:28	5
Lithium	0.022		0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:28	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:28	5
Selenium	0.00026	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:28	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:28	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	200		1.3	0.63	mg/L		12/19/16 07:50	12/20/16 16:16	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500		5.0	3.4	mg/L			12/17/16 15:18	1
Chloride	430		20	6.0	mg/L			12/28/16 14:48	10
Fluoride	0.16		0.10	0.032	mg/L			12/28/16 19:09	1
Sulfate	270		50	14	mg/L			12/28/16 14:54	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.50				SU			12/14/16 12:12	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-8

Date Collected: 12/14/16 13:45

Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:33	5
Arsenic	0.0020		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:33	5
Barium	0.035		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:33	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:33	5
Boron	0.13		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:33	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:33	5
Calcium	110		0.25	0.13	mg/L		12/19/16 07:50	12/20/16 17:33	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:33	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:33	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:33	5
Lithium	0.018		0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:33	5
Molybdenum	0.018		0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:33	5
Selenium	0.00031	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:33	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:33	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			12/17/16 15:18	1
Chloride	7.0	V	2.0	0.60	mg/L			12/28/16 12:53	1
Fluoride	0.28		0.10	0.032	mg/L			12/28/16 19:10	1
Sulfate	150		25	7.0	mg/L			12/28/16 14:56	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.32				SU			12/14/16 12:45	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-9

Lab Sample ID: 400-131652-9

Date Collected: 12/15/16 08:55

Matrix: Water

Date Received: 12/16/16 09:01

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:37	5
Arsenic	0.0030		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:37	5
Barium	0.12		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:37	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:37	5
Boron	0.24		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:37	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:37	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:37	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:37	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:37	5
Lithium	0.094		0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:37	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:37	5
Selenium	0.0010	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:37	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:37	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	960		5.0	2.5	mg/L		12/19/16 07:50	12/20/16 16:21	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:22	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5600		25	17	mg/L			12/20/16 11:50	1
Chloride	2300		400	120	mg/L			12/28/16 15:45	200
Fluoride	0.14		0.10	0.032	mg/L			12/28/16 19:12	1
Sulfate	1100		180	49	mg/L			12/28/16 16:30	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.82				SU			12/15/16 07:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: FB-01
Date Collected: 12/15/16 09:00
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-10
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 18:40	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 18:40	5
Barium	0.00049	U	0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 18:40	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 18:40	5
Boron	0.021	U	0.050	0.021	mg/L		12/19/16 07:50	12/20/16 18:40	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 18:40	5
Calcium	0.13	U	0.25	0.13	mg/L		12/19/16 07:50	12/20/16 18:40	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 18:40	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 18:40	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 18:40	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 18:40	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 18:40	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 18:40	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 18:40	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			12/20/16 11:50	1
Chloride	1.5	IV	2.0	0.60	mg/L			12/28/16 12:53	1
Fluoride	0.032	U	0.10	0.032	mg/L			12/28/16 19:15	1
Sulfate	1.4	U	5.0	1.4	mg/L			12/28/16 12:59	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-10

Date Collected: 12/15/16 09:36

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:42	5
Arsenic	0.0018		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:42	5
Barium	0.023		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:42	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:42	5
Boron	0.18		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:42	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:42	5
Calcium	81		0.25	0.13	mg/L		12/19/16 07:50	12/20/16 17:42	5
Chromium	0.0025		0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:42	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:42	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:42	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:42	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:42	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:25	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	460		5.0	3.4	mg/L			12/20/16 11:50	1
Chloride	27		2.0	0.60	mg/L			12/29/16 08:46	1
Fluoride	0.090	I	0.10	0.032	mg/L			12/28/16 19:17	1
Sulfate	200		100	28	mg/L			12/30/16 14:17	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.60				SU			12/15/16 08:36	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-11

Date Collected: 12/15/16 10:14

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:46	5
Arsenic	0.094		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:46	5
Barium	0.050		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:46	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:46	5
Boron	0.51		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:46	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:46	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:46	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:46	5
Lead	0.00062	I	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:46	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:46	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:46	5
Selenium	0.0015		0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:46	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:46	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	460		2.5	1.3	mg/L		12/19/16 07:50	12/20/16 16:25	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:26	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		5.6	3.8	mg/L			12/20/16 11:50	1
Chloride	480		20	6.0	mg/L			12/29/16 09:54	10
Fluoride	0.40		0.10	0.032	mg/L			12/28/16 19:25	1
Sulfate	1400		230	63	mg/L			12/30/16 13:12	45

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.82				SU			12/15/16 09:14	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-12

Date Collected: 12/15/16 10:55

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:51	5
Arsenic	0.027		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:51	5
Barium	0.013		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:51	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:51	5
Boron	0.61		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:51	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:51	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:51	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:51	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:51	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:51	5
Molybdenum	0.0061	I	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:51	5
Selenium	0.00048	I	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:51	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	520		2.5	1.3	mg/L		12/19/16 07:50	12/20/16 16:30	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:27	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			12/20/16 11:50	1
Chloride	27		2.0	0.60	mg/L			12/29/16 08:46	1
Fluoride	0.51		0.10	0.032	mg/L			12/28/16 17:27	1
Sulfate	990		150	42	mg/L			12/28/16 16:05	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.33				SU			12/15/16 09:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-13

Date Collected: 12/15/16 11:37

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 17:55	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 17:55	5
Barium	0.049		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 17:55	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 17:55	5
Boron	0.23		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 17:55	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 17:55	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 17:55	5
Cobalt	0.0019	I	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 17:55	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 17:55	5
Lithium	0.30		0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 17:55	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 17:55	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 17:55	5
Thallium	0.000090	I	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 17:55	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		2.5	1.3	mg/L		12/19/16 07:50	12/20/16 16:48	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:33	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		5.6	3.8	mg/L			12/20/16 11:50	1
Chloride	510		40	12	mg/L			12/29/16 09:21	20
Fluoride	0.54		0.10	0.032	mg/L			12/28/16 19:32	1
Sulfate	1300		200	56	mg/L			12/29/16 10:47	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.13				SU			12/15/16 10:37	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: CCR-14

Date Collected: 12/15/16 12:12

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 18:00	5
Arsenic	0.0026		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 18:00	5
Barium	0.018		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 18:00	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 18:00	5
Boron	1.2		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 18:00	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 18:00	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 18:00	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 18:00	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 18:00	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 18:00	5
Molybdenum	0.0016	I	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 18:00	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 18:00	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 18:00	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	470		2.5	1.3	mg/L		12/19/16 07:50	12/20/16 16:52	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			12/20/16 11:50	1
Chloride	91		40	12	mg/L			12/29/16 09:22	20
Fluoride	0.37		0.10	0.032	mg/L			12/28/16 19:35	1
Sulfate	1200		200	56	mg/L			12/29/16 10:47	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.11				SU			12/15/16 11:12	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Client Sample ID: FD-01
Date Collected: 12/15/16 00:00
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-16
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		12/19/16 07:50	12/20/16 18:04	5
Arsenic	0.0017		0.0013	0.00046	mg/L		12/19/16 07:50	12/20/16 18:04	5
Barium	0.024		0.0025	0.00049	mg/L		12/19/16 07:50	12/20/16 18:04	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		12/19/16 07:50	12/20/16 18:04	5
Boron	0.19		0.050	0.021	mg/L		12/19/16 07:50	12/20/16 18:04	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		12/19/16 07:50	12/20/16 18:04	5
Calcium	78		0.25	0.13	mg/L		12/19/16 07:50	12/20/16 18:04	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		12/19/16 07:50	12/20/16 18:04	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		12/19/16 07:50	12/20/16 18:04	5
Lead	0.00035	U	0.0013	0.00035	mg/L		12/19/16 07:50	12/20/16 18:04	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		12/19/16 07:50	12/20/16 18:04	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		12/19/16 07:50	12/20/16 18:04	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		12/19/16 07:50	12/20/16 18:04	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		12/19/16 07:50	12/20/16 18:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000071	I V	0.00020	0.000070	mg/L		12/30/16 11:30	01/03/17 10:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	450		5.0	3.4	mg/L			12/17/16 15:18	1
Chloride	33		2.0	0.60	mg/L			12/29/16 08:46	1
Fluoride	0.090	I	0.10	0.032	mg/L			12/28/16 19:37	1
Sulfate	170		50	14	mg/L			12/29/16 09:47	10

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.
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.

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)

Chain of Custody Record

Client Information
 Client Contact: Mr. Sam Stafford
 Company: Golder Associates Inc.
 Address: 9428 Baymeadows Road Suite 400
 City: Jacksonville
 State: FL, Zip: 32256
 Phone: 904-363-3430(Tel)
 Email: Sam.Stafford@golder.com
 Project #: 40007144
 Site: CCR Lakeland

Sampler: Shawn Victoria
 Lab P/N: Whitmore, Chelyenne R
 E-Mail: chelyenne.whitmore@testamericainc.com
 Phone: 407-399-3348

Carrier Tracking No(s): 530-Orlando
 COC No.: 400-59095-24789.1
 Page: Page 1 of 2
 Job #: 400-131652



Preservation Codes: 400-131652 COC

- 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
- Other:
- M - Hexane
- N - None
- O - AsNaO2
- P - Na2OAS
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecylhydrate
- U - Acetone
- V - MCAA
- W - pH 4-5
- Z - other (specify)

Analysis Requested

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	9315_Ra226, 9320_Ra228	2540C, 4500_F, C, SM4500_C1, E, SM4500_SO4, E	6020, 7470A	Total Number of containers	Special Instructions/Note:
CCR-1	12-4-16	916	G	Water	X	X	X	X		
CCR-2		1002		Water	X	X	X	X		
CCR-3		1038		Water	X	X	X	X		
CCR-4		1108		Water	X	X	X	X		
CCR-5		1145		Water	X	X	X	X		
CCR-6		1220		Water	X	X	X	X		
CCR-7		1312		Water	X	X	X	X		
CCR-8		1345		Water	X	X	X	X		

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Due Date Requested:
 TAT Requested (days):
 PO #: TA-15454542-01
 WO #: 15-45454.2
 Project #: 40007144
 SSON#: _____

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: Shawn Victoria Date: 12-4-16 1545
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: 3.5°C, 6.9°C ZKS



Chain of Custody Record

Client Information Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 Jacksonville, FL, 32256 Phone: 904-363-3430(Tel) Email: Sam.Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitnire, Chelyenne R E-Mail: chelyenne.whitnire@testamericainc.com Phone: 407-399-3348 Sampler: Shawn Victory		Carrier Tracking No(s): 530-Orlando Page 1 of 2 Job #: 400-131652 COC No: 400-59085-24789.1	
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOM#:		Analysis Requested Total Number of Containers:			
Sample Identification CCR-9 FB-01 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 FD-01		Sample Date 12-15-16 900 936 1014 1055 1137 1212 -	Sample Time 855 900 936 1014 1055 1137 1212 -	Sample Type (C=comp, G=grab) G - - - - - -	Matrix (W=water, S=solid, O=soil, I=I-ice, T=tissue, A=air) Water Water Water Water Water Water Water Water Water Water
Field Filtered Sample (Yes or No)		D N D X X X X X X		Special Instructions/Note: MS / MSD on CCR-12	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Time:		Method of Shipment:	
Relinquished by:		Date/Time: 12-15-16 1500 Company: TAPAC		Date/Time: 12/16/16 0901 Company: TAPAC	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 29°C, 3.4°C, 5			



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-131652-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
1/30/2017 3:52:09 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Job ID: 400-131652-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-131652-2

RAD

Method(s) 9315: Radium-226 Prep Batch 160-285559: The barium carrier recovery is outside the lower control limit (40%) for the following samples: CCR-5 (400-131652-5) and CCR-9 (400-131652-9). There was physical evidence of matrix interference apparent during the initial preparation of the sample (see prep NCM 103033). The QC samples associated with the batch have acceptable carrier recoveries indicating the presence of matrix interference. In addition, due to the low barium carrier recoveries, the radium-226 detection goal was not met. The data have been qualified and reported.

Method(s) 9320: Radium-228 Batch 285562: The barium carrier recoveries are outside the lower control limit (40%) for the following samples: CCR-5 (400-131652-5) and CCR-9 (400-131652-9) (15.7% and 24.5%, respectively). There was physical evidence of matrix interference apparent during the initial preparation of the samples (reference NCM 103032). The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

Method(s) 9320: Radium-228 Batch 285562: The radium-228 detection goal was not met for the following samples due to low barium carrier recoveries and the presence of matrix interferences (reference NCM 103032): CCR-5 (400-131652-5) and CCR-9 (400-131652-9). Analytical results are reported with the detection limit achieved.

Method(s) PrecSep_0: Radium-228 Prep Batch 160-285562: The Barium carrier recovery is outside the lower control limit (40%) for the following sample: CCR-5 (400-131652-5) and CCR-9 (400-131652-9). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference. The barium pellets were noted as small throughout the out of in-growth process.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-285559: The Barium carrier recovery is outside the lower control limit (40%) for the following sample: CCR-5 (400-131652-5) and CCR-9 (400-131652-9). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference. The barium pellets were noted as small throughout the out of in-growth process.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-131652-1	CCR-1	Water	12/14/16 09:16	12/15/16 08:56
400-131652-2	CCR-2	Water	12/14/16 10:02	12/15/16 08:56
400-131652-3	CCR-3	Water	12/14/16 10:38	12/15/16 08:56
400-131652-4	CCR-4	Water	12/14/16 11:08	12/15/16 08:56
400-131652-5	CCR-5	Water	12/14/16 11:45	12/15/16 08:56
400-131652-6	CCR-6	Water	12/14/16 12:20	12/15/16 08:56
400-131652-7	CCR-7	Water	12/14/16 13:12	12/15/16 08:56
400-131652-8	CCR-8	Water	12/14/16 13:45	12/15/16 08:56
400-131652-9	CCR-9	Water	12/15/16 08:55	12/16/16 09:01
400-131652-10	FB-01	Water	12/15/16 09:00	12/16/16 09:01
400-131652-11	CCR-10	Water	12/15/16 09:36	12/16/16 09:01
400-131652-12	CCR-11	Water	12/15/16 10:14	12/16/16 09:01
400-131652-13	CCR-12	Water	12/15/16 10:55	12/16/16 09:01
400-131652-14	CCR-13	Water	12/15/16 11:37	12/16/16 09:01
400-131652-15	CCR-14	Water	12/15/16 12:12	12/16/16 09:01
400-131652-16	FD-01	Water	12/15/16 00:00	12/16/16 09:01

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-1

Lab Sample ID: 400-131652-1

Date Collected: 12/14/16 09:16

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.65		0.811	0.913	1.00	0.449	pCi/L	12/28/16 07:37	01/27/17 06:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	57.8		40 - 110					12/28/16 07:37	01/27/17 06:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.767		0.457	0.462	1.00	0.701	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	57.8		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	84.9		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.42		0.931	1.02	5.00	0.701	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-2

Lab Sample ID: 400-131652-2

Date Collected: 12/14/16 10:02

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.52		0.623	0.699	1.00	0.339	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.9		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.04		0.360	0.373	1.00	0.487	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.9		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	80.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.56		0.720	0.792	5.00	0.487	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-3
Date Collected: 12/14/16 10:38
Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.08		0.831	0.995	1.00	0.429	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.963		0.384	0.394	1.00	0.544	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	79.6		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.05		0.916	1.07	5.00	0.544	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-4

Lab Sample ID: 400-131652-4

Date Collected: 12/14/16 11:08

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	51.9		2.54	5.32	1.00	0.496	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.7		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	25.4		1.38	2.71	1.00	0.631	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.7		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	79.6		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	77.3		2.89	5.97	5.00	0.631	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-5

Lab Sample ID: 400-131652-5

Date Collected: 12/14/16 11:45

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.2	G	1.98	2.31	1.00	1.06	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	24.5	X	40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.09	G	1.26	1.37	1.00	1.40	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	24.5	X	40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	87.5		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	19.3		2.35	2.69	5.00	1.40	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-6
Date Collected: 12/14/16 12:20
Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.53		0.781	0.881	1.00	0.490	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.4		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.25		0.418	0.433	1.00	0.550	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	81.5		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.77		0.886	0.982	5.00	0.550	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-7
Date Collected: 12/14/16 13:12
Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-7
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.5		1.14	1.54	1.00	0.407	pCi/L	12/28/16 07:37	01/27/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					12/28/16 07:37	01/27/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.56		0.487	0.541	1.00	0.503	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	80.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	14.1		1.24	1.63	5.00	0.503	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-8

Lab Sample ID: 400-131652-8

Date Collected: 12/14/16 13:45

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.48		0.820	0.957	1.00	0.443	pCi/L	12/28/16 07:37	01/27/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					12/28/16 07:37	01/27/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.357	U	0.357	0.358	1.00	0.579	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	78.9		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.84		0.894	1.02	5.00	0.579	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-9

Lab Sample ID: 400-131652-9

Date Collected: 12/15/16 08:55

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	19.3	G	2.90	3.38	1.00	1.42	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	15.7	X	40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.87	G	1.62	1.64	1.00	2.44	pCi/L	12/28/16 08:06	01/26/17 16:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	15.7	X	40 - 110					12/28/16 08:06	01/26/17 16:53	1
Y Carrier	80.7		40 - 110					12/28/16 08:06	01/26/17 16:53	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	22.2		3.32	3.76	5.00	2.44	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: FB-01
Date Collected: 12/15/16 09:00
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-10
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.262	U	0.229	0.230	1.00	0.341	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.107	U	0.232	0.232	1.00	0.443	pCi/L	12/28/16 08:06	01/26/17 16:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					12/28/16 08:06	01/26/17 16:53	1
Y Carrier	77.8		40 - 110					12/28/16 08:06	01/26/17 16:53	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.155	U	0.326	0.327	5.00	0.443	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-10
Date Collected: 12/15/16 09:36
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-11
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.18		0.389	0.403	1.00	0.347	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.9		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.464	U	0.308	0.311	1.00	0.470	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.9		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	77.4		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.64		0.496	0.509	5.00	0.470	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-11

Date Collected: 12/15/16 10:14

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-12

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.72		0.850	1.04	1.00	0.410	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.2		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.88		0.523	0.633	1.00	0.443	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.2		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	81.5		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	10.6		0.998	1.22	5.00	0.443	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-12

Lab Sample ID: 400-131652-13

Date Collected: 12/15/16 10:55

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.31		0.534	0.573	1.00	0.422	pCi/L	12/28/16 07:37	01/27/17 08:56	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	74.6		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.555		0.321	0.325	1.00	0.484	pCi/L	12/28/16 08:06	01/26/17 16:52	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	74.6		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	81.1		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.87		0.623	0.659	5.00	0.484	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-13

Lab Sample ID: 400-131652-14

Date Collected: 12/15/16 11:37

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	75.4		3.02	7.43	1.00	0.483	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.0		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	10.3		0.898	1.30	1.00	0.570	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.0		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	79.6		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	85.7		3.15	7.54	5.00	0.570	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-14

Date Collected: 12/15/16 12:12

Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-15

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	41.3		2.21	4.33	1.00	0.421	pCi/L	12/28/16 07:37	01/27/17 09:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.3		40 - 110					12/28/16 07:37	01/27/17 09:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.723		0.440	0.445	1.00	0.673	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.3		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	78.9		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	42.1		2.26	4.35	5.00	0.673	pCi/L		01/30/17 11:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: FD-01
Date Collected: 12/15/16 00:00
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-16
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.43		0.440	0.458	1.00	0.417	pCi/L	12/28/16 07:37	01/27/17 09:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.5		40 - 110					12/28/16 07:37	01/27/17 09:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.00		0.449	0.458	1.00	0.661	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.5		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	80.0		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.43		0.628	0.648	5.00	0.661	pCi/L		01/30/17 11:38	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.
G	The Sample MDC is greater than the requested RL.

Glossary

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

Chain of Custody Record

Client Information
 Client Contact: Mr. Sam Stafford
 Company: Golder Associates Inc.
 Address: 9428 Baymeadows Road Suite 400
 City: Jacksonville
 State: FL, Zip: 32256
 Phone: 904-363-3430 (Tel)
 Email: Sam.Stafford@golder.com
 Project #: 40007144
 Site: CCR Lakeland

Sampler: Shawn Victoria
 Lab P/N: Whitmore, Chelyenne R
 E-Mail: chelyenne.whitmore@testamericainc.com
 Phone: 407-399-3348
 Carrier Tracking No(s): 630-Orlando

COC No: 400-59095-24789.1
 Page: Page 1 of 2
 Job #: 400-131652



Preservation Codes: 400-131652 COC

- 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
- Other:
- M - Hexane
- N - None
- O - AsNaO2
- P - Na2OAS
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecylhydrate
- U - Acetone
- V - MCAA
- W - pH 4-5
- Z - other (specify)

Analysis Requested

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	9315_Ra226, 9320_Ra228	2540C, 4500_F, C, SM4500_C1, E, SM4500_SO4, E	6020, 7470A	Total Number of containers	Special Instructions/Note:
CCR-1	12-4-16	916	G	Water	X	X	X	X		
CCR-2		1002		Water	X	X	X	X		
CCR-3		1038		Water	X	X	X	X		
CCR-4		1108		Water	X	X	X	X		
CCR-5		1145		Water	X	X	X	X		
CCR-6		1220		Water	X	X	X	X		
CCR-7		1312		Water	X	X	X	X		
CCR-8		1345		Water	X	X	X	X		

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Time:	Method of Shipment:
Received by: <i>[Signature]</i> Date/Time: 12/15/16 0850 Company: _____	
Received by: _____ Date/Time: _____ Company: _____	
Received by: _____ Date/Time: _____ Company: _____	

Due Date Requested:
 TAT Requested (days):
 PO #: TA-15454542-01
 WO #: 15-45454.2
 Project #: 40007144
 SSONW#:

Possible Hazard Identification

Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: *[Signature]* Date: 12-4-16 1545

Relinquished by: *[Signature]* Date/Time: _____ Company: _____

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

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

Custody Seals Intact: Yes No

Custody Seal No.: 350, 590e ZK5



Chain of Custody Record

Client Information Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 Jacksonville FL, 32256 Phone: 904-363-3430(Tel) Email: Sam.Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitnirre, Chelyenne R E-Mail: chelyenne.whitnirre@testamericainc.com Phone: Shawn Victory 407-399-3348 Sampler:		Carrier Tracking No(s): 550-Orlando Job #: 400-131652 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 Other:		COC No: 400-59085-24789.1 Page: Page 1 of 2			
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOM#:		Analysis Requested Total Number of Containers:		Special Instructions/Note: MS / MSD on CCR-12		Special Instructions/Note: Special Instructions/Note: Special Instructions/Note:			
Sample Identification CCR-9 FB-01 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 FD-01	Sample Date 12-15-16 900 936 1014 1055 1137 1212 -	Sample Time 855 900 936 1014 1055 1137 1212 -	Sample Type (C=comp, G=grab) G Water Water Water Water Water Water Water Water Water	Matrix (W=water, S=solid, O=soil, I=In-Tissue, A=Air) Water Water Water Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) 9315, Ra226, 9320, Ra228 2640C, 4600, F, C, SM4500, Cl, E, SM4500, SO4, E 6020, 7470A	D X X X X X X X X X X	N X X X X X X X X X X	I X X X X X X X X X X	D X X X X X X X X X X
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:		Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by:		Date: 12-15-16 1500 Date/Time:		Method of Shipment: Date/Time: 12/16/16 0901 Date/Time:		Company: Company: TAPAC Company:			
Custody Seal Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Relinquished by: Relinquished by:		Date/Time: Date/Time:			



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Preliminary Data

- 1
- 2
- 3
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Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-131652-1	CCR-1	Water	12/14/16 09:16	12/15/16 08:56
400-131652-2	CCR-2	Water	12/14/16 10:02	12/15/16 08:56
400-131652-3	CCR-3	Water	12/14/16 10:38	12/15/16 08:56
400-131652-4	CCR-4	Water	12/14/16 11:08	12/15/16 08:56
400-131652-5	CCR-5	Water	12/14/16 11:45	12/15/16 08:56
400-131652-6	CCR-6	Water	12/14/16 12:20	12/15/16 08:56
400-131652-7	CCR-7	Water	12/14/16 13:12	12/15/16 08:56
400-131652-8	CCR-8	Water	12/14/16 13:45	12/15/16 08:56
400-131652-9	CCR-9	Water	12/15/16 08:55	12/16/16 09:01
400-131652-10	FB-01	Water	12/15/16 09:00	12/16/16 09:01
400-131652-11	CCR-10	Water	12/15/16 09:36	12/16/16 09:01
400-131652-12	CCR-11	Water	12/15/16 10:14	12/16/16 09:01
400-131652-13	CCR-12	Water	12/15/16 10:55	12/16/16 09:01
400-131652-14	CCR-13	Water	12/15/16 11:37	12/16/16 09:01
400-131652-15	CCR-14	Water	12/15/16 12:12	12/16/16 09:01
400-131652-16	FD-01	Water	12/15/16 00:00	12/16/16 09:01

Preliminary Data



Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-1

Lab Sample ID: 400-131652-1

Date Collected: 12/14/16 09:16

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.65		0.811	0.913	1.00	0.449	pCi/L	12/28/16 07:37	01/27/17 06:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	57.8		40 - 110					12/28/16 07:37	01/27/17 06:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.767		0.457	0.462	1.00	0.701	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	57.8		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	84.9		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.42		0.931	1.02	5.00	0.701	pCi/L		01/30/17 11:38	1

Preliminary Data

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- 2
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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-2

Lab Sample ID: 400-131652-2

Date Collected: 12/14/16 10:02

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.52		0.623	0.699	1.00	0.339	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.9		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.04		0.360	0.373	1.00	0.487	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.9		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	80.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.56		0.720	0.792	5.00	0.487	pCi/L		01/30/17 11:38	1

Preliminary Data

- 1
- 2
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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-3

Lab Sample ID: 400-131652-3

Date Collected: 12/14/16 10:38

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.08		0.831	0.995	1.00	0.429	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.963		0.384	0.394	1.00	0.544	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	79.6		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.05		0.916	1.07	5.00	0.544	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-4
Date Collected: 12/14/16 11:08
Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	51.9		2.54	5.32	1.00	0.496	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.7		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	25.4		1.38	2.71	1.00	0.631	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.7		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	79.6		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	77.3		2.89	5.97	5.00	0.631	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-5

Lab Sample ID: 400-131652-5

Date Collected: 12/14/16 11:45

Matrix: Water

Date Received: 12/15/16 08:56

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.2	G	1.98	2.31	1.00	1.06	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	24.5	X	40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.09	G	1.26	1.37	1.00	1.40	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	24.5	X	40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	87.5		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	19.3		2.35	2.69	5.00	1.40	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-6
Date Collected: 12/14/16 12:20
Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.53		0.781	0.881	1.00	0.490	pCi/L	12/28/16 07:37	01/27/17 06:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.4		40 - 110					12/28/16 07:37	01/27/17 06:59	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.25		0.418	0.433	1.00	0.550	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	81.5		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.77		0.886	0.982	5.00	0.550	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-7

Date Collected: 12/14/16 13:12

Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.5		1.14	1.54	1.00	0.407	pCi/L	12/28/16 07:37	01/27/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					12/28/16 07:37	01/27/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.56		0.487	0.541	1.00	0.503	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	80.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	14.1		1.24	1.63	5.00	0.503	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-8
Date Collected: 12/14/16 13:45
Date Received: 12/15/16 08:56

Lab Sample ID: 400-131652-8
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.48		0.820	0.957	1.00	0.443	pCi/L	12/28/16 07:37	01/27/17 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					12/28/16 07:37	01/27/17 08:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.357	U	0.357	0.358	1.00	0.579	pCi/L	12/28/16 08:06	01/26/17 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					12/28/16 08:06	01/26/17 16:54	1
Y Carrier	78.9		40 - 110					12/28/16 08:06	01/26/17 16:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.84		0.894	1.02	5.00	0.579	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-9

Lab Sample ID: 400-131652-9

Date Collected: 12/15/16 08:55

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	19.3	G	2.90	3.38	1.00	1.42	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	15.7	X	40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.87	G	1.62	1.64	1.00	2.44	pCi/L	12/28/16 08:06	01/26/17 16:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	15.7	X	40 - 110					12/28/16 08:06	01/26/17 16:53	1
Y Carrier	80.7		40 - 110					12/28/16 08:06	01/26/17 16:53	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	22.2		3.32	3.76	5.00	2.44	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: FB-01
Date Collected: 12/15/16 09:00
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-10
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.262	U	0.229	0.230	1.00	0.341	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.107	U	0.232	0.232	1.00	0.443	pCi/L	12/28/16 08:06	01/26/17 16:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					12/28/16 08:06	01/26/17 16:53	1
Y Carrier	77.8		40 - 110					12/28/16 08:06	01/26/17 16:53	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.155	U	0.326	0.327	5.00	0.443	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-10

Lab Sample ID: 400-131652-11

Date Collected: 12/15/16 09:36

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.18		0.389	0.403	1.00	0.347	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.9		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.464	U	0.308	0.311	1.00	0.470	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.9		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	77.4		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.64		0.496	0.509	5.00	0.470	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-11

Lab Sample ID: 400-131652-12

Date Collected: 12/15/16 10:14

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.72		0.850	1.04	1.00	0.410	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.2		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.88		0.523	0.633	1.00	0.443	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.2		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	81.5		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	10.6		0.998	1.22	5.00	0.443	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-12

Lab Sample ID: 400-131652-13

Date Collected: 12/15/16 10:55

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.31		0.534	0.573	1.00	0.422	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.555		0.321	0.325	1.00	0.484	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	81.1		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.87		0.623	0.659	5.00	0.484	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-13

Lab Sample ID: 400-131652-14

Date Collected: 12/15/16 11:37

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	75.4		3.02	7.43	1.00	0.483	pCi/L	12/28/16 07:37	01/27/17 08:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.0		40 - 110					12/28/16 07:37	01/27/17 08:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	10.3		0.898	1.30	1.00	0.570	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.0		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	79.6		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	85.7		3.15	7.54	5.00	0.570	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: CCR-14

Lab Sample ID: 400-131652-15

Date Collected: 12/15/16 12:12

Matrix: Water

Date Received: 12/16/16 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	41.3		2.21	4.33	1.00	0.421	pCi/L	12/28/16 07:37	01/27/17 09:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.3		40 - 110					12/28/16 07:37	01/27/17 09:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.723		0.440	0.445	1.00	0.673	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.3		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	78.9		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	42.1		2.26	4.35	5.00	0.673	pCi/L		01/30/17 11:38	1

Preliminary Data

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Client Sample ID: FD-01
Date Collected: 12/15/16 00:00
Date Received: 12/16/16 09:01

Lab Sample ID: 400-131652-16
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.43		0.440	0.458	1.00	0.417	pCi/L	12/28/16 07:37	01/27/17 09:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.5		40 - 110					12/28/16 07:37	01/27/17 09:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.00		0.449	0.458	1.00	0.661	pCi/L	12/28/16 08:06	01/26/17 16:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.5		40 - 110					12/28/16 08:06	01/26/17 16:52	1
Y Carrier	80.0		40 - 110					12/28/16 08:06	01/26/17 16:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.43		0.628	0.648	5.00	0.661	pCi/L		01/30/17 11:38	1

Preliminary Data

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Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-131652-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.
G	The Sample MDC is greater than the requested RL.

Glossary

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

Chain of Custody Record

Client Information
 Client Contact: Mr. Sam Stafford
 Company: Golder Associates Inc.
 Address: 9428 Baymeadows Road Suite 400
 City: Jacksonville
 State: FL, Zip: 32256
 Phone: 904-363-3430(Tel)
 Email: Sam.Stafford@golder.com
 Project Name: CCR Lakeland
 Site:

Sampler: Shawn Victory
 Lab P/N: Whitmore, Chelyenne R
 E-Mail: chelyenne.whitmore@testamericainc.com

Carrier Tracking No(s): 530-Orlando
 COC No.: 400-59095-24789.1
 Page: Page 1 of 2
 Job #: 400-131652



Preservation Codes: 400-131652 COC

- 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
- Other:
- M - Hexane
- N - None
- O - AsNaO2
- P - Na2OAS
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecylhydrate
- U - Acetone
- V - MCAA
- W - pH 4-5
- Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		Analysis Requested		Special Instructions/Note:
					D	N	D	N	
CCR-1	12-4-16	916	G	Water	X	X			
CCR-2		1002		Water	X	X			
CCR-3		1038		Water	X	X			
CCR-4		1108		Water	X	X			
CCR-5		1145		Water	X	X			
CCR-6		1220		Water	X	X			
CCR-7		1312		Water	X	X			
CCR-8		1345		Water	X	X			

Due Date Requested: TAT Requested (days):
 PO #: TA-15454542-01
 WO #: 15-45454.2
 Project #: 40007144
 SSON#: 6020, 7470A

9315_Ra226, 9320_Ra228
 2450C, 4500_F, C, SM4500_C1, E, SM4500_SO4, E
 6020, 7470A

Analysis Requested: D N D N

Special Instructions/Note: Total Number of containers

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: *Shawn Victory* Date: 12-4-16 1545
 Relinquished by: *Shawn Victory* Date: 12-15-16 0850
 Relinquished by: Company
 Relinquished by: Company
 Relinquished by: Company

Cooler Temperature(s) °C and Other Remarks: 3.5°C, 6.9°C ZK 5

Chain of Custody Record

Client Information Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam.Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitnire, Chelyenne R E-Mail: chelyenne.whitnire@testamericainc.com Camper Tracking No(s): 550-Orlando		COC No: 400-59085-24789.1 Page: Page 1 of 2 Job #: 400-131652	
Sampler: Shawn Victory Phone: 407-399-3348		Analysis Requested Total Number of Containers:			
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOM#:		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 Other:			
Sample Identification CCR-9 FB-01 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 FD-01		Sample Date 12-15-16 900 936 1014 1055 1137 1212 -		Sample Time 855 900 936 1014 1055 1137 1212 -	
Sample Type (C=comp, G=grab) G - - - - - -		Matrix (W=water, S=solid, O=soil, I=IPI-Tissue, A=Air) Water Water Water Water Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) D N D X X X X X X	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]		Date/Time: 12-15-16 1500 Date/Time: Date/Time:		Date/Time: 12/16/16 0901 Date/Time: Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 29°C, 3.4°C, 5		Company: TAPAC Company: Company:	



TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record



TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)
 Client Contact: Whitmire, Cheyenne K
 Shipping/Receiving: cheyenne.whitmire@testamericainc.com
 Company: TestAmerica Laboratories, Inc.
 Address: 13715 Rider Trail North, NELAP - Florida
 City: Earth City
 State, Zip: MO, 63045
 Phone: 314-298-8566 (Tel) 314-298-8757 (Fax)
 Email:
 Project Name: CCR Lakeland
 Site:
 Due Date Requested: 1/19/2017
 TAT Requested (days):
 PO #:
 WO #:
 Project #: 40007144
 SSOW#:
 Lab PM: Whitmire, Cheyenne K
 E-Mail: cheyenne.whitmire@testamericainc.com
 State of Origin: Florida
 Accreditations Required (See note): NELAP - Florida

Sample Information (Sub Contract Lab)
 Sample: 400-131652-Chain of Custody
 Lab PM: Whitmire, Cheyenne K
 E-Mail: cheyenne.whitmire@testamericainc.com
 State of Origin: Florida
 Accreditations Required (See note): NELAP - Florida

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
 Other:
 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)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, B=Tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320 Ra228/PreSep_0 Radium-228	9315 Ra226/PreSep_21 Radium-226	Ra226Ra228_GFP/ Rad 226 + Rad 228	Total Number of containers	Special Instructions/Note:
CCR-1 (400-131652-1)	12/14/16	09:16 Eastern	Water	Water	X	X	X	X	X	1	
CCR-2 (400-131652-2)	12/14/16	10:02 Eastern	Water	Water	X	X	X	X	X	1	
CCR-3 (400-131652-3)	12/14/16	10:38 Eastern	Water	Water	X	X	X	X	X	1	
CCR-4 (400-131652-4)	12/14/16	11:08 Eastern	Water	Water	X	X	X	X	X	1	
CCR-5 (400-131652-5)	12/14/16	11:45 Eastern	Water	Water	X	X	X	X	X	1	
CCR-6 (400-131652-6)	12/14/16	12:20 Eastern	Water	Water	X	X	X	X	X	1	
CCR-7 (400-131652-7)	12/14/16	13:12 Eastern	Water	Water	X	X	X	X	X	1	
CCR-8 (400-131652-8)	12/14/16	13:45 Eastern	Water	Water	X	X	X	X	X	1	
CCR-9 (400-131652-9)	12/15/16	08:55 Eastern	Water	Water	X	X	X	X	X	1	

Analysis Requested

Special Instructions/Note:

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

Empty Kit Relinquished by:
 Relinquished by: [Signature]
 Date/Time: 12/16/16 1630
 Company: [Signature]
 Date/Time: 12-16-16 0945
 Company: [Signature]

Relinquished by:
 Date/Time:
 Company:

Custody Seals Intact: Yes No
 Custody Seal No.:

Relinquished by:
 Date/Time:
 Company:

Relinquished by:
 Date/Time:
 Company:

Cooler Temperature(s) °C and Other Remarks:

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Chain of Custody Record

Client Information (Sub Contract Lab)		Lab PM: Whitmore, Chyenne R	Carrier Tracking No(s): 400-134910 2									
Client Contact: TestAmerica Laboratories, Inc.		E-Mail: chyenne.whitmore@testamericainc.com	State of Origin: Florida									
Shipping/Receiving: 13715 Rider Trail North, Earth City, MO, 63045		Accreditations Required (See note): NELAP - Florida	Job #: 400-131652-2									
Address: 314-298-8566(Tel) 314-298-8757(Fax)		Page 2 of 2										
City: Earth City		Page 2 of 2										
State, Zip: MO, 63045		Job #:										
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		Preservation Codes:										
Email:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amnolur H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:										
Project Name: CCR Lakeland		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)										
Site:		Total Number of Containers										
Due Date Requested: 1/19/2017		Analysis Requested										
TAT Requested (days):		9320 Ra228/PreSep_0 Radium-228										
PO #:		9315 Ra226/PreSep_21 Radium-226										
WO #:		Ra226Ra228_GFP/ Rad 226 + Rad 228										
Project #: 40007144		Perform MS/MSD (Yes or No)										
SSOW#:		Field Filtered Sample (Yes or No)										
Sample Identification - Client ID (Lab ID)		Preservation Code:										
Sample	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320 Ra228/PreSep_0 Radium-228	9315 Ra226/PreSep_21 Radium-226	Ra226Ra228_GFP/ Rad 226 + Rad 228	Analysis Requested	Preservation Codes	Other
FB-01 (400-131652-10)	12/15/16	09:00 Eastern		Water	X	X	X	X	X			
CCR-10 (400-131652-11)	12/15/16	09:36 Eastern		Water	X	X	X	X	X			
CCR-11 (400-131652-12)	12/15/16	10:14 Eastern		Water	X	X	X	X	X			
CCR-12 (400-131652-13)	12/15/16	10:55 Eastern		Water	X	X	X	X	X			
CCR-12 (400-131652-13DU)	12/15/16	10:55 Eastern	DU	Water	X	X	X	X	X			
CCR-13 (400-131652-14)	12/15/16	11:37 Eastern		Water	X	X	X	X	X			
CCR-14 (400-131652-15)	12/15/16	12:12 Eastern		Water	X	X	X	X	X			
FD-01 (400-131652-16)	12/15/16	Eastern		Water	X	X	X	X	X			
Special Instructions/Note:												
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody.												
Possible Hazard Identification												
Unconfirmed												
Deliverable Requested: I, II, III, IV, Other (specify)												
Primary Deliverable Rank: 2												
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)												
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months												
Special Instructions/QC Requirements:												
Method of Shipment:												
Date/Time: 12/16/16 10:45												
Company: TestAmerica												
Date/Time: 12/16/16 09:45												
Company: Taylor												
Date/Time:												
Company:												
Date/Time:												
Company:												
Cooler Temperature(s) °C and Other Remarks:												



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-132574-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
2/9/2017 4:50:17 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Job ID: 400-132574-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-132574-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-132574-3), CCR-4 (400-132574-4), CCR-5 (400-132574-5), CCR-6 (400-132574-6), CCR-7 (400-132574-7), CCR-8 (400-132574-8), CCR-9 (400-132574-9), CCR-11 (400-132574-12), CCR-12 (400-132574-13), CCR-13 (400-132574-14), CCR-14 (400-132574-15) and DUP-01 (400-132574-16). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 338842 were outside control limits. Sample matrix interference are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 338773 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MSD) recoveries for analytical batch 338840 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-132574-1	CCR-1	Water	01/11/17 09:00	01/12/17 09:21
400-132574-2	CCR-2	Water	01/11/17 09:37	01/12/17 09:21
400-132574-3	CCR-3	Water	01/11/17 10:17	01/12/17 09:21
400-132574-4	CCR-4	Water	01/11/17 10:55	01/12/17 09:21
400-132574-5	CCR-5	Water	01/11/17 11:27	01/12/17 09:21
400-132574-6	CCR-6	Water	01/11/17 12:33	01/12/17 09:21
400-132574-7	CCR-7	Water	01/11/17 13:09	01/12/17 09:21
400-132574-8	CCR-8	Water	01/11/17 13:46	01/12/17 09:21
400-132574-9	CCR-9	Water	01/12/17 09:02	01/13/17 14:39
400-132574-10	EQB-01	Water	01/12/17 08:30	01/13/17 14:39
400-132574-11	CCR-10	Water	01/12/17 09:42	01/13/17 14:39
400-132574-12	CCR-11	Water	01/12/17 10:23	01/13/17 14:39
400-132574-13	CCR-12	Water	01/12/17 11:11	01/13/17 14:39
400-132574-14	CCR-13	Water	01/12/17 11:52	01/13/17 14:39
400-132574-15	CCR-14	Water	01/12/17 12:28	01/13/17 14:39
400-132574-16	DUP-01	Water	01/12/17 00:00	01/13/17 14:39

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-1

Date Collected: 01/11/17 09:00

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 15:20	5
Arsenic	0.0014		0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 15:20	5
Barium	0.022		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 15:20	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 15:20	5
Boron	0.037	I	0.050	0.021	mg/L		01/13/17 08:35	01/13/17 15:20	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 15:20	5
Calcium	30		0.25	0.13	mg/L		01/13/17 08:35	01/13/17 15:20	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 15:20	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 15:20	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 15:20	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 15:20	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 15:20	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 15:20	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 15:20	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	160		5.0	3.4	mg/L			01/14/17 15:45	1
Chloride	8.8		2.0	0.60	mg/L			01/17/17 10:15	1
Fluoride	0.032	U	0.10	0.032	mg/L			01/24/17 11:12	1
Sulfate	62		25	7.0	mg/L			01/17/17 10:06	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			01/11/17 08:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-2

Date Collected: 01/11/17 09:37

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:15	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:15	5
Barium	0.058		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:15	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:15	5
Boron	0.036	I	0.050	0.021	mg/L		01/13/17 08:35	01/13/17 16:15	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:15	5
Calcium	45		0.25	0.13	mg/L		01/13/17 08:35	01/13/17 16:15	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:15	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:15	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:15	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 16:15	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:15	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:15	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	240		5.0	3.4	mg/L			01/14/17 15:45	1
Chloride	10		2.0	0.60	mg/L			01/17/17 10:15	1
Fluoride	0.070	I	0.10	0.032	mg/L			01/24/17 11:24	1
Sulfate	95	I	100	28	mg/L			01/17/17 10:06	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.70				SU			01/11/17 08:37	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-3

Date Collected: 01/11/17 10:17

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:20	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:20	5
Barium	0.042		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:20	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:20	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:20	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:20	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:20	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:20	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 16:20	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:20	5
Selenium	0.00028	I	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:20	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:20	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.50	0.21	mg/L		01/13/17 08:35	01/16/17 13:02	50
Calcium	480		2.5	1.3	mg/L		01/13/17 08:35	01/16/17 13:02	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.6	3.8	mg/L			01/14/17 15:45	1
Chloride	49		2.0	0.60	mg/L			01/17/17 10:15	1
Fluoride	0.17		0.10	0.032	mg/L			01/24/17 11:27	1
Sulfate	1100		180	49	mg/L			01/17/17 12:04	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.22				SU			01/11/17 09:17	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-4

Date Collected: 01/11/17 10:55

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:24	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:24	5
Barium	0.32		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:24	5
Beryllium	0.00056	I	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:24	5
Boron	0.73		0.050	0.021	mg/L		01/13/17 08:35	01/13/17 16:24	5
Cadmium	0.0014		0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:24	5
Chromium	0.0020	I	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:24	5
Cobalt	0.0038		0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:24	5
Lithium	0.012		0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 16:24	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:24	5
Selenium	0.00099	I	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:24	5
Thallium	0.00037	I	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:24	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000		5.0	2.5	mg/L		01/13/17 08:35	01/16/17 13:07	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7900		25	17	mg/L			01/14/17 15:45	1
Chloride	3200		200	60	mg/L			01/17/17 11:09	100
Fluoride	0.032	U	0.10	0.032	mg/L			01/24/17 11:29	1
Sulfate	470		100	28	mg/L			01/17/17 10:06	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.75				SU			01/11/17 09:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-5

Date Collected: 01/11/17 11:27

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:29	5
Arsenic	0.00079	I	0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:29	5
Barium	0.066		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:29	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:29	5
Boron	0.54		0.050	0.021	mg/L		01/13/17 08:35	01/13/17 16:29	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:29	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:29	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:29	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:29	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:29	5
Selenium	0.00073	I	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:29	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:29	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		5.0	2.5	mg/L		01/13/17 08:35	01/16/17 13:11	100
Lithium	2.3		0.050	0.064	mg/L		01/13/17 08:35	01/16/17 13:11	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000		83	57	mg/L			01/14/17 15:45	1
Chloride	3300		200	60	mg/L			01/17/17 12:10	100
Fluoride	0.032	U	0.10	0.032	mg/L			01/24/17 11:33	1
Sulfate	280		150	42	mg/L			01/17/17 11:33	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.96				SU			01/11/17 10:27	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-6

Date Collected: 01/11/17 12:33

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:33	5
Arsenic	0.00051	I	0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:33	5
Barium	0.031		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:33	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:33	5
Boron	0.63		0.050	0.021	mg/L		01/13/17 08:35	01/13/17 16:33	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:33	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:33	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:33	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:33	5
Lithium	0.18		0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 16:33	5
Molybdenum	0.0017	I	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:33	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:33	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:33	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		5.0	2.5	mg/L		01/13/17 08:35	01/16/17 13:16	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:43	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3600		25	17	mg/L			01/14/17 15:45	1
Chloride	1100		60	18	mg/L			01/17/17 12:10	30
Fluoride	0.18		0.10	0.032	mg/L			01/24/17 11:35	1
Sulfate	420		150	42	mg/L			01/17/17 11:33	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.57				SU			01/11/17 11:33	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-7

Date Collected: 01/11/17 13:09

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:42	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:42	5
Barium	0.046		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:42	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:42	5
Boron	0.64		0.050	0.021	mg/L		01/13/17 08:35	01/13/17 16:42	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:42	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:42	5
Lithium	0.026		0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 16:42	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:42	5
Selenium	0.00042	I	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:42	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:42	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	300		2.5	1.3	mg/L		01/13/17 08:35	01/16/17 13:20	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:44	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2700		10	6.8	mg/L			01/14/17 15:45	1
Chloride	790		60	18	mg/L			01/17/17 12:10	30
Fluoride	0.26		0.10	0.032	mg/L			01/24/17 11:39	1
Sulfate	380		150	42	mg/L			01/17/17 11:33	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.39				SU			01/11/17 12:09	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-8

Date Collected: 01/11/17 13:46

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/13/17 08:35	01/13/17 16:47	5
Arsenic	0.0023		0.0013	0.00046	mg/L		01/13/17 08:35	01/13/17 16:47	5
Barium	0.045		0.0025	0.00049	mg/L		01/13/17 08:35	01/13/17 16:47	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/13/17 08:35	01/13/17 16:47	5
Boron	0.17		0.050	0.021	mg/L		01/13/17 08:35	01/13/17 16:47	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/13/17 08:35	01/13/17 16:47	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/13/17 08:35	01/13/17 16:47	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/13/17 08:35	01/13/17 16:47	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/13/17 08:35	01/13/17 16:47	5
Lithium	0.025		0.0025	0.0032	mg/L		01/13/17 08:35	01/13/17 16:47	5
Molybdenum	0.019		0.010	0.00085	mg/L		01/13/17 08:35	01/13/17 16:47	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/13/17 08:35	01/13/17 16:47	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/13/17 08:35	01/13/17 16:47	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170		1.3	0.63	mg/L		01/13/17 08:35	01/16/17 13:25	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/14/17 13:29	01/16/17 14:46	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	630		5.0	3.4	mg/L			01/14/17 15:45	1
Chloride	9.0		2.0	0.60	mg/L			01/17/17 11:40	1
Fluoride	0.29		0.10	0.032	mg/L			01/24/17 11:54	1
Sulfate	310		150	42	mg/L			01/17/17 12:04	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.34				SU			01/11/17 12:46	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-9

Date Collected: 01/12/17 09:02

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 20:19	5
Arsenic	0.0034		0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 20:19	5
Barium	0.11		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 20:19	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 20:19	5
Boron	0.42	U	1.0	0.42	mg/L		01/16/17 08:30	01/17/17 14:37	100
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 20:19	5
Calcium	900		5.0	2.5	mg/L		01/16/17 08:30	01/17/17 14:37	100
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 20:19	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 20:19	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 20:19	5
Lithium	0.11		0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 20:19	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 20:19	5
Selenium	0.0010	I	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 20:19	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 20:19	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:07	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6500		25	17	mg/L			01/14/17 15:45	1
Chloride	2100		100	30	mg/L			01/17/17 17:55	50
Fluoride	0.18		0.10	0.032	mg/L			01/24/17 12:00	1
Sulfate	990		150	42	mg/L			01/17/17 12:40	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.87				SU			01/12/17 08:02	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: EQB-01

Date Collected: 01/12/17 08:30

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 20:24	5
Arsenic	0.00049	I	0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 20:24	5
Barium	0.00049	U	0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 20:24	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 20:24	5
Boron	0.021	U	0.050	0.021	mg/L		01/16/17 08:30	01/17/17 14:41	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 20:24	5
Calcium	0.13	I	0.25	0.13	mg/L		01/16/17 08:30	01/16/17 20:24	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 20:24	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 20:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 20:24	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 20:24	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 20:24	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 20:24	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 20:24	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:08	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			01/16/17 15:17	1
Chloride	0.60	U	2.0	0.60	mg/L			01/17/17 15:21	1
Fluoride	0.032	U	0.10	0.032	mg/L			01/24/17 12:03	1
Sulfate	1.4	U	5.0	1.4	mg/L			01/17/17 14:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-10

Date Collected: 01/12/17 09:42

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 20:28	5
Arsenic	0.0014		0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 20:28	5
Barium	0.023		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 20:28	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 20:28	5
Boron	0.20		0.050	0.021	mg/L		01/16/17 08:30	01/17/17 14:46	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 20:28	5
Calcium	89		0.25	0.13	mg/L		01/16/17 08:30	01/16/17 20:28	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 20:28	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 20:28	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 20:28	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 20:28	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 20:28	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 20:28	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 20:28	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:09	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	530		5.0	3.4	mg/L			01/14/17 16:22	1
Chloride	36		20	6.0	mg/L			01/17/17 17:42	10
Fluoride	0.070	I	0.10	0.032	mg/L			01/24/17 12:05	1
Sulfate	160		100	28	mg/L			01/17/17 15:13	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.01				SU			01/12/17 08:42	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-11

Date Collected: 01/12/17 10:23

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 20:55	5
Arsenic	0.11		0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 20:55	5
Barium	0.048		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 20:55	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 20:55	5
Boron	0.49		0.050	0.021	mg/L		01/16/17 08:30	01/16/17 20:55	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 20:55	5
Calcium	460		2.5	1.3	mg/L		01/16/17 08:30	01/17/17 14:50	50
Chromium	0.0012	I	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 20:55	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 20:55	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 20:55	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 20:55	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 20:55	5
Selenium	0.0015		0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 20:55	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 20:55	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:20	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		10	6.8	mg/L			01/14/17 16:22	1
Chloride	480		20	6.0	mg/L			01/17/17 17:41	10
Fluoride	0.40		0.10	0.032	mg/L			01/24/17 12:09	1
Sulfate	1300		200	56	mg/L			01/17/17 17:00	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.91				SU			01/12/17 09:23	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-12

Date Collected: 01/12/17 11:11

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 21:00	5
Arsenic	0.028		0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 21:00	5
Barium	0.013		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 21:00	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 21:00	5
Boron	0.56		0.050	0.021	mg/L		01/16/17 08:30	01/16/17 21:00	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 21:00	5
Calcium	510		2.5	1.3	mg/L		01/16/17 08:30	01/17/17 14:55	50
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 21:00	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 21:00	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 21:00	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 21:00	5
Molybdenum	0.0060	I	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 21:00	5
Selenium	0.00072	I	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 21:00	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 21:00	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:21	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			01/14/17 16:22	1
Chloride	28		2.0	0.60	mg/L			01/17/17 15:22	1
Fluoride	0.51		0.10	0.032	mg/L			01/24/17 12:11	1
Sulfate	970		150	42	mg/L			01/17/17 16:30	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.37				SU			01/12/17 10:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-13

Date Collected: 01/12/17 11:52

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 21:04	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 21:04	5
Barium	0.047		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 21:04	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 21:04	5
Boron	0.21		0.050	0.021	mg/L		01/16/17 08:30	01/16/17 21:04	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 21:04	5
Calcium	490		2.5	1.3	mg/L		01/16/17 08:30	01/17/17 14:59	50
Chromium	0.0020	I	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 21:04	5
Cobalt	0.0019	I	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 21:04	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 21:04	5
Lithium	0.32		0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 21:04	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 21:04	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 21:04	5
Thallium	0.000095	I	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 21:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:22	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		10	6.8	mg/L			01/14/17 16:22	1
Chloride	560		40	12	mg/L			01/17/17 17:08	20
Fluoride	0.44		0.10	0.032	mg/L			01/24/17 12:14	1
Sulfate	1200		180	49	mg/L			01/17/17 17:00	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.12				SU			01/12/17 10:52	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: CCR-14

Date Collected: 01/12/17 12:28

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 21:09	5
Arsenic	0.0030		0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 21:09	5
Barium	0.015		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 21:09	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 21:09	5
Boron	1.1		0.050	0.021	mg/L		01/16/17 08:30	01/16/17 21:09	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 21:09	5
Calcium	450		2.5	1.3	mg/L		01/16/17 08:30	01/17/17 15:35	50
Chromium	0.0012	I	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 21:09	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 21:09	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 21:09	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 21:09	5
Molybdenum	0.0015	I	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 21:09	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 21:09	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 21:09	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:23	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			01/14/17 16:22	1
Chloride	95		20	6.0	mg/L			01/17/17 17:08	10
Fluoride	0.37		0.10	0.032	mg/L			01/24/17 12:18	1
Sulfate	1000		150	42	mg/L			01/17/17 16:30	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.15				SU			01/12/17 11:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Client Sample ID: DUP-01

Date Collected: 01/12/17 00:00

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		01/16/17 08:30	01/16/17 21:13	5
Arsenic	0.026		0.0013	0.00046	mg/L		01/16/17 08:30	01/16/17 21:13	5
Barium	0.013		0.0025	0.00049	mg/L		01/16/17 08:30	01/16/17 21:13	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		01/16/17 08:30	01/16/17 21:13	5
Boron	0.55		0.050	0.021	mg/L		01/16/17 08:30	01/16/17 21:13	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		01/16/17 08:30	01/16/17 21:13	5
Calcium	520		2.5	1.3	mg/L		01/16/17 08:30	01/17/17 15:31	50
Chromium	0.0011	U	0.0025	0.0011	mg/L		01/16/17 08:30	01/16/17 21:13	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		01/16/17 08:30	01/16/17 21:13	5
Lead	0.00035	U	0.0013	0.00035	mg/L		01/16/17 08:30	01/16/17 21:13	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		01/16/17 08:30	01/16/17 21:13	5
Molybdenum	0.0062	I	0.010	0.00085	mg/L		01/16/17 08:30	01/16/17 21:13	5
Selenium	0.00052	I	0.0013	0.00024	mg/L		01/16/17 08:30	01/16/17 21:13	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		01/16/17 08:30	01/16/17 21:13	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		01/16/17 16:04	01/17/17 13:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200		5.0	3.4	mg/L			01/14/17 15:45	1
Chloride	28		2.0	0.60	mg/L			01/17/17 16:37	1
Fluoride	0.51		0.10	0.032	mg/L			01/24/17 15:02	1
Sulfate	1000		180	49	mg/L			01/17/17 17:00	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.37				SU			01/11/17 23:00	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

Glossary

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

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 400-59096-24789.1

Client Information		Lab PII: Whitmire, Cheyenne R		Carrier Tracking No(s):	
Mr. Sam Stafford		E-Mail: cheyenne.whitmire@testamericainc.com		530-Orlando	
Company: Goldier Associates Inc.		Due Date Requested:		COC No: 400-59096-24789.1	
Address: 9428 Baymeadows Road Suite 400		TAT Requested (days):		Page: Page 1 of 2	
City: Jacksonville		PO #: TA-15454542-01		Job #:	
State, Zip: FL, 32256		WO #: 15-45454-2		Preservation Codes:	
Phone: 904-363-3430(Tel)		Project #: 40007144		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Archlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email: Sam_Stafford@goldier.com		SSOW#:		Other:	
Project Name: CCR Lakeland		Sample Date		Total Number of Containers	
Site:		Sample Time		Special Instructions/Note:	
Sample Identification	Sample Type (C=Comp, G=grab)	Sample Time	Sample Date	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)
CCR-1	Water	900	1-11-17	X	X
CCR-2	Water	937		X	X
CCR-3	Water	1017		X	X
CCR-4	Water	1055		X	X
CCR-5	Water	1127		X	X
CCR-6	Water	1233		X	X
CCR-7	Water	1309		X	X
CCR-8	Water	1346		X	X
CCR-9	Water				
CCR-10	Water				
CCR-11	Water				
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements: MS/MSD extra sample Fieldtime = 8 hours 100 miles  400-132574 COC					
Relinquished by: [Signature]		Date/Time: 1-11-17 1530	Company: TAOL		
Relinquished by: [Signature]		Date/Time:	Company: David Pare		
Relinquished by: [Signature]		Date/Time:	Company: TA Sampler		
Custody Seals Intact:		Cooler Temperature(s) °C and Other Remarks: 2.30e / 2.50			
Custody Seal No. Δ Yes Δ No		182			



3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Sam Stafford Phone: 407-399-3348 Lab PM: Whitmore, Chyenne R E-Mail: cheyenne.whitmore@testamericainc.com		Carrier Tracking No(s): 530-Orlando COC No: 400-59095-24789.2 Page: 2 of 2 Job #:	
Due Date Requested: TAT Requested (days):		Analysis Requested	
Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State/Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SC3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOW#:		Total Number of containers:	
Sample Identification Sample Date Sample Time Sample Type (C=C-omp, G=grab) Matrix (W=water, S=solid, O=soil, E=extract, AS=air) Preservation Code		Field Filtered Sample (Yes or No) D N D 9316_Ra226_9320_Ra228 2640C_4600_F_C_Sm4600_CL_E_Sm4600_SO4_E 6020_7470A	
CCR-9 EQB-01 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 DUP-01	1-12-17 1 830 942 1023 1111 1152 1228 Y	G 	Water Water Water Water Water Water Water Water
Special Instructions/Note: Field Time - 7 hours 100 miles		Special Instructions/QC Requirements: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Method of Shipment:	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:	
Relinquished by: Alexandra Date: 1-12-17 1500 Company: TA		Received by: [Signature] Date/Time: 1/13/17 1439 Company: TA	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: 1.1°C 2.0°C Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-132574-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
2/21/2017 10:53:48 AM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-132574-1	CCR-1	Water	01/11/17 09:00	01/12/17 09:21
400-132574-2	CCR-2	Water	01/11/17 09:37	01/12/17 09:21
400-132574-3	CCR-3	Water	01/11/17 10:17	01/12/17 09:21
400-132574-4	CCR-4	Water	01/11/17 10:55	01/12/17 09:21
400-132574-5	CCR-5	Water	01/11/17 11:27	01/12/17 09:21
400-132574-6	CCR-6	Water	01/11/17 12:33	01/12/17 09:21
400-132574-7	CCR-7	Water	01/11/17 13:09	01/12/17 09:21
400-132574-8	CCR-8	Water	01/11/17 13:46	01/12/17 09:21
400-132574-9	CCR-9	Water	01/12/17 09:02	01/13/17 14:39
400-132574-10	EQB-01	Water	01/12/17 08:30	01/13/17 14:39
400-132574-11	CCR-10	Water	01/12/17 09:42	01/13/17 14:39
400-132574-12	CCR-11	Water	01/12/17 10:23	01/13/17 14:39
400-132574-13	CCR-12	Water	01/12/17 11:11	01/13/17 14:39
400-132574-14	CCR-13	Water	01/12/17 11:52	01/13/17 14:39
400-132574-15	CCR-14	Water	01/12/17 12:28	01/13/17 14:39
400-132574-16	DUP-01	Water	01/12/17 11:11	01/13/17 14:39

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-1

Lab Sample ID: 400-132574-1

Date Collected: 01/11/17 09:00

Matrix: Water

Date Received: 01/12/17 09:21

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.67		0.598	0.683	1.00	0.310	pCi/L	01/24/17 13:45	02/16/17 20:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					01/24/17 13:45	02/16/17 20:35	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.35		0.336	0.359	1.00	0.395	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	84.1		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.02		0.686	0.772	5.00	0.395	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-2

Lab Sample ID: 400-132574-2

Date Collected: 01/11/17 09:37

Matrix: Water

Date Received: 01/12/17 09:21

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.22		0.672	0.772	1.00	0.376	pCi/L	01/24/17 13:45	02/16/17 20:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					01/24/17 13:45	02/16/17 20:35	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.62		0.394	0.421	1.00	0.465	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	78.9		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.83		0.779	0.879	5.00	0.465	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-3

Lab Sample ID: 400-132574-3

Date Collected: 01/11/17 10:17

Matrix: Water

Date Received: 01/12/17 09:21

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.17		0.714	0.852	1.00	0.306	pCi/L	01/24/17 13:45	02/16/17 22:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					01/24/17 13:45	02/16/17 22:19	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.340	0.353	1.00	0.448	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	84.1		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.19		0.791	0.923	5.00	0.448	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-4
Date Collected: 01/11/17 10:55
Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	52.5		2.58	5.38	1.00	0.452	pCi/L	01/24/17 13:45	02/16/17 22:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	58.1		40 - 110					01/24/17 13:45	02/16/17 22:19	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	29.8		1.53	3.14	1.00	0.646	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	58.1		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	81.5		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	82.2		3.00	6.23	5.00	0.646	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-5
Date Collected: 01/11/17 11:27
Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-5
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.3		1.11	1.57	1.00	0.331	pCi/L	01/24/17 13:45	02/16/17 22:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					01/24/17 13:45	02/16/17 22:19	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	7.21		0.655	0.932	1.00	0.444	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	84.1		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	19.5		1.29	1.83	5.00	0.444	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-6

Lab Sample ID: 400-132574-6

Date Collected: 01/11/17 12:33

Matrix: Water

Date Received: 01/12/17 09:21

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.00		0.650	0.743	1.00	0.418	pCi/L	01/24/17 13:45	02/16/17 22:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					01/24/17 13:45	02/16/17 22:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.81		0.400	0.433	1.00	0.461	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	84.9		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.81		0.763	0.860	5.00	0.461	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-7

Date Collected: 01/11/17 13:09

Date Received: 01/12/17 09:21

Lab Sample ID: 400-132574-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.6		1.19	1.71	1.00	0.447	pCi/L	01/24/17 13:45	02/16/17 22:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.7		40 - 110					01/24/17 13:45	02/16/17 22:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.35		0.575	0.701	1.00	0.525	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.7		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	84.5		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	17.9		1.32	1.85	5.00	0.525	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-8

Lab Sample ID: 400-132574-8

Date Collected: 01/11/17 13:46

Matrix: Water

Date Received: 01/12/17 09:21

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.83		0.777	0.890	1.00	0.399	pCi/L	01/24/17 13:45	02/16/17 22:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.5		40 - 110					01/24/17 13:45	02/16/17 22:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.729	U	0.474	0.479	1.00	0.738	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.5		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	84.1		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.56		0.910	1.01	5.00	0.738	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-9

Lab Sample ID: 400-132574-9

Date Collected: 01/12/17 09:02

Matrix: Water

Date Received: 01/13/17 14:39

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	17.7		1.29	2.05	1.00	0.380	pCi/L	01/24/17 13:45	02/16/17 22:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					01/24/17 13:45	02/16/17 22:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.98		0.530	0.645	1.00	0.495	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	83.7		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	21.7		1.39	2.15	5.00	0.495	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: EQB-01

Date Collected: 01/12/17 08:30

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-10

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0814	U	0.149	0.149	1.00	0.353	pCi/L	01/24/17 13:45	02/16/17 22:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					01/24/17 13:45	02/16/17 22:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.680		0.318	0.324	1.00	0.465	pCi/L	01/24/17 14:07	02/15/17 13:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					01/24/17 14:07	02/15/17 13:57	1
Y Carrier	83.7		40 - 110					01/24/17 14:07	02/15/17 13:57	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.599		0.351	0.357	5.00	0.465	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-10

Date Collected: 01/12/17 09:42

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-11

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.29		0.412	0.428	1.00	0.417	pCi/L	01/24/17 13:45	02/16/17 22:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		40 - 110					01/24/17 13:45	02/16/17 22:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.714		0.338	0.344	1.00	0.493	pCi/L	01/24/17 14:07	02/15/17 13:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		40 - 110					01/24/17 14:07	02/15/17 13:58	1
Y Carrier	81.1		40 - 110					01/24/17 14:07	02/15/17 13:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.01		0.533	0.550	5.00	0.493	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-11

Date Collected: 01/12/17 10:23

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-12

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.15		0.716	0.905	1.00	0.262	pCi/L	01/24/17 13:45	02/17/17 08:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					01/24/17 13:45	02/17/17 08:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.42		0.533	0.671	1.00	0.443	pCi/L	01/24/17 14:07	02/15/17 13:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					01/24/17 14:07	02/15/17 13:58	1
Y Carrier	86.7		40 - 110					01/24/17 14:07	02/15/17 13:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	10.6		0.893	1.13	5.00	0.443	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-12

Lab Sample ID: 400-132574-13

Date Collected: 01/12/17 11:11

Matrix: Water

Date Received: 01/13/17 14:39

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.24		0.456	0.498	1.00	0.276	pCi/L	01/24/17 13:45	02/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.9		40 - 110					01/24/17 13:45	02/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.131	U	0.297	0.297	1.00	0.507	pCi/L	01/24/17 14:07	02/15/17 13:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.9		40 - 110					01/24/17 14:07	02/15/17 13:58	1
Y Carrier	87.1		40 - 110					01/24/17 14:07	02/15/17 13:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.37		0.544	0.580	5.00	0.507	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-13

Lab Sample ID: 400-132574-14

Date Collected: 01/12/17 11:52

Matrix: Water

Date Received: 01/13/17 14:39

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	71.8		2.47	6.92	1.00	0.303	pCi/L	01/24/17 13:45	02/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					01/24/17 13:45	02/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	9.56		0.737	1.15	1.00	0.433	pCi/L	01/24/17 14:07	02/15/17 13:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					01/24/17 14:07	02/15/17 13:58	1
Y Carrier	84.1		40 - 110					01/24/17 14:07	02/15/17 13:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	81.4		2.58	7.01	5.00	0.433	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: CCR-14

Date Collected: 01/12/17 12:28

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-15

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	35.7		1.79	3.68	1.00	0.299	pCi/L	01/24/17 13:45	02/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					01/24/17 13:45	02/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.719		0.331	0.338	1.00	0.480	pCi/L	01/24/17 14:07	02/15/17 13:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					01/24/17 14:07	02/15/17 13:58	1
Y Carrier	83.7		40 - 110					01/24/17 14:07	02/15/17 13:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	36.4		1.82	3.69	5.00	0.480	pCi/L		02/20/17 09:41	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Client Sample ID: DUP-01

Date Collected: 01/12/17 11:11

Date Received: 01/13/17 14:39

Lab Sample ID: 400-132574-16

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.43		0.489	0.536	1.00	0.372	pCi/L	01/24/17 13:45	02/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					01/24/17 13:45	02/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.402	U	0.307	0.309	1.00	0.485	pCi/L	01/24/17 14:07	02/15/17 13:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					01/24/17 14:07	02/15/17 13:58	1
Y Carrier	83.0		40 - 110					01/24/17 14:07	02/15/17 13:58	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.83		0.578	0.619	5.00	0.485	pCi/L		02/20/17 09:41	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-132574-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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)

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica

Client Information		Lab P/N: Whitnire, Cheyenne R		Carrier Tracking No(s): 530-Orlando		COC No: 400-59096-24789.1	
Mr. Sam Stafford		E-Mail: cheyenne.whitnire@testamericainc.com		Page: Page 1 of 2		Job #:	
Company: Goldier Associates Inc.		Due Date Requested:		Analysis Requested		Preservation Codes:	
Address: 9428 Baymeadows Road Suite 400		TAT Requested (days):		Total Number of Containers		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)	
City: Jacksonville		PO #: TA-15454542-01		Form MS/MSD/MS/OP/NO		Other:	
State, Zip: FL, 32256		WO #: 15-45454-2		9315_Ra226, 9320_Ra228		Special Instructions/Note:	
Phone: 904-363-3430(Tel)		Project #: 40007144		2540C, 4500_F, C, SM4500, CL_E, SM4500_504_E		MS/MSD extra sample	
Email: Sam_Stafford@goldier.com		SSOW#:		6020, 7470A		Fieldtime = 8 hours	
Project Name: CCR Lakeland		Sample Date		Field Filtered Sample (Yes or No)		100 miles	
Site:		Sample Time		Matrix (Water, Swab, On-water, Air)		400-132574 COC	
Sample Identification		Sample Type (C=Comp, G=grab)		Preservation Code		QR Code	
CCR-1	1-11-17	900	G	X	X	X	
CCR-2		937		X	X	X	
CCR-3		1017		X	X	X	
CCR-4		1055		X	X	X	
CCR-5		1127		X	X	X	
CCR-6		1233		X	X	X	
CCR-7		1309		X	X	X	
CCR-8		1346		X	X	X	
CCR-9							
CCR-10							
CCR-11							
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Deliverable Requested: I, II, III, IV, Other (specify)		Date: 1/19/17		Time: 1600		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: <i>Shawn Victory</i>		Date/Time: 1-11-17 1530		Company: TAOE		Method of Shipment: TA Sampler	
Relinquished by: <i>Shawn Victory</i>		Date/Time:		Company:		Date/Time: 1/18/17 0941	
Relinquished by:		Date/Time:		Company:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.3°C / 2.5°C		182	



3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Shawn Victory Mr. Sam Stafford Phone: 407-399-3348 E-Mail: cheyenne.whitmore@testamericainc.com		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com		Carrier Tracking No(s): 530-Orlando		COC No: 400-59095-24789.2 Page: Page 2 of 2 Job #:													
Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State/Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOW#:		Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SC3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)													
Sample Identification CCR-9 FAB-01 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 DUP-01		Sample Date 1-12-17 1 1 1 1 1 1		Sample Time 902 830 942 1023 1111 1152 1228 1		Sample Type (C=C-omp, G=grab) G 1 1 1 1 1 1 1		Matrix (W=water, S=solid, O=oil, E=ethylene, AS=air) Water Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) X X X X X X X X		D N D X X X X X X		9316_Ra226_9320_Ra228 2640C_4600_F_C_Sm4600_CL_E_Sm4600_SO4_E 6020_7470A		Total Number of containers X X X X X X X X		Special Instructions/Note: FieldTime - 7 hours 100 miles  400-132574 COC	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological								Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				Special Instructions/QC Requirements:							
Empty Kit Relinquished by: <i>Shawn Victory</i> Relinquished by: <i>Shawn Victory</i> Relinquished by: Relinquished by:		Date: 1-12-17 1500 Date/Time: Date/Time: Date/Time:		Method of Shipment: Received by: <i>Shawn Victory</i> Received by: Received by:		Company: TA Company: Company:		Date/Time: 1/13/17 1439 Date/Time: Date/Time:		Cooler Temperature(s) °C and Other Remarks: 1.1°C 2.0°C IR6									



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-133400-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
2/28/2017 5:15:12 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Job ID: 400-133400-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-133400-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-133400-3), CCR-4 (400-133400-4), CCR-5 (400-133400-5), CCR-6 (400-133400-6), CCR-7 (400-133400-7), CCR-8 (400-133400-8), CCR-9 (400-133400-10), CCR-10 (400-133400-11), CCR-10 (400-133400-11[MS]), CCR-10 (400-133400-11[MSD]), CCR-11 (400-133400-12), CCR-12 (400-133400-13), CCR-13 (400-133400-14), CCR-14 (400-133400-15), DUP-01 (400-133400-16) and (400-133400-B-11-A PD). Elevated reporting limits (RLs) are provided.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 341204 and analytical batch 341546 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The native sample and post digestion spike (PDS) associated with preparation batch 341204 and analytical batch 341546 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Molybdenum in the PDS was above the instrument calibration range. The data have been reported and qualified.

Method(s) 7470A: The method blank for prep batch 341216 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 341442 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 341513 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 341628 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-133400-1	CCR-1	Water	02/01/17 09:30	02/02/17 13:24
400-133400-2	CCR-2	Water	02/01/17 10:03	02/02/17 13:24
400-133400-3	CCR-3	Water	02/01/17 10:42	02/02/17 13:24
400-133400-4	CCR-4	Water	02/01/17 11:15	02/02/17 13:24
400-133400-5	CCR-5	Water	02/01/17 11:50	02/02/17 13:24
400-133400-6	CCR-6	Water	02/01/17 12:25	02/02/17 13:24
400-133400-7	CCR-7	Water	02/01/17 13:06	02/02/17 13:24
400-133400-8	CCR-8	Water	02/01/17 13:30	02/02/17 13:24
400-133400-9	FB-01	Water	02/01/17 08:52	02/02/17 13:24
400-133400-10	CCR-9	Water	02/02/17 09:38	02/03/17 12:52
400-133400-11	CCR-10	Water	02/02/17 10:18	02/03/17 12:52
400-133400-12	CCR-11	Water	02/02/17 10:52	02/03/17 12:52
400-133400-13	CCR-12	Water	02/02/17 11:25	02/03/17 12:52
400-133400-14	CCR-13	Water	02/02/17 11:58	02/03/17 12:52
400-133400-15	CCR-14	Water	02/02/17 12:28	02/03/17 12:52
400-133400-16	DUP-01	Water	02/02/17 00:00	02/03/17 12:52

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-1

Lab Sample ID: 400-133400-1

Date Collected: 02/01/17 09:30

Matrix: Water

Date Received: 02/02/17 13:24

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 12:36	5
Arsenic	0.0016		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 12:36	5
Barium	0.022		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 12:36	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 12:36	5
Boron	0.034	I	0.050	0.021	mg/L		02/07/17 09:25	02/08/17 12:36	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 12:36	5
Calcium	31		0.25	0.13	mg/L		02/07/17 09:25	02/08/17 12:36	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 12:36	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 12:36	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 12:36	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 12:36	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 12:36	5
Selenium	0.00042	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 12:36	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 12:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			02/05/17 10:42	1
Chloride	8.9		2.0	0.60	mg/L			02/08/17 09:38	1
Fluoride	0.032	U	0.10	0.032	mg/L			02/14/17 17:35	1
Sulfate	1.4	U	5.0	1.4	mg/L			02/08/17 13:55	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.13				SU			02/01/17 08:30	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-2
Date Collected: 02/01/17 10:03
Date Received: 02/02/17 13:24

Lab Sample ID: 400-133400-2
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 12:40	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 12:40	5
Barium	0.061		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 12:40	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 12:40	5
Boron	0.038	I	0.050	0.021	mg/L		02/07/17 09:25	02/08/17 12:40	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 12:40	5
Calcium	46		0.25	0.13	mg/L		02/07/17 09:25	02/08/17 12:40	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 12:40	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 12:40	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 12:40	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 12:40	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 12:40	5
Selenium	0.00026	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 12:40	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 12:40	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:02	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		5.0	3.4	mg/L			02/05/17 10:42	1
Chloride	11		2.0	0.60	mg/L			02/08/17 09:38	1
Fluoride	0.070	I	0.10	0.032	mg/L			02/14/17 17:39	1
Sulfate	91		25	7.0	mg/L			02/09/17 11:24	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.88				SU			02/01/17 09:03	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-3

Lab Sample ID: 400-133400-3

Date Collected: 02/01/17 10:42

Matrix: Water

Date Received: 02/02/17 13:24

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.25	0.11	mg/L		02/07/17 09:25	02/08/17 16:17	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		5.0	2.5	mg/L		02/07/17 09:25	02/08/17 13:42	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 13:38	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 13:38	5
Barium	0.042		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 13:38	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 13:38	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 13:38	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 13:38	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 13:38	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 13:38	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 13:38	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 13:38	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 13:38	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 13:38	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:03	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200		25	17	mg/L			02/05/17 10:42	1
Chloride	47		2.0	0.60	mg/L			02/08/17 09:38	1
Fluoride	0.20		0.10	0.032	mg/L			02/14/17 17:41	1
Sulfate	92		25	7.0	mg/L			02/08/17 15:18	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.44				SU			02/01/17 09:42	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-4

Lab Sample ID: 400-133400-4

Date Collected: 02/01/17 11:15

Matrix: Water

Date Received: 02/02/17 13:24

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		10	5.0	mg/L		02/07/17 09:25	02/08/17 13:51	200

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 13:47	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 13:47	5
Barium	0.35		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 13:47	5
Beryllium	0.00062	I	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 13:47	5
Boron	0.70		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 13:47	5
Cadmium	0.0019		0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 13:47	5
Chromium	0.0030		0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 13:47	5
Cobalt	0.0040		0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 13:47	5
Lead	0.00051	I	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 13:47	5
Lithium	0.015		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 13:47	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 13:47	5
Selenium	0.00046	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 13:47	5
Thallium	0.00035	I	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 13:47	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800		25	17	mg/L			02/05/17 10:42	1
Chloride	3100		130	39	mg/L			02/08/17 12:14	65
Fluoride	0.032	U	0.10	0.032	mg/L			02/14/17 17:59	1
Sulfate	800		130	35	mg/L			02/08/17 15:48	25

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.97				SU			02/01/17 10:15	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-5

Lab Sample ID: 400-133400-5

Date Collected: 02/01/17 11:50

Matrix: Water

Date Received: 02/02/17 13:24

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1200		10	5.0	mg/L		02/07/17 09:25	02/08/17 14:00	200
Lithium	2.4		0.013	0.016	mg/L		02/07/17 09:25	02/08/17 16:39	25

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 13:56	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 13:56	5
Barium	0.069		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 13:56	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 13:56	5
Boron	0.53		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 13:56	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 13:56	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 13:56	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 13:56	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 13:56	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 13:56	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 13:56	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 13:56	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8200		25	17	mg/L			02/05/17 10:42	1
Chloride	3400		140	42	mg/L			02/08/17 12:20	70
Fluoride	0.032	U	0.10	0.032	mg/L			02/14/17 18:08	1
Sulfate	230		50	14	mg/L			02/08/17 15:18	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.15				SU			02/01/17 10:50	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-6

Lab Sample ID: 400-133400-6

Date Collected: 02/01/17 12:25

Matrix: Water

Date Received: 02/02/17 13:24

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	610		10	5.0	mg/L		02/07/17 09:25	02/08/17 14:09	200

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 14:05	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 14:05	5
Barium	0.035		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 14:05	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 14:05	5
Boron	0.63		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 14:05	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 14:05	5
Chromium	0.021		0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 14:05	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 14:05	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 14:05	5
Lithium	0.21		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 14:05	5
Molybdenum	0.0011	I	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 14:05	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 14:05	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 14:05	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3800		25	17	mg/L			02/05/17 10:42	1
Chloride	1300		80	24	mg/L			02/08/17 10:04	40
Fluoride	0.16		0.10	0.032	mg/L			02/14/17 18:12	1
Sulfate	400		100	28	mg/L			02/08/17 15:33	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.79				SU			02/01/17 11:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-7

Lab Sample ID: 400-133400-7

Date Collected: 02/01/17 13:06

Matrix: Water

Date Received: 02/02/17 13:24

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	400		5.0	2.5	mg/L		02/07/17 09:25	02/08/17 14:36	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 14:32	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 14:32	5
Barium	0.055		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 14:32	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 14:32	5
Boron	0.51		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 14:32	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 14:32	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 14:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 14:32	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 14:32	5
Lithium	0.021		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 14:32	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 14:32	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 14:32	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 14:32	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3200		25	17	mg/L			02/05/17 10:42	1
Chloride	1200		80	24	mg/L			02/08/17 10:04	40
Fluoride	0.28		0.10	0.032	mg/L			02/14/17 18:15	1
Sulfate	220		50	14	mg/L			02/08/17 15:33	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.52				SU			02/01/17 12:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-8
Date Collected: 02/01/17 13:30
Date Received: 02/02/17 13:24

Lab Sample ID: 400-133400-8
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	210		2.5	1.3	mg/L		02/07/17 09:25	02/08/17 14:45	50

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 14:41	5
Arsenic	0.0020		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 14:41	5
Barium	0.052		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 14:41	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 14:41	5
Boron	0.21		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 14:41	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 14:41	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 14:41	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 14:41	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 14:41	5
Lithium	0.025		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 14:41	5
Molybdenum	0.018		0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 14:41	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 14:41	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 14:41	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	720		5.0	3.4	mg/L			02/05/17 10:42	1
Chloride	10		2.0	0.60	mg/L			02/08/17 11:06	1
Fluoride	0.27		0.10	0.032	mg/L			02/14/17 18:17	1
Sulfate	330		100	28	mg/L			02/08/17 15:33	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.50				SU			02/01/17 12:30	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: FB-01
Date Collected: 02/01/17 08:52
Date Received: 02/02/17 13:24

Lab Sample ID: 400-133400-9
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 12:45	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 12:45	5
Barium	0.00049	U	0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 12:45	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 12:45	5
Boron	0.021	U	0.050	0.021	mg/L		02/07/17 09:25	02/08/17 12:45	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 12:45	5
Calcium	0.13	U	0.25	0.13	mg/L		02/07/17 09:25	02/08/17 12:45	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 12:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 12:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 12:45	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 12:45	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 12:45	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 12:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 12:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/04/17 13:42	02/06/17 14:17	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			02/05/17 10:42	1
Chloride	0.60	U	2.0	0.60	mg/L			02/08/17 11:06	1
Fluoride	0.032	U	0.10	0.032	mg/L			02/14/17 18:19	1
Sulfate	1.4	U	5.0	1.4	mg/L			02/08/17 14:44	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-9

Lab Sample ID: 400-133400-10

Date Collected: 02/02/17 09:38

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	960		10	5.0	mg/L		02/07/17 09:25	02/08/17 14:54	200

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 14:50	5
Arsenic	0.0036		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 14:50	5
Barium	0.10		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 14:50	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 14:50	5
Boron	0.24		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 14:50	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 14:50	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 14:50	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 14:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 14:50	5
Lithium	0.12		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 14:50	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 14:50	5
Selenium	0.00083	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 14:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 14:50	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/07/17 09:02	02/09/17 12:09	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7000		25	17	mg/L			02/06/17 13:02	1
Chloride	2100		200	60	mg/L			02/08/17 12:12	100
Fluoride	0.16		0.10	0.032	mg/L			02/14/17 18:23	1
Sulfate	690		100	28	mg/L			02/08/17 15:48	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			02/02/17 08:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-10

Lab Sample ID: 400-133400-11

Date Collected: 02/02/17 10:18

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100		1.3	0.63	mg/L		02/07/17 09:25	02/08/17 13:33	25

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 12:50	5
Arsenic	0.0018		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 12:50	5
Barium	0.029		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 12:50	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 12:50	5
Boron	0.21		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 12:50	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 12:50	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 12:50	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 12:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 12:50	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 12:50	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 12:50	5
Selenium	0.00030	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 12:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 12:50	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/07/17 09:02	02/09/17 12:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	500		5.0	3.4	mg/L			02/06/17 13:02	1
Chloride	54		10	3.0	mg/L			02/08/17 11:59	5
Fluoride	0.11		0.10	0.032	mg/L			02/14/17 17:20	1
Sulfate	170		50	14	mg/L			02/08/17 15:48	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.68				SU			02/02/17 09:18	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-11

Lab Sample ID: 400-133400-12

Date Collected: 02/02/17 10:52

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		5.0	2.5	mg/L		02/07/17 09:25	02/08/17 15:03	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 14:59	5
Arsenic	0.14		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 14:59	5
Barium	0.056		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 14:59	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 14:59	5
Boron	0.52		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 14:59	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 14:59	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 14:59	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 14:59	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 14:59	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 14:59	5
Molybdenum	0.00089	I	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 14:59	5
Selenium	0.0015		0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 14:59	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 14:59	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/07/17 09:02	02/09/17 12:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2800		25	17	mg/L			02/06/17 13:02	1
Chloride	430		200	60	mg/L			02/08/17 12:13	100
Fluoride	0.39		0.10	0.032	mg/L			02/14/17 18:26	1
Sulfate	980		150	42	mg/L			02/09/17 10:49	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.01				SU			02/02/17 09:52	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-12

Lab Sample ID: 400-133400-13

Date Collected: 02/02/17 11:25

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	570		5.0	2.5	mg/L		02/07/17 09:25	02/08/17 15:13	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 15:09	5
Arsenic	0.031		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 15:09	5
Barium	0.014		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 15:09	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 15:09	5
Boron	0.64		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 15:09	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 15:09	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 15:09	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 15:09	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 15:09	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 15:09	5
Molybdenum	0.0064	I	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 15:09	5
Selenium	0.00040	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 15:09	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 15:09	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/07/17 09:02	02/09/17 12:18	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		25	17	mg/L			02/06/17 13:02	1
Chloride	27		2.0	0.60	mg/L			02/09/17 10:23	1
Fluoride	0.48		0.10	0.032	mg/L			02/14/17 18:28	1
Sulfate	690		100	28	mg/L			02/09/17 10:16	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.46				SU			02/02/17 10:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-13

Lab Sample ID: 400-133400-14

Date Collected: 02/02/17 11:58

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	540		5.0	2.5	mg/L		02/07/17 09:25	02/08/17 15:41	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 15:36	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 15:36	5
Barium	0.053		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 15:36	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 15:36	5
Boron	0.23		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 15:36	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 15:36	5
Chromium	0.0023	I	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 15:36	5
Cobalt	0.0021	I	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 15:36	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 15:36	5
Lithium	0.31		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 15:36	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 15:36	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 15:36	5
Thallium	0.00011	I	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 15:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/07/17 09:02	02/09/17 12:19	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		25	17	mg/L			02/06/17 13:02	1
Chloride	570		40	12	mg/L			02/09/17 10:58	20
Fluoride	0.53		0.10	0.032	mg/L			02/14/17 18:43	1
Sulfate	940		150	42	mg/L			02/09/17 10:49	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.14				SU			02/02/17 10:58	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: CCR-14

Lab Sample ID: 400-133400-15

Date Collected: 02/02/17 12:28

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		5.0	2.5	mg/L		02/07/17 09:25	02/08/17 15:50	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 15:45	5
Arsenic	0.0027		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 15:45	5
Barium	0.015		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 15:45	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 15:45	5
Boron	1.2		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 15:45	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 15:45	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 15:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 15:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 15:45	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 15:45	5
Molybdenum	0.00086	I	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 15:45	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 15:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 15:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000083	I V	0.00020	0.000070	mg/L		02/07/17 09:02	02/09/17 12:28	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		25	17	mg/L			02/06/17 13:02	1
Chloride	95		20	6.0	mg/L			02/09/17 10:58	10
Fluoride	0.36		0.10	0.032	mg/L			02/14/17 18:47	1
Sulfate	860		150	42	mg/L			02/09/17 10:49	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.25				SU			02/02/17 11:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Client Sample ID: DUP-01

Lab Sample ID: 400-133400-16

Date Collected: 02/02/17 00:00

Matrix: Water

Date Received: 02/03/17 12:52

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	970		10	5.0	mg/L		02/07/17 09:25	02/08/17 15:59	200

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		02/07/17 09:25	02/08/17 15:54	5
Arsenic	0.0035		0.0013	0.00046	mg/L		02/07/17 09:25	02/08/17 15:54	5
Barium	0.11		0.0025	0.00049	mg/L		02/07/17 09:25	02/08/17 15:54	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		02/07/17 09:25	02/08/17 15:54	5
Boron	0.24		0.050	0.021	mg/L		02/07/17 09:25	02/08/17 15:54	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		02/07/17 09:25	02/08/17 15:54	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		02/07/17 09:25	02/08/17 15:54	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		02/07/17 09:25	02/08/17 15:54	5
Lead	0.00035	U	0.0013	0.00035	mg/L		02/07/17 09:25	02/08/17 15:54	5
Lithium	0.13		0.0025	0.0032	mg/L		02/07/17 09:25	02/08/17 15:54	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		02/07/17 09:25	02/08/17 15:54	5
Selenium	0.00096	I	0.0013	0.00024	mg/L		02/07/17 09:25	02/08/17 15:54	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		02/07/17 09:25	02/08/17 15:54	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		02/07/17 09:03	02/09/17 12:30	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6700		25	17	mg/L			02/06/17 13:02	1
Chloride	2100		120	36	mg/L			02/09/17 12:23	60
Fluoride	0.17		0.10	0.032	mg/L			02/14/17 18:50	1
Sulfate	840		150	42	mg/L			02/09/17 10:49	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			02/01/17 23:00	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

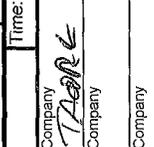
Glossary

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

TestAmerica Pensacola
 3355 McInemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
TESTAMERICA INC. 10000 W. UNIVERSITY BLVD. SUITE 1000 TAMPA, FL 33613

Client Information Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State: FL, Zip: 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): 530-Orlando		COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #:		Analysis Requested			
Sample Identification		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	D	N
8-1-17	930	G	Water	X	X
	1003		Water	X	X
	1042		Water	X	X
	1115		Water	X	X
	1150		Water	X	X
	1225		Water	X	X
	1206		Water	X	X
	1330		Water	X	X
	852		Water	X	X
CCR-1					
CCR-2					
CCR-3					
CCR-4					
CCR-5					
CCR-6					
CCR-7					
CCR-8					
CCR-9 FR-01					
CCR-10					
CCR-11					
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 Other:					
Special Instructions/Note: <div style="text-align: center;">  400-133400 COC </div>					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
Empty Kit Relinquished by: 		Received by: 		Date: 8-1-17	
Relinquished by:		Company: TAAR		Date/Time: 2/21/17	
Relinquished by:		Company:		Date/Time: 1324	
Relinquished by:		Company:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 5.3°C 5.4°C		Company: IRA	

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab Pilt: Whitmire, Cheyenne R		Carrier Tracking No(s): 530-Orlando	
Client Contact: Mr. Sam Stafford		E-Mail: cheyenne.whitmire@testamericainc.com		COC No: 400-57302-24789.1	
Company: Golder Associates Inc.		Sample: Shawn Victory		Page: Page 1 of 2	
Address: 9428 Baymeadows Road Suite 400		Phone: 407-399-3348		Job #:	
City: Jacksonville		Due Date Requested:		Preservation Codes:	
State, Zip: FL, 32256		TAT Requested (days):		A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Z - other (specify):	
Phone: 904-363-3430(Tel)		Purchase Order Requested		Other:	
Email: Sam_Stafford@golder.com		FO #:		Special Instructions/Note:	
Project #: 40007.144		WO #:		MS/MSD taken on CCR-10	
CCR Lakeland		Project Name:		400-133400 COC	
Site:		SSOW#:		QR Code	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=BIOSUB, AS=AS)	Field Sampling Parameters		Total Number of Containers	Special Instructions/Note
					Field Filtered Sample (Yes/No)	Field Filtrate (MS/MSD) (Yes/No)		
CCR-9	3-2-17	938	G	Water	9316_Ra226_9320_Ra228_Ra226Ra228_GFP	X	X	
CCR-10		1018		Water	54400_TDS_4600_F_C-Fluoride_544500_Cl-E-Chloride_544500_S04_E-Sulfate	X	X	
CCR-11		1052		Water	8020-Sb,As,Ba,Bi,Cd,Ca,Cr,Cu,Pb,Li,Mn,Se,Ti,7470A-Hg	X	X	
CCR-12		1125		Water		X	X	
CCR-13		1158		Water		X	X	
CCR-14		1228		Water		X	X	
DUP-01				Water		X	X	

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: *Shawn Victory* Date: 3-2-17 (1430)

Relinquished by: *Shawn Victory* Date: 3-2-17 (1430) Company: *THORC*

Relinquished by: Date: Company: *TP*

Relinquished by: Date: Company:

Custody Seals Intact: Yes No Custody Seal No.: 19, 5, 8, C IR2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment: Date/Time: 2/3/17 1252 Company: *TP*

Received by: Date/Time: Company:

Received by: Date/Time: Company:

Received by: Date/Time: Company:

Cooler Temperature(s) °C and Other Remarks: 19, 5, 8, C IR2

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-133400-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
3/10/2017 6:05:26 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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www.testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Job ID: 400-133400-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-133400-2

RAD

Method(s) 9320: Radium-228 Prep Batch 160-291751: The Laboratory Control Sample (LCS) spike recovery (171%) associated with the following samples is outside the upper QC limit of 140% indicating a potential positive bias for that analyte : CCR-1 (400-133400-1), CCR-3 (400-133400-3), CCR-8 (400-133400-8), FB-01 (400-133400-9), CCR-10 (400-133400-11), CCR-10 (400-133400-11[MSJ]), CCR-10 (400-133400-11[MSD]), CCR-12 (400-133400-13), CCR-14 (400-133400-15), (LCS 160-291751/2-A) and (MB 160-291751/1-A). This analyte was not observed above the requested limit in the associated samples; therefore the sample data was not adversely affected by this excursion. The data have been qualified and reported.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-295918. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 160-295918. A laboratory control sample/ laboratory control sample duplicate were prepared to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-295918. Volume for the following samples reflect all sample volume available: CCR-2 (400-133400-2), CCR-4 (400-133400-4), CCR-5 (400-133400-5), CCR-6 (400-133400-6), CCR-7 (400-133400-7), CCR-9 (400-133400-10), CCR-11 (400-133400-12), CCR-13 (400-133400-14) and DUP-01 (400-133400-16).

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-133400-1	CCR-1	Water	02/01/17 09:30	02/02/17 13:24
400-133400-2	CCR-2	Water	02/01/17 10:03	02/02/17 13:24
400-133400-3	CCR-3	Water	02/01/17 10:42	02/02/17 13:24
400-133400-4	CCR-4	Water	02/01/17 11:15	02/02/17 13:24
400-133400-5	CCR-5	Water	02/01/17 11:50	02/02/17 13:24
400-133400-6	CCR-6	Water	02/01/17 12:25	02/02/17 13:24
400-133400-7	CCR-7	Water	02/01/17 13:06	02/02/17 13:24
400-133400-8	CCR-8	Water	02/01/17 13:30	02/02/17 13:24
400-133400-9	FB-01	Water	02/01/17 08:52	02/02/17 13:24
400-133400-10	CCR-9	Water	02/02/17 09:38	02/03/17 12:52
400-133400-11	CCR-10	Water	02/02/17 10:18	02/03/17 12:52
400-133400-12	CCR-11	Water	02/02/17 10:52	02/03/17 12:52
400-133400-13	CCR-12	Water	02/02/17 11:25	02/03/17 12:52
400-133400-14	CCR-13	Water	02/02/17 11:58	02/03/17 12:52
400-133400-15	CCR-14	Water	02/02/17 12:28	02/03/17 12:52
400-133400-16	DUP-01	Water	02/02/17 00:00	02/03/17 12:52

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-1

Lab Sample ID: 400-133400-1

Date Collected: 02/01/17 09:30

Matrix: Water

Date Received: 02/02/17 13:24

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.32		0.430	0.524	1.00	0.195	pCi/L	02/09/17 13:05	03/03/17 05:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					02/09/17 13:05	03/03/17 05:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.981	*	0.320	0.333	1.00	0.433	pCi/L	02/09/17 14:34	03/01/17 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					02/09/17 14:34	03/01/17 14:45	1
Y Carrier	83.7		40 - 110					02/09/17 14:34	03/01/17 14:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.31		0.536	0.621	5.00	0.433	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-2

Lab Sample ID: 400-133400-2

Date Collected: 02/01/17 10:03

Matrix: Water

Date Received: 02/02/17 13:24

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.61		0.520	0.665	1.00	0.235	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.12		0.319	0.335	1.00	0.405	pCi/L	03/03/17 10:12	03/09/17 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					03/03/17 10:12	03/09/17 11:14	1
Y Carrier	86.7		40 - 110					03/03/17 10:12	03/09/17 11:14	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.73		0.610	0.745	5.00	0.405	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-3

Lab Sample ID: 400-133400-3

Date Collected: 02/01/17 10:42

Matrix: Water

Date Received: 02/02/17 13:24

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.97		0.577	0.730	1.00	0.200	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.641	*	0.332	0.337	1.00	0.491	pCi/L	02/09/17 14:34	03/01/17 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					02/09/17 14:34	03/01/17 14:45	1
Y Carrier	81.9		40 - 110					02/09/17 14:34	03/01/17 14:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.61		0.665	0.804	5.00	0.491	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-4

Lab Sample ID: 400-133400-4

Date Collected: 02/01/17 11:15

Matrix: Water

Date Received: 02/02/17 13:24

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	47.3		1.79	4.62	1.00	0.245	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.0		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	24.4		1.05	2.48	1.00	0.369	pCi/L	03/03/17 10:12	03/09/17 11:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					03/03/17 10:12	03/09/17 11:14	1
Y Carrier	90.8		40 - 110					03/03/17 10:12	03/09/17 11:14	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	71.7		2.07	5.24	5.00	0.369	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-5

Date Collected: 02/01/17 11:50

Date Received: 02/02/17 13:24

Lab Sample ID: 400-133400-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	9.80		0.789	1.18	1.00	0.215	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.37		0.582	0.826	1.00	0.408	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	89.3		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	16.2		0.980	1.44	5.00	0.408	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-6

Lab Sample ID: 400-133400-6

Date Collected: 02/01/17 12:25

Matrix: Water

Date Received: 02/02/17 13:24

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.97		0.552	0.710	1.00	0.195	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.10		0.309	0.325	1.00	0.378	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	95.0		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.07		0.632	0.781	5.00	0.378	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-7

Lab Sample ID: 400-133400-7

Date Collected: 02/01/17 13:06

Matrix: Water

Date Received: 02/02/17 13:24

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.6		0.813	1.33	1.00	0.228	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.67		0.560	0.706	1.00	0.454	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	87.9		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	16.3		0.987	1.50	5.00	0.454	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-8
Date Collected: 02/01/17 13:30
Date Received: 02/02/17 13:24

Lab Sample ID: 400-133400-8
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	7.07		0.675	0.928	1.00	0.217	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.302	U *	0.273	0.274	1.00	0.438	pCi/L	02/09/17 14:34	03/01/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					02/09/17 14:34	03/01/17 14:46	1
Y Carrier	85.2		40 - 110					02/09/17 14:34	03/01/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.37		0.728	0.968	5.00	0.438	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: FB-01
Date Collected: 02/01/17 08:52
Date Received: 02/02/17 13:24

Lab Sample ID: 400-133400-9
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0448	U	0.105	0.105	1.00	0.194	pCi/L	02/09/17 13:05	03/03/17 05:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					02/09/17 13:05	03/03/17 05:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0821	U *	0.223	0.223	1.00	0.416	pCi/L	02/09/17 14:34	03/01/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					02/09/17 14:34	03/01/17 14:46	1
Y Carrier	81.9		40 - 110					02/09/17 14:34	03/01/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0374	U	0.247	0.247	5.00	0.416	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-9

Lab Sample ID: 400-133400-10

Date Collected: 02/02/17 09:38

Matrix: Water

Date Received: 02/03/17 12:52

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	15.7		0.995	1.73	1.00	0.221	pCi/L	02/09/17 13:05	03/03/17 05:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					02/09/17 13:05	03/03/17 05:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.72		0.404	0.475	1.00	0.401	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	90.1		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	18.4		1.07	1.79	5.00	0.401	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-10

Lab Sample ID: 400-133400-11

Date Collected: 02/02/17 10:18

Matrix: Water

Date Received: 02/03/17 12:52

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.03		0.273	0.289	1.00	0.220	pCi/L	02/09/17 13:05	03/03/17 08:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.2		40 - 110					02/09/17 13:05	03/03/17 08:17	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.145	U *	0.267	0.267	1.00	0.455	pCi/L	02/09/17 14:34	03/01/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.2		40 - 110					02/09/17 14:34	03/01/17 14:46	1
Y Carrier	84.9		40 - 110					02/09/17 14:34	03/01/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.18		0.382	0.393	5.00	0.455	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-11

Lab Sample ID: 400-133400-12

Date Collected: 02/02/17 10:52

Matrix: Water

Date Received: 02/03/17 12:52

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.56		0.589	0.772	1.00	0.235	pCi/L	02/09/17 13:05	03/03/17 05:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					02/09/17 13:05	03/03/17 05:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.57		0.487	0.588	1.00	0.409	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	86.0		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	9.13		0.764	0.971	5.00	0.409	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-12

Lab Sample ID: 400-133400-13

Date Collected: 02/02/17 11:25

Matrix: Water

Date Received: 02/03/17 12:52

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.10		0.366	0.412	1.00	0.194	pCi/L	02/09/17 13:05	03/03/17 05:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					02/09/17 13:05	03/03/17 05:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.384	U *	0.255	0.257	1.00	0.389	pCi/L	02/09/17 14:34	03/01/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					02/09/17 14:34	03/01/17 14:46	1
Y Carrier	85.6		40 - 110					02/09/17 14:34	03/01/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.48		0.446	0.485	5.00	0.389	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-13

Lab Sample ID: 400-133400-14

Date Collected: 02/02/17 11:58

Matrix: Water

Date Received: 02/03/17 12:52

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	62.5		1.97	5.96	1.00	0.223	pCi/L	02/09/17 13:05	03/03/17 05:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		40 - 110					02/09/17 13:05	03/03/17 05:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.43		0.681	1.03	1.00	0.423	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	87.5		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	70.9		2.08	6.04	5.00	0.423	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: CCR-14

Date Collected: 02/02/17 12:28

Date Received: 02/03/17 12:52

Lab Sample ID: 400-133400-15

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	35.2		1.39	3.46	1.00	0.231	pCi/L	02/09/17 13:05	03/03/17 05:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		40 - 110					02/09/17 13:05	03/03/17 05:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.577	*	0.343	0.347	1.00	0.528	pCi/L	02/09/17 14:34	03/01/17 14:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					02/09/17 14:34	03/01/17 14:48	1
Y Carrier	85.6		40 - 110					02/09/17 14:34	03/01/17 14:48	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	35.8		1.43	3.48	5.00	0.528	pCi/L		03/10/17 08:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-133400-2

Client Sample ID: DUP-01
Date Collected: 02/02/17 00:00
Date Received: 02/03/17 12:52

Lab Sample ID: 400-133400-16
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	14.9		0.965	1.65	1.00	0.235	pCi/L	02/09/17 13:05	03/03/17 05:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.3		40 - 110					02/09/17 13:05	03/03/17 05:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.73		0.447	0.513	1.00	0.477	pCi/L	03/03/17 10:12	03/09/17 11:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					03/03/17 10:12	03/09/17 11:15	1
Y Carrier	81.9		40 - 110					03/03/17 10:12	03/09/17 11:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	17.6		1.06	1.73	5.00	0.477	pCi/L		03/10/17 08:39	1

Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Chyenne R E-Mail: chyenne.whitmire@testamericainc.com Carrier Tracking No(s): 530-Orlando		COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:				
Analysis Requested								
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #:								
Project #: 40007144 SSON#:								
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Field Sampling Parameters	Total Number of Containers	Special Instructions/Note:
CCR-1	2-1-17	930	G	Water	X	9316_Ra226, 9320_Ra228, Ra226Ra228_GFPc	X	
CCR-2		1003		Water	X	SM4500 SO4, E-Sulfate	X	
CCR-3		1042		Water	X	6020-Sb,As,Ba,Be,B,Cd,Ca,Cr,Cu,Pb,LI,Mo,Se,TL,7470A-Hg	X	
CCR-4		1115		Water	X		X	
CCR-5		1150		Water	X		X	
CCR-6		1225		Water	X		X	
CCR-7		1206		Water	X		X	
CCR-8		1330		Water	X		X	
CCR-9 FR-01		852		Water	X		X	
CCR-10				Water				
CCR-11				Water				
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Empty Kit Relinquished by: <i>[Signature]</i> Date: _____ Time: _____								
Relinquished by: <i>[Signature]</i> Date/Time: 2-1-17 1525 Company: TAOR Company: TA Company: TA								
Relinquished by: _____ Date/Time: _____ Company: _____								
Relinquished by: _____ Date/Time: _____ Company: _____								
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks: 5.3°C 5.4°C IR2								



Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab Pilt: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): 530-Orlando COC No: 400-57302-24789.1 Page: Page 1 of 2 Job #:	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 40007.144 SSOW#:		Field Sampling Parameters 9316_Ra226, 9320_Ra228, Ra226Ra228_GFPCC 54400-TDS, 4500_F_C-Fluoride, 544500_Cl-E-Chloride, 544500_S04_E-Sulfate 8020-Sb,As,Ba,Be,B,Cd,Ca,Cr,Cu,Pb,Li,Mn,Se,Ti, 7470A-Hg	
Sample Identification Sample ID: CCR-9, CCR-10, CCR-11, CCR-12, CCR-13, CCR-14, DUP-01 Sample Date: 3-2-17 Sample Time: 938, 1018, 1052, 1125, 1158, 1228 Sample Type: G (Grab) Matrix: Water		Field Filtrate Sample (Yes/No) Field Filtrate Sample (Yes/No)	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note: MS/MSD taken on CCR-10  400-133400 COC	
Empty Kit Relinquished by: Relinquished by: <i>Shawn Victory</i> Date/Time: 3-2-17 (1430)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
Relinquished by: Relinquished by: <i>Shawn Victory</i> Date/Time: 3-2-17 (1430)		Received by: Received by: <i>[Signature]</i> Date/Time: 2/3/17 1252 Company: TP	
Relinquished by: Relinquished by: <i>Shawn Victory</i> Date/Time:		Received by: Received by: <i>[Signature]</i> Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 19, 5.8°C IR2	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-135244-1

Client Project/Site: CCR App.III/IV GW Monitoring - Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
4/3/2017 4:32:10 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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

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

- 1
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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Job ID: 400-135244-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-135244-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-135244-3), CCR-4 (400-135244-4), CCR-5 (400-135244-5), CCR-6 (400-135244-6), CCR-7 (400-135244-7), CCR-8 (400-135244-8), CCR-09 (400-135244-10), CCR-11 (400-135244-12), CCR-12 (400-135244-13), CCR-13 (400-135244-15) and CCR-14 (400-135244-16). Elevated reporting limits (RLs) are provided.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 346437 and analytical batch 346660 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The matrix spike duplicate MSD precision for preparation batch 346437 and analytical batch 346660 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 347477 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-4 (400-135244-4), CCR-5 (400-135244-5), CCR-6 (400-135244-6), CCR-7 (400-135244-7), CCR-09 (400-135244-10), CCR-11 (400-135244-12), CCR-13 (400-135244-15) and CCR-14 (400-135244-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 347484 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-1 (400-135244-1), CCR-2 (400-135244-2), CCR-4 (400-135244-4), CCR-5 (400-135244-5), CCR-6 (400-135244-6), CCR-7 (400-135244-7), CCR-8 (400-135244-8), DUP-01 (400-135244-9), CCR-09 (400-135244-10), CCR-10 (400-135244-11), CCR-11 (400-135244-12), CCR-12 (400-135244-13), CCR-13 (400-135244-15) and CCR-14 (400-135244-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The method blank for analytical batch 347514 contained Sulfate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-135244-1	CCR-1	Water	03/15/17 09:33	03/16/17 09:09
400-135244-2	CCR-2	Water	03/15/17 10:04	03/16/17 09:09
400-135244-3	CCR-3	Water	03/15/17 10:40	03/16/17 09:09
400-135244-4	CCR-4	Water	03/15/17 11:12	03/16/17 09:09
400-135244-5	CCR-5	Water	03/15/17 11:46	03/16/17 09:09
400-135244-6	CCR-6	Water	03/15/17 12:24	03/16/17 09:09
400-135244-7	CCR-7	Water	03/15/17 13:14	03/16/17 09:09
400-135244-8	CCR-8	Water	03/15/17 14:00	03/16/17 09:09
400-135244-9	DUP-01	Water	03/15/17 00:00	03/16/17 09:09
400-135244-10	CCR-9	Water	03/16/17 09:23	03/17/17 09:01
400-135244-11	CCR-10	Water	03/16/17 10:00	03/17/17 09:01
400-135244-12	CCR-11	Water	03/16/17 10:40	03/17/17 09:01
400-135244-13	CCR-12	Water	03/16/17 11:25	03/17/17 09:01
400-135244-14	FB-01	Water	03/16/17 10:53	03/17/17 09:01
400-135244-15	CCR-13	Water	03/16/17 12:00	03/17/17 09:01
400-135244-16	CCR-14	Water	03/16/17 12:35	03/17/17 09:01

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-1

Date Collected: 03/15/17 09:33

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:53	5
Arsenic	0.0014		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:53	5
Barium	0.023		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:53	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:53	5
Boron	0.031	I	0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:53	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:53	5
Calcium	32		0.25	0.13	mg/L		03/20/17 13:18	03/21/17 13:53	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:53	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:53	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:53	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:53	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:53	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:53	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:53	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:09	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130		5.0	3.4	mg/L			03/20/17 15:50	1
Chloride	9.4		2.0	0.60	mg/L			03/25/17 07:55	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/21/17 18:14	1
Sulfate	58		25	7.0	mg/L			03/28/17 13:58	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			03/15/17 08:33	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-2

Date Collected: 03/15/17 10:04

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 12:54	5
Arsenic	0.00057	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 12:54	5
Barium	0.067		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 12:54	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 12:54	5
Boron	0.056		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 12:54	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 12:54	5
Calcium	50		0.25	0.13	mg/L		03/20/17 13:18	03/21/17 12:54	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 12:54	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 12:54	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 12:54	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 12:54	5
Molybdenum	0.0019	I	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 12:54	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 12:54	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 12:54	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:10	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	230		5.0	3.4	mg/L			03/20/17 15:50	1
Chloride	13		2.0	0.60	mg/L			03/25/17 09:31	1
Fluoride	0.080	I	0.10	0.032	mg/L			03/21/17 18:17	1
Sulfate	120		50	14	mg/L			03/28/17 13:58	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.45				SU			03/15/17 09:04	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-3

Date Collected: 03/15/17 10:40

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 12:59	5
Arsenic	0.00055	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 12:59	5
Barium	0.039		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 12:59	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 12:59	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 12:59	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 12:59	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 12:59	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 12:59	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 12:59	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 12:59	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 12:59	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 12:59	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.25	0.11	mg/L		03/20/17 13:18	03/21/17 16:26	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 17:38	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.6	3.8	mg/L			03/20/17 15:50	1
Chloride	47		20	6.0	mg/L			03/25/17 09:31	10
Fluoride	0.15		0.10	0.032	mg/L			03/21/17 18:20	1
Sulfate	930		500	140	mg/L			03/30/17 09:37	100

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.21				SU			03/15/17 09:40	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-4

Date Collected: 03/15/17 11:12

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:03	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:03	5
Barium	0.30		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:03	5
Beryllium	0.00071	I	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:03	5
Boron	0.40		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:03	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:03	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:03	5
Cobalt	0.0038		0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:03	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:03	5
Lithium	0.20		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:03	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:03	5
Selenium	0.00029	I	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:03	5
Thallium	0.00031	I	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:03	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 16:30	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6600		25	17	mg/L			03/20/17 14:06	1
Chloride	530		140	42	mg/L			03/28/17 15:07	70
Fluoride	0.18		0.10	0.032	mg/L			03/21/17 18:24	1
Sulfate	300		100	28	mg/L			03/28/17 13:58	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.79				SU			03/15/17 10:12	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-5

Date Collected: 03/15/17 11:46

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:08	5
Arsenic	0.00085	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:08	5
Barium	0.070		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:08	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:08	5
Boron	0.53		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:08	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:08	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:08	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:08	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:08	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:08	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:08	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:08	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.4		0.013	0.016	mg/L		03/20/17 13:18	03/21/17 16:35	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1200		5.0	2.5	mg/L		03/20/17 13:18	03/21/17 16:39	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800		25	17	mg/L			03/20/17 14:06	1
Chloride	3200		130	39	mg/L			03/25/17 11:08	65
Fluoride	0.032	U	0.10	0.032	mg/L			03/21/17 18:26	1
Sulfate	250		100	28	mg/L			03/28/17 13:58	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.91				SU			03/15/17 10:46	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-6

Date Collected: 03/15/17 12:24

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:12	5
Arsenic	0.00073	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:12	5
Barium	0.042		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:12	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:12	5
Boron	0.63		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:12	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:12	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:12	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:12	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:12	5
Lithium	0.30		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:12	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:12	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:12	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:12	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	750		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 16:44	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4000		25	17	mg/L			03/20/17 14:06	1
Chloride	1500		60	18	mg/L			03/25/17 10:05	30
Fluoride	0.15		0.10	0.032	mg/L			03/21/17 18:27	1
Sulfate	520		100	28	mg/L			03/28/17 14:20	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.43				SU			03/15/17 11:24	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-7

Date Collected: 03/15/17 13:14

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:17	5
Arsenic	0.00064	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:17	5
Barium	0.062		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:17	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:17	5
Boron	0.37		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:17	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:17	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:17	5
Cobalt	0.00052	I	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:17	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:17	5
Lithium	0.021		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:17	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:17	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:17	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:17	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 16:48	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3900		25	17	mg/L			03/20/17 14:06	1
Chloride	1500		60	18	mg/L			03/25/17 10:05	30
Fluoride	0.33		0.10	0.032	mg/L			03/21/17 18:31	1
Sulfate	120		100	28	mg/L			03/28/17 14:20	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.21				SU			03/15/17 12:14	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-8

Date Collected: 03/15/17 14:00

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:21	5
Arsenic	0.0035		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:21	5
Barium	0.062		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:21	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:21	5
Boron	0.32		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:21	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:21	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:21	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:21	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:21	5
Lithium	0.032		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:21	5
Molybdenum	0.019		0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:21	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:21	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:21	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	260		1.3	0.63	mg/L		03/20/17 13:18	03/21/17 16:53	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:17	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	970		5.0	3.4	mg/L			03/20/17 14:06	1
Chloride	9.2		2.0	0.60	mg/L			03/28/17 13:05	1
Fluoride	0.27		0.10	0.032	mg/L			03/22/17 09:44	1
Sulfate	500		100	28	mg/L			03/28/17 14:20	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.24				SU			03/15/17 13:00	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: DUP-01

Date Collected: 03/15/17 00:00

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:44	5
Arsenic	0.0013		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:44	5
Barium	0.022		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:44	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:44	5
Boron	0.036	I	0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:44	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:44	5
Calcium	31		0.25	0.13	mg/L		03/20/17 13:18	03/21/17 13:44	5
Chromium	0.0011	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:44	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:44	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:44	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:44	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:28	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	160		5.0	3.4	mg/L			03/19/17 12:47	1
Chloride	9.7		2.0	0.60	mg/L			03/24/17 10:36	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/17 09:46	1
Sulfate	59		50	14	mg/L			03/23/17 16:37	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			03/14/17 23:00	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-9

Date Collected: 03/16/17 09:23

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:48	5
Arsenic	0.0041		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:48	5
Barium	0.098		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:48	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:48	5
Boron	0.25		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:48	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:48	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:48	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:48	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:48	5
Lithium	0.16		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:48	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:48	5
Selenium	0.00071	I	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:48	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:48	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	910		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 16:57	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:29	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4800		25	17	mg/L			03/21/17 16:45	1
Chloride	2000		200	60	mg/L			03/28/17 15:07	100
Fluoride	0.16		0.10	0.032	mg/L			03/22/17 09:50	1
Sulfate	1200		200	56	mg/L			03/28/17 15:00	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.87				SU			03/16/17 08:23	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-10

Date Collected: 03/16/17 10:00

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 12:14	5
Arsenic	0.0023		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 12:14	5
Barium	0.028		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 12:14	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 12:14	5
Boron	0.22		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 12:14	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 12:14	5
Calcium	110		0.25	0.13	mg/L		03/20/17 13:18	03/21/17 12:14	5
Chromium	0.0020	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 12:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 12:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 12:14	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 12:14	5
Molybdenum	0.0062	I	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 12:14	5
Selenium	0.0032		0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 12:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 12:14	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:30	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	500		5.0	3.4	mg/L			03/21/17 16:45	1
Chloride	49		2.0	0.60	mg/L			03/28/17 13:14	1
Fluoride	0.080	I	0.10	0.032	mg/L			03/22/17 09:33	1
Sulfate	180		130	35	mg/L			03/28/17 15:22	25

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.53				SU			03/16/17 09:00	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-11

Date Collected: 03/16/17 10:40

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 13:57	5
Arsenic	0.13		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 13:57	5
Barium	0.053		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 13:57	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 13:57	5
Boron	0.52		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 13:57	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 13:57	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 13:57	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 13:57	5
Lead	0.00039	I	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 13:57	5
Lithium	0.0054		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 13:57	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 13:57	5
Selenium	0.0013		0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 13:57	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 13:57	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 17:02	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2600		25	17	mg/L			03/21/17 16:45	1
Chloride	3000		200	60	mg/L			03/28/17 15:07	100
Fluoride	0.42		0.10	0.032	mg/L			03/22/17 09:53	1
Sulfate	1600		250	70	mg/L			03/28/17 15:39	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.83				SU			03/16/17 09:40	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-12

Date Collected: 03/16/17 11:25

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 14:02	5
Arsenic	0.033		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 14:02	5
Barium	0.015		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 14:02	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 14:02	5
Boron	0.60		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 14:02	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 14:02	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 14:02	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 14:02	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 14:02	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 14:02	5
Molybdenum	0.0059	I	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 14:02	5
Selenium	0.00032	I	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 14:02	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 14:02	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	570		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 17:06	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:37	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.6	3.8	mg/L			03/21/17 16:45	1
Chloride	27		2.0	0.60	mg/L			03/28/17 13:14	1
Fluoride	0.50		0.10	0.032	mg/L			03/22/17 09:55	1
Sulfate	1100		180	49	mg/L			03/28/17 15:22	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.28				SU			03/16/17 10:25	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: FB-01
Date Collected: 03/16/17 10:53
Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-14
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 14:06	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 14:06	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 14:06	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 14:06	5
Boron	0.021	U	0.050	0.021	mg/L		03/20/17 13:18	03/21/17 14:06	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 14:06	5
Calcium	0.13	U	0.25	0.13	mg/L		03/20/17 13:18	03/21/17 14:06	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 14:06	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 14:06	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 14:06	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 14:06	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 14:06	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 14:06	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 14:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/21/17 15:52	1
Chloride	0.60	U	2.0	0.60	mg/L			03/28/17 16:53	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/17 10:12	1
Sulfate	1.6	IV	5.0	1.4	mg/L			03/28/17 16:46	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-13

Date Collected: 03/16/17 12:00

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 14:11	5
Arsenic	0.00067	I	0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 14:11	5
Barium	0.049		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 14:11	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 14:11	5
Boron	0.27		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 14:11	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 14:11	5
Chromium	0.0020	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 14:11	5
Cobalt	0.0019	I	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 14:11	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 14:11	5
Lithium	0.32		0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 14:11	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 14:11	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 14:11	5
Thallium	0.00010	I	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 14:11	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	540		2.5	1.3	mg/L		03/20/17 13:18	03/21/17 17:29	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2500		25	17	mg/L			03/21/17 16:45	1
Chloride	530		40	12	mg/L			03/28/17 17:24	20
Fluoride	0.43		0.10	0.032	mg/L			03/22/17 10:15	1
Sulfate	1400		230	63	mg/L			03/28/17 17:45	45

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.94				SU			03/16/17 11:00	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Client Sample ID: CCR-14

Date Collected: 03/16/17 12:35

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/20/17 13:18	03/21/17 14:15	5
Arsenic	0.0023		0.0013	0.00046	mg/L		03/20/17 13:18	03/21/17 14:15	5
Barium	0.014		0.0025	0.00049	mg/L		03/20/17 13:18	03/21/17 14:15	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		03/20/17 13:18	03/21/17 14:15	5
Boron	1.1		0.050	0.021	mg/L		03/20/17 13:18	03/21/17 14:15	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		03/20/17 13:18	03/21/17 14:15	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		03/20/17 13:18	03/21/17 14:15	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/20/17 13:18	03/21/17 14:15	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/20/17 13:18	03/21/17 14:15	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		03/20/17 13:18	03/21/17 14:15	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		03/20/17 13:18	03/21/17 14:15	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/20/17 13:18	03/21/17 14:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/20/17 13:18	03/21/17 14:15	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	450		1.3	0.63	mg/L		03/20/17 13:18	03/21/17 17:34	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/17/17 15:52	03/27/17 12:51	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		5.0	3.4	mg/L			03/21/17 16:45	1
Chloride	90		20	6.0	mg/L			03/28/17 17:24	10
Fluoride	0.39		0.10	0.032	mg/L			03/22/17 10:23	1
Sulfate	1100		180	49	mg/L			03/28/17 17:45	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.07				SU			03/16/17 11:35	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

General Chemistry

Qualifier	Qualifier Description
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.
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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Glossary

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

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL 32256 Phone: 904-383-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab P.M.: Whitnire, Cheyenne R. E-Mail: cheyenne.whitnire@testamericainc.com Carrier Tracking No(s): 530-Orlando	
Samples: Shawn Victory Phone: 407-399-3348		COC No: 400-59095-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days):		Analysis Requested	
PO #: TA-15454542-01 MO #: 15-45454-2 Project #: 40007144 SSOW#:		Total Number of Containers:	
Sample Identification Sample ID: CER-1, CER-2, CER-3, CER-4, CER-5, CER-6, CER-7, CER-8, DUP-01 Sample Date: 3-15-17 Sample Time: 933, 1004, 1040, 1112, 1146, 1224, 1314, 1400 Sample Type (C=comp, G=grab): G Matrix (V=water, S=sediment, O=soil, I=ice, T=tissue, A=air): Water		Field Filtered Sample (Yes or No): ID: 9315_Ra226, 9320_Ra220, 2540C, 4560_F, G, SM4500, CL, E, SM4500, S04, E, 6020, T470A D: N: B:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note: 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 Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Empty Kit Relinquished by: Relinquished by: Shawn Victory Relinquished by:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Date: 3-15-17 Date/Time: 1545		Date/Time: 3/16/17 909 Company: TA-PEN	
Date/Time:		Date/Time:	
Date/Time:		Date/Time:	
Custody Seals Intact Δ Yes Δ No		Cooler Temperature(°C) and Other Remarks: 0.0°C, 0.3°C IPZ	



TestAmerica Pensacola
 3855 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State/Zip: FL 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab Pkt: Whitnire, Cheyenne R E-Mail: cheyenne.whitnire@testamericainc.com Camer Tracking No(s): 530-Orlando		COC No: 400-58085-24788.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 NO #: 15-45454.2 Project #: 40007144 SSON#:		Analysis Requested Total Number of containers:			
Sample Identification Sample ID: CCR-9 CCR-10 CCR-11 CCR-12 FB-01 CCR-13 CCR-14 CR-10 (MS/MSD)		Sample Date: 3-16-17 Sample Time: 923 1000 1040 1125 1053 1200 1235 1000		Matrix (W=Water, S=Soil, O=Organic, A=Asphalt, I=Inorganic, A=Air) Preservation Code: Water Water Water Water Water Water Water Water Water Water	
Field Filtered Sample (Yes or No)		D N D X X X X X X		Special Instructions/Note: MS/MSD Sampled on CER-16	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposed By Lab <input type="checkbox"/> Archive For Months			
Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by: <i>Shawn Victory</i>		Date/Time: 3-16-17 1500		Received by: <i>[Signature]</i> Company: TAPAC	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: 1 Yes 1 No		Cooler Temperature(s) C and Other Remarks: 1.2C, 3.8C		Company: TA-PEN	



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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-135244-2

Client Project/Site: CCR App.III/IV GW Monitoring - Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
4/19/2017 5:49:57 PM

Cheyenne Whitmire, Project Manager II
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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-135244-1	CCR-1	Water	03/15/17 09:33	03/16/17 09:09
400-135244-2	CCR-2	Water	03/15/17 10:04	03/16/17 09:09
400-135244-3	CCR-3	Water	03/15/17 10:40	03/16/17 09:09
400-135244-4	CCR-4	Water	03/15/17 11:12	03/16/17 09:09
400-135244-5	CCR-5	Water	03/15/17 11:46	03/16/17 09:09
400-135244-6	CCR-6	Water	03/15/17 12:24	03/16/17 09:09
400-135244-7	CCR-7	Water	03/15/17 13:14	03/16/17 09:09
400-135244-8	CCR-8	Water	03/15/17 14:00	03/16/17 09:09
400-135244-9	DUP-01	Water	03/15/17 00:00	03/16/17 09:09
400-135244-10	CCR-9	Water	03/16/17 09:23	03/17/17 09:01
400-135244-11	CCR-10	Water	03/16/17 10:00	03/17/17 09:01
400-135244-12	CCR-11	Water	03/16/17 10:40	03/17/17 09:01
400-135244-13	CCR-12	Water	03/16/17 11:25	03/17/17 09:01
400-135244-14	FB-01	Water	03/16/17 10:53	03/17/17 09:01
400-135244-15	CCR-13	Water	03/16/17 12:00	03/17/17 09:01
400-135244-16	CCR-14	Water	03/16/17 12:35	03/17/17 09:01

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-1

Lab Sample ID: 400-135244-1

Date Collected: 03/15/17 09:33

Matrix: Water

Date Received: 03/16/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.35		0.317	0.437	1.00	0.0993	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.04		0.276	0.292	1.00	0.334	pCi/L	03/27/17 09:01	04/10/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					03/27/17 09:01	04/10/17 14:47	1
Y Carrier	87.1		40 - 110					03/27/17 09:01	04/10/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.39		0.420	0.526	5.00	0.334	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-2

Lab Sample ID: 400-135244-2

Date Collected: 03/15/17 10:04

Matrix: Water

Date Received: 03/16/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.22		0.374	0.533	1.00	0.103	pCi/L	03/27/17 08:39	04/18/17 08:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					03/27/17 08:39	04/18/17 08:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.85		0.329	0.370	1.00	0.309	pCi/L	03/27/17 09:01	04/10/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					03/27/17 09:01	04/10/17 14:47	1
Y Carrier	87.9		40 - 110					03/27/17 09:01	04/10/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.07		0.498	0.649	5.00	0.309	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-3
Date Collected: 03/15/17 10:40
Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.91		0.379	0.517	1.00	0.141	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.518		0.313	0.316	1.00	0.479	pCi/L	03/27/17 09:01	04/10/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					03/27/17 09:01	04/10/17 14:47	1
Y Carrier	86.0		40 - 110					03/27/17 09:01	04/10/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.43		0.491	0.606	5.00	0.479	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-4

Date Collected: 03/15/17 11:12

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-4

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	45.8		1.20	4.29	1.00	0.121	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	13.2		0.773	1.44	1.00	0.385	pCi/L	03/27/17 09:01	04/10/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					03/27/17 09:01	04/10/17 14:47	1
Y Carrier	87.1		40 - 110					03/27/17 09:01	04/10/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	59.0		1.42	4.53	5.00	0.385	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-5

Date Collected: 03/15/17 11:46

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	9.64		0.578	1.04	1.00	0.118	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.61		0.633	0.878	1.00	0.438	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	85.6		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	16.2		0.857	1.36	5.00	0.438	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-6

Lab Sample ID: 400-135244-6

Date Collected: 03/15/17 12:24

Matrix: Water

Date Received: 03/16/17 09:09

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.01		0.383	0.591	1.00	0.0972	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.52		0.292	0.323	1.00	0.291	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	89.3		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.53		0.481	0.674	5.00	0.291	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-7

Date Collected: 03/15/17 13:14

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	10.5		0.572	1.10	1.00	0.110	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.62		0.488	0.647	1.00	0.353	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	86.4		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	15.1		0.752	1.28	5.00	0.353	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-8
Date Collected: 03/15/17 14:00
Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-8
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	8.29		0.506	0.901	1.00	0.0930	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.486		0.265	0.268	1.00	0.396	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	85.6		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.77		0.571	0.940	5.00	0.396	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: DUP-01

Date Collected: 03/15/17 00:00

Date Received: 03/16/17 09:09

Lab Sample ID: 400-135244-9

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.62		0.336	0.468	1.00	0.110	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.958		0.281	0.294	1.00	0.356	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	86.0		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.58		0.438	0.553	5.00	0.356	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-9

Date Collected: 03/16/17 09:23

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-10

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.6		0.655	1.31	1.00	0.103	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.87		0.346	0.387	1.00	0.332	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	89.7		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	14.4		0.741	1.36	5.00	0.332	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-10

Date Collected: 03/16/17 10:00

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-11

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.03		0.187	0.208	1.00	0.114	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.555		0.253	0.258	1.00	0.361	pCi/L	03/27/17 09:01	04/10/17 14:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					03/27/17 09:01	04/10/17 14:55	1
Y Carrier	87.1		40 - 110					03/27/17 09:01	04/10/17 14:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.58		0.315	0.332	5.00	0.361	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-11

Date Collected: 03/16/17 10:40

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-12

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.50		0.333	0.458	1.00	0.105	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.39		0.365	0.427	1.00	0.315	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	86.4		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.89		0.494	0.626	5.00	0.315	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-12

Date Collected: 03/16/17 11:25

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-13

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.20		0.265	0.331	1.00	0.103	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.479		0.239	0.243	1.00	0.348	pCi/L	03/27/17 09:01	04/10/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					03/27/17 09:01	04/10/17 14:46	1
Y Carrier	87.9		40 - 110					03/27/17 09:01	04/10/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.68		0.357	0.411	5.00	0.348	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: FB-01
Date Collected: 03/16/17 10:53
Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-14
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0377	U	0.0550	0.0551	1.00	0.0940	pCi/L	03/27/17 08:39	04/18/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					03/27/17 08:39	04/18/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0557	U	0.198	0.198	1.00	0.345	pCi/L	03/27/17 09:01	04/10/17 14:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					03/27/17 09:01	04/10/17 14:54	1
Y Carrier	95.7		40 - 110					03/27/17 09:01	04/10/17 14:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0934	U	0.206	0.206	5.00	0.345	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-13

Date Collected: 03/16/17 12:00

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-15

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	53.7		1.27	5.00	1.00	0.129	pCi/L	03/27/17 08:39	04/18/17 08:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110					03/27/17 08:39	04/18/17 08:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	7.15		0.617	0.901	1.00	0.417	pCi/L	03/27/17 09:01	04/10/17 14:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110					03/27/17 09:01	04/10/17 14:54	1
Y Carrier	87.5		40 - 110					03/27/17 09:01	04/10/17 14:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	60.9		1.42	5.08	5.00	0.417	pCi/L		04/18/17 12:13	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-135244-2

Client Sample ID: CCR-14

Date Collected: 03/16/17 12:35

Date Received: 03/17/17 09:01

Lab Sample ID: 400-135244-16

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	29.1		0.958	2.79	1.00	0.114	pCi/L	03/27/17 08:39	04/18/17 08:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					03/27/17 08:39	04/18/17 08:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.330	U	0.277	0.279	1.00	0.442	pCi/L	03/27/17 09:01	04/10/17 14:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					03/27/17 09:01	04/10/17 14:54	1
Y Carrier	88.6		40 - 110					03/27/17 09:01	04/10/17 14:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	29.4		0.997	2.80	5.00	0.442	pCi/L		04/18/17 12:13	1

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab P/N: Whitnire, Cheyenne R. E-Mail: cheyenne.whitnire@testamericainc.com Carrier Tracking No(s): 530-Orlando Job #:		COC No: 400-59095-24789.1 Page: Page 1 of 2					
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 MO #: 15-45454-2 Project #: 40007144 SOW#:		Analysis Requested  400-135244 COC Total Number of containers:							
Sample Identification Sample ID: CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7 CCR-8 DUP-01		Sample Date 3-15-17	Sample Time 933 1004 1040 1112 1146 1224 1314 1400 -	Sample Type (C=comp, G=grab) G - - - - - - -	Matrix (Water, Seawater, Ammonia, Urine, Tissue, Air) Water Water Water Water Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) X X X X X X X X X X X X	ID: 9315_Ra226, 9320_Ra220 N: 2540C, 4560_F, G, SM4500, CL, E, SM4500, S04, E D: 6020, T470A	Preservation Codes: M - Hexane N - None O - As/NaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Other:	Special Instructions/Note: Return To Client <input type="checkbox"/> Archive For _____ Months Disposal By Lab <input type="checkbox"/>
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)							
Empty Kit Relinquished by: <i>Shawn Victory</i> Relinquished by: <i>Shawn Victory</i> Relinquished by: Relinquished by:		Date: 3-15-17 1545		Date/Time: 3/16/17 909 Date/Time: Date/Time:					
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature (°C and Other Remarks): 0.0°C, 0.3°C		Company: TA-PEN Company: Company:					



TestAmerica Pensacola
 3855 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State/Zip: FL 32256 Phone: 904-363-3430 (Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab Pkt: Whitnire, Cheyenne R E-Mail: cheyenne.whitnire@testamericainc.com Carrier Tracking No(s): 530-Orlando Job #:		COC No: 400-58085-24788.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 NO #: 15-45454.2 Project #: 40007144 SSON#:		Analysis Requested Total Number of containers:			
Sample Identification Sample ID: CCR-9 CCR-10 CCR-11 CCR-12 FB-01 CCR-13 CCR-14 CR-10 (MS/MSD)		Sample Date: 3-16-17 Sample Time: 923 1000 1040 1125 1053 1200 1235 1000	Sample Type (C-comp, G-grab): G Preservation Code:	Matrix (W-water, S-solid, O-unknown, I-irrelevant, A-Asst): Water Water Water Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No): 9316, Rn220, 9820, Rn228 2640, 4500, F, C, SM4500, CL, E, SM4500, SO4, E 6020, 7470A
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposed By Lab <input type="checkbox"/> Archive For Months			
Empty Kit Relinquished by:		Method of Shipment:			
Relinquished by: <i>Shawn Victory</i>		Received by: <i>TA-PEN</i>			
Relinquished by:		Received by:			
Relinquished by:		Received by:			
Relinquished by:		Received by:			
Custody Seals Intact: 1 Yes 1 No		Cooler Temperature(s) C and Other Remarks: 1.2C, 3.8C IR2			



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-136545-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
4/28/2017 6:09:19 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Job ID: 400-136545-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-136545-1

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 350227 and analytical batch 351662 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-4 (400-136545-4), CCR-5 (400-136545-5), CCR-6 (400-136545-6), CCR-7 (400-136545-7), CCR-8 (400-136545-8), CCR-9 (400-136545-10), CCR-11 (400-136545-13), CCR-12 (400-136545-14), CCR-13 (400-136545-15), CCR-13 (400-136545-15[MS]), CCR-13 (400-136545-15[MSD]) and CCR-14 (400-136545-16). Elevated reporting limits (RLs) are provided.

Method(s) 6020: Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 350227 and analytical batch 351662 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-136545-3). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The matrix spike duplicate (MSD) recoveries for prep batch 351030 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 350643 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 350675 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The method blank for analytical batch 350675 contained Chloride above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-4 (400-136545-4) and CCR-14 (400-136545-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 350764 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 351215 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 351289 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 350642 was outside control limits. Sample matrix interference is suspected.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MSD) recoveries for analytical batch 350673 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance

Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Job ID: 400-136545-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

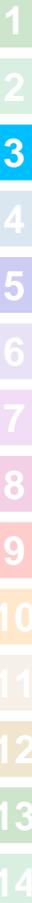
limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-1 (400-136545-1), CCR-2 (400-136545-2), CCR-3 (400-136545-3), CCR-4 (400-136545-4), CCR-6 (400-136545-6) and CCR-8 (400-136545-8). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 350822 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-9 (400-136545-10), CCR-10 (400-136545-11), CCR-11 (400-136545-13), CCR-12 (400-136545-14) and CCR-13 (400-136545-15). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 351220 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-136545-1	CCR-1	Water	04/12/17 08:58	04/13/17 09:01
400-136545-2	CCR-2	Water	04/12/17 09:30	04/13/17 09:01
400-136545-3	CCR-3	Water	04/12/17 10:11	04/13/17 09:01
400-136545-4	CCR-4	Water	04/12/17 10:46	04/13/17 09:01
400-136545-5	CCR-5	Water	04/12/17 11:18	04/13/17 09:01
400-136545-6	CCR-6	Water	04/12/17 11:52	04/13/17 09:01
400-136545-7	CCR-7	Water	04/12/17 12:24	04/13/17 09:01
400-136545-8	CCR-8	Water	04/12/17 12:55	04/13/17 09:01
400-136545-9	DUP-01	Water	04/12/17 00:00	04/13/17 09:01
400-136545-10	CCR-9	Water	04/13/17 09:25	04/14/17 08:44
400-136545-11	CCR-10	Water	04/13/17 10:03	04/14/17 08:44
400-136545-12	FB-01	Water	04/13/17 09:50	04/14/17 08:44
400-136545-13	CCR-11	Water	04/13/17 10:38	04/14/17 08:44
400-136545-14	CCR-12	Water	04/13/17 11:36	04/14/17 08:44
400-136545-15	CCR-13	Water	04/13/17 12:12	04/14/17 08:44
400-136545-16	CCR-14	Water	04/13/17 12:48	04/14/17 08:44

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-1

Date Collected: 04/12/17 08:58

Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 12:39	5
Arsenic	0.0013		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 12:39	5
Barium	0.022		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 12:39	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 12:39	5
Boron	0.022	I	0.050	0.021	mg/L		04/18/17 12:04	04/27/17 12:39	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 12:39	5
Calcium	29		0.25	0.13	mg/L		04/18/17 12:04	04/27/17 12:39	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 12:39	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 12:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 12:39	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 12:39	5
Molybdenum	0.00097	I	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 12:39	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 12:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 12:39	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 14:46	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	160		5.0	3.4	mg/L			04/18/17 10:45	1
Chloride	8.8		2.0	0.60	mg/L			04/25/17 14:23	1
Fluoride	0.032	U	0.10	0.032	mg/L			04/20/17 15:16	1
Sulfate	52		25	7.0	mg/L			04/21/17 16:46	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			04/12/17 07:58	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-2

Date Collected: 04/12/17 09:30

Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 12:44	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 12:44	5
Barium	0.065		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 12:44	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 12:44	5
Boron	0.027	I	0.050	0.021	mg/L		04/18/17 12:04	04/27/17 12:44	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 12:44	5
Calcium	55		0.25	0.13	mg/L		04/18/17 12:04	04/27/17 12:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 12:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 12:44	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 12:44	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 12:44	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 12:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 12:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 12:44	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 14:47	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	260		5.0	3.4	mg/L			04/18/17 10:45	1
Chloride	12	V	2.0	0.60	mg/L			04/20/17 17:05	1
Fluoride	0.080	I	0.10	0.032	mg/L			04/20/17 15:25	1
Sulfate	120		50	14	mg/L			04/20/17 17:38	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.50				SU			04/12/17 08:30	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-3

Lab Sample ID: 400-136545-3

Date Collected: 04/12/17 10:11

Matrix: Water

Date Received: 04/13/17 09:01

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 12:48	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 12:48	5
Barium	0.036		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 12:48	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 12:48	5
Boron	1.9		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 12:48	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 12:48	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 12:48	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 12:48	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 12:48	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 12:48	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 12:48	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 12:48	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 12:48	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		1.3	0.63	mg/L		04/18/17 12:04	04/28/17 13:05	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 14:49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.0	3.4	mg/L			04/18/17 10:45	1
Chloride	48		2.0	0.60	mg/L			04/21/17 08:33	1
Fluoride	0.15		0.10	0.032	mg/L			04/20/17 15:28	1
Sulfate	1100		180	49	mg/L			04/21/17 09:52	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.29				SU			04/12/17 09:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-4

Date Collected: 04/12/17 10:46

Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:11	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:11	5
Barium	0.31		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:11	5
Beryllium	0.00070	I	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:11	5
Boron	0.43		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:11	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:11	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:11	5
Cobalt	0.0039		0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:11	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:11	5
Lithium	0.13		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:11	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:11	5
Selenium	0.00046	I	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:11	5
Thallium	0.00028	I	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:11	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	970		2.5	1.3	mg/L		04/18/17 12:04	04/27/17 14:53	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6700		25	17	mg/L			04/18/17 10:45	1
Chloride	3200		200	60	mg/L			04/21/17 10:30	100
Fluoride	0.11		0.10	0.032	mg/L			04/20/17 15:31	1
Sulfate	330		100	28	mg/L			04/21/17 09:25	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.80				SU			04/12/17 09:46	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-5

Date Collected: 04/12/17 11:18

Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:15	5
Arsenic	0.00087	I	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:15	5
Barium	0.065		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:15	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:15	5
Boron	0.48		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:15	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:15	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:15	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:15	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:15	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:15	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:15	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.3		0.013	0.016	mg/L		04/18/17 12:04	04/27/17 14:58	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1200		5.0	2.5	mg/L		04/18/17 12:04	04/27/17 15:02	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:02	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7400		25	17	mg/L			04/18/17 10:45	1
Chloride	3600		200	60	mg/L			04/21/17 10:28	100
Fluoride	0.032	U	0.10	0.032	mg/L			04/20/17 15:35	1
Sulfate	240		50	14	mg/L			04/21/17 09:22	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.98				SU			04/12/17 10:18	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-6

Date Collected: 04/12/17 11:52

Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:20	5
Arsenic	0.00054	I	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:20	5
Barium	0.042		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:20	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:20	5
Boron	0.53		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:20	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:20	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:20	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:20	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:20	5
Lithium	0.34		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:20	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:20	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:20	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:20	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	800		2.5	1.3	mg/L		04/18/17 12:04	04/27/17 15:07	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:04	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4800		25	17	mg/L			04/18/17 10:45	1
Chloride	1900		200	60	mg/L			04/21/17 10:28	100
Fluoride	0.14		0.10	0.032	mg/L			04/20/17 15:37	1
Sulfate	530		100	28	mg/L			04/21/17 09:52	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.49				SU			04/12/17 10:52	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-7
Date Collected: 04/12/17 12:24
Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-7
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:24	5
Arsenic	0.00054	I	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:24	5
Barium	0.080		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:24	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:24	5
Boron	0.28		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:24	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:24	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:24	5
Cobalt	0.00082	I	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:24	5
Lithium	0.022		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:24	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:24	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:24	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:24	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	620		2.5	1.3	mg/L		04/18/17 12:04	04/27/17 15:11	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:05	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4400		25	17	mg/L			04/18/17 10:45	1
Chloride	2100		200	60	mg/L			04/21/17 10:28	100
Fluoride	0.35		0.10	0.032	mg/L			04/20/17 15:41	1
Sulfate	93		50	14	mg/L			04/21/17 09:22	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.20				SU			04/12/17 11:24	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-8

Lab Sample ID: 400-136545-8

Date Collected: 04/12/17 12:55

Matrix: Water

Date Received: 04/13/17 09:01

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:29	5
Arsenic	0.0057		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:29	5
Barium	0.059		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:29	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:29	5
Boron	0.26		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:29	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:29	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:29	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:29	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:29	5
Lithium	0.019		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:29	5
Molybdenum	0.016		0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:29	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:29	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:29	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	240		1.3	0.63	mg/L		04/18/17 12:04	04/27/17 15:15	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:07	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	830		5.0	3.4	mg/L			04/18/17 10:45	1
Chloride	11	I	20	6.0	mg/L			04/21/17 11:05	10
Fluoride	0.25		0.10	0.032	mg/L			04/20/17 15:43	1
Sulfate	410		150	42	mg/L			04/21/17 09:52	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.36				SU			04/12/17 11:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: DUP-01
Date Collected: 04/12/17 00:00
Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-9
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:33	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:33	5
Barium	0.022		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:33	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:33	5
Boron	0.021	I	0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:33	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:33	5
Calcium	27		0.25	0.13	mg/L		04/18/17 12:04	04/27/17 13:33	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:33	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:33	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:33	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:33	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:33	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:33	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:33	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:09	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	170		5.0	3.4	mg/L			04/15/17 16:01	1
Chloride	4.8		2.0	0.60	mg/L			04/20/17 14:21	1
Fluoride	0.032	U	0.10	0.032	mg/L			04/25/17 16:50	1
Sulfate	2.4	I	5.0	1.4	mg/L			04/20/17 14:14	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			04/11/17 23:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-9

Date Collected: 04/13/17 09:25

Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:37	5
Arsenic	0.0035		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:37	5
Barium	0.091		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:37	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:37	5
Boron	0.22		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:37	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:37	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:37	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:37	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:37	5
Lithium	0.19		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:37	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:37	5
Selenium	0.00047	I	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:37	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:37	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	860		2.5	1.3	mg/L		04/18/17 12:04	04/27/17 15:20	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5200		25	17	mg/L			04/19/17 09:07	1
Chloride	1900		200	60	mg/L			04/25/17 11:07	100
Fluoride	0.16		0.10	0.032	mg/L			04/20/17 16:30	1
Sulfate	1100		250	70	mg/L			04/25/17 12:14	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			04/13/17 08:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-10

Date Collected: 04/13/17 10:03

Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:42	5
Arsenic	0.0015		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:42	5
Barium	0.027		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:42	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:42	5
Boron	0.17		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:42	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:42	5
Calcium	95		0.25	0.13	mg/L		04/18/17 12:04	04/27/17 13:42	5
Chromium	0.0022	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:42	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:42	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:42	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:42	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:42	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	490		5.0	3.4	mg/L			04/19/17 09:07	1
Chloride	25		2.0	0.60	mg/L			04/25/17 11:04	1
Fluoride	0.070	I	0.10	0.032	mg/L			04/20/17 16:32	1
Sulfate	220		50	14	mg/L			04/25/17 11:41	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.63				SU			04/13/17 09:03	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: FB-01
Date Collected: 04/13/17 09:50
Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-12
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:47	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:47	5
Barium	0.00049	U	0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:47	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:47	5
Boron	0.021	U	0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:47	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:47	5
Calcium	0.13	U	0.25	0.13	mg/L		04/18/17 12:04	04/27/17 13:47	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:47	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:47	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:47	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:47	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:47	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:47	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:47	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			04/19/17 09:07	1
Chloride	0.60	U	2.0	0.60	mg/L			04/25/17 11:04	1
Fluoride	0.032	U	0.10	0.032	mg/L			04/20/17 16:34	1
Sulfate	1.4	U	5.0	1.4	mg/L			04/25/17 10:58	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-11

Lab Sample ID: 400-136545-13

Date Collected: 04/13/17 10:38

Matrix: Water

Date Received: 04/14/17 08:44

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 13:51	5
Arsenic	0.12		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 13:51	5
Barium	0.047		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 13:51	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 13:51	5
Boron	0.45		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 13:51	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 13:51	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 13:51	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 13:51	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 13:51	5
Lithium	0.0040		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 13:51	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 13:51	5
Selenium	0.0014		0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 13:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 13:51	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		1.3	0.63	mg/L		04/18/17 12:04	04/27/17 15:43	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900		25	17	mg/L			04/19/17 09:07	1
Chloride	500		200	60	mg/L			04/25/17 11:07	100
Fluoride	0.42		0.10	0.032	mg/L			04/20/17 16:38	1
Sulfate	1400		250	70	mg/L			04/25/17 12:14	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.91				SU			04/13/17 09:38	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-12

Lab Sample ID: 400-136545-14

Date Collected: 04/13/17 11:36

Matrix: Water

Date Received: 04/14/17 08:44

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 15:47	5
Arsenic	0.020		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 15:47	5
Barium	0.013		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 15:47	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 15:47	5
Boron	0.57		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 15:47	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 15:47	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 15:47	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 15:47	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 15:47	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 15:47	5
Molybdenum	0.0056	I	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 15:47	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 15:47	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 15:47	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	520		1.3	0.63	mg/L		04/18/17 12:04	04/27/17 16:01	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:30	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.0	3.4	mg/L			04/19/17 09:07	1
Chloride	24		2.0	0.60	mg/L			04/25/17 11:04	1
Fluoride	0.46		0.10	0.032	mg/L			04/20/17 16:39	1
Sulfate	1000		150	42	mg/L			04/25/17 11:41	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.37				SU			04/13/17 10:36	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-13

Date Collected: 04/13/17 12:12

Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 12:17	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 12:17	5
Barium	0.039		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 12:17	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 12:17	5
Boron	0.33		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 12:17	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 12:17	5
Chromium	0.0022	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 12:17	5
Cobalt	0.0016	I	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 12:17	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 12:17	5
Lithium	0.25		0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 12:17	5
Molybdenum	0.0026	I	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 12:17	5
Selenium	0.0021		0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 12:17	5
Thallium	0.00010	I	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 12:17	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		1.3	0.63	mg/L		04/18/17 12:04	04/27/17 14:40	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:32	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2600		25	17	mg/L			04/19/17 09:07	1
Chloride	360		200	60	mg/L			04/25/17 11:07	100
Fluoride	0.84		0.20	0.064	mg/L			04/25/17 16:17	2
Sulfate	1300		250	70	mg/L			04/25/17 12:14	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.14				SU			04/13/17 11:12	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Client Sample ID: CCR-14

Date Collected: 04/13/17 12:48

Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/18/17 12:04	04/27/17 15:52	5
Arsenic	0.0021		0.0013	0.00046	mg/L		04/18/17 12:04	04/27/17 15:52	5
Barium	0.013		0.0025	0.00049	mg/L		04/18/17 12:04	04/27/17 15:52	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		04/18/17 12:04	04/27/17 15:52	5
Boron	0.94		0.050	0.021	mg/L		04/18/17 12:04	04/27/17 15:52	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		04/18/17 12:04	04/27/17 15:52	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		04/18/17 12:04	04/27/17 15:52	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/18/17 12:04	04/27/17 15:52	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/18/17 12:04	04/27/17 15:52	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		04/18/17 12:04	04/27/17 15:52	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		04/18/17 12:04	04/27/17 15:52	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/18/17 12:04	04/27/17 15:52	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/18/17 12:04	04/27/17 15:52	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	410		1.3	0.63	mg/L		04/18/17 12:04	04/27/17 16:06	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/24/17 13:15	04/25/17 15:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		5.0	3.4	mg/L			04/19/17 09:07	1
Chloride	89		10	3.0	mg/L			04/25/17 11:50	5
Fluoride	0.40		0.10	0.032	mg/L			04/20/17 16:42	1
Sulfate	950		150	42	mg/L			04/25/17 11:44	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.15				SU			04/13/17 11:48	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
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.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Glossary

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

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2871

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab P/N: Whitmie, Cheyenne R		Carrier Tracking No(s): 530-Orlando		COC No: 400-57302-24789.1	
Company: Golder Associates Inc.		E-Mail: cheyenne.whitmire@testamericainc.com		Job #: 400-136545		Page: Page 1 of 2	
Address: 9428 Baymeadows Road Suite 400		City: Jacksonville		State: FL, 32256		Phone: 904-363-3430 (Tel)	
Project Name: CCR Lakeland		Project #: 40007144		SSOW#: _____		Purchase Order Requested	
Site: _____		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
Matrix (Water, Sewage, On-wasteh, etc.)		Preservation Code:		Field Filtered Sample (Yes or No)		Field Sampling Parameters	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
CCR-1		4-12-17		858		G	
CCR-2				930			
CCR-3				1011			
CCR-4				1046			
CCR-5				1118			
CCR-6				1152			
CCR-7				1244			
CCR-8				1255			
DUP-01				-			
Possible Hazard Identification		Poison B		Unknown		Radiobiological	
Deliverable Requested: I, II, III, IV, Other (specify)		Skin Irritant		Flammable		Non-Hazard	
Empty Kit Relinquished by: _____		Date: _____		Time: _____		Method of Shipment: _____	
Relinquished by: <i>Sharon Stanley</i>		Date: 4-19-17		Time: 1450		Company: T Seal	
Relinquished by: _____		Date: _____		Time: _____		Company: _____	
Relinquished by: _____		Date: _____		Time: _____		Company: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: 1.8, 4.10c Spu		Received by: _____	
Special Instructions/Note:		Total Number of Containers		Special Instructions/Note:		Received by: _____	
Preservation Codes:		Total Number of Containers		Special Instructions/Note:		Received by: _____	
A - HCL		Total Number of Containers		Special Instructions/Note:		Received by: _____	
B - NaOH		Total Number of Containers		Special Instructions/Note:		Received by: _____	
C - Zn Acetate		Total Number of Containers		Special Instructions/Note:		Received by: _____	
D - Nitric Acid		Total Number of Containers		Special Instructions/Note:		Received by: _____	
E - Nitric Acid		Total Number of Containers		Special Instructions/Note:		Received by: _____	
F - MeOH		Total Number of Containers		Special Instructions/Note:		Received by: _____	
G - Amchlor		Total Number of Containers		Special Instructions/Note:		Received by: _____	
H - Ascorbic Acid		Total Number of Containers		Special Instructions/Note:		Received by: _____	
I - Ice		Total Number of Containers		Special Instructions/Note:		Received by: _____	
J - DI Water		Total Number of Containers		Special Instructions/Note:		Received by: _____	
K - EDTA		Total Number of Containers		Special Instructions/Note:		Received by: _____	
L - EDA		Total Number of Containers		Special Instructions/Note:		Received by: _____	
M - Hexane		Total Number of Containers		Special Instructions/Note:		Received by: _____	
N - None		Total Number of Containers		Special Instructions/Note:		Received by: _____	
O - AsNaO2		Total Number of Containers		Special Instructions/Note:		Received by: _____	
P - Na2O4S		Total Number of Containers		Special Instructions/Note:		Received by: _____	
Q - Na2SO3		Total Number of Containers		Special Instructions/Note:		Received by: _____	
R - Na2S2O3		Total Number of Containers		Special Instructions/Note:		Received by: _____	
S - H2SO4		Total Number of Containers		Special Instructions/Note:		Received by: _____	
T - TSP Dodecylhydrate		Total Number of Containers		Special Instructions/Note:		Received by: _____	
U - Acetone		Total Number of Containers		Special Instructions/Note:		Received by: _____	
V - MCAA		Total Number of Containers		Special Instructions/Note:		Received by: _____	
W - ph 4-5		Total Number of Containers		Special Instructions/Note:		Received by: _____	
X - Other (specify)		Total Number of Containers		Special Instructions/Note:		Received by: _____	
Y - Other (specify)		Total Number of Containers		Special Instructions/Note:		Received by: _____	
Z - Other (specify)		Total Number of Containers		Special Instructions/Note:		Received by: _____	



Chain of Custody Record

Client Information
 Client Contact: Mr. Sam Stafford
 Company: Golder Associates Inc.
 Address: 9428 Baymeadows Road Suite 400
 City: Jacksonville
 State, Zip: FL, 32256
 Phone: 904-363-3430(Tel)
 Email: Sam_Stafford@golder.com
 Project Name: CCR Lakeland
 Site: _____

Sample Information
 Sample: Shawn Victory
 Lab PM: Whitmire, Cheyenne R
 E-Mail: cheyenne.whitmire@testamericainc.com
 Phone: 407-399-3348

Carrier Tracking No(s): 830-Orlando
Page: Page 1 of 2
Job #: 400-136545

Due Date Requested: _____
TAT Requested (days): _____
PO #: _____
Purchase Order Requested
WO #: _____
Project #: 40007144
SSOW#: _____

Analysis Requested

Field Filtered Sample (Yes or No)	Field Sampling Parameters	Field Filtered Sample (Yes or No)	Field Sampling Parameters
<input checked="" type="checkbox"/>	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPc	<input checked="" type="checkbox"/>	6020-Sb, As, Ba, Be, B, Bi, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, Zn, U-235, U-238
<input checked="" type="checkbox"/>	7540C-TDS, 4500_F, C-Fluoride, SM4500_Cl, E-Chloride, SM4500_S04, E-Sulfate	<input checked="" type="checkbox"/>	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPc
<input checked="" type="checkbox"/>	Formaldehyde (see or No)	<input checked="" type="checkbox"/>	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPc
<input checked="" type="checkbox"/>	Field Filtered Sample (Yes or No)	<input checked="" type="checkbox"/>	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPc

Matrix (W=Water, E=Soil, O=Organic, I=Inorganic, A=Air)
 Sample Type (C=Comp, G=Grab) Preservation Code: _____
 Sample Date Sample Time Matrix
 CCR-9 4-13-17 925 Water
 CCR-10 100.3 Water
 FB-01 950 Water
 CCR-11 1038 Water
 CCR-12 1136 Water
 CCR-13 1212 Water
 CCR-14 1248 Water

Special Instructions/Note: MSD / Extra Samples

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
 Other: _____

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify) _____

Empty Kit Relinquished by: _____
 Relinquished by: Shawn Victory Date: 4-13-17
 Relinquished by: _____ Date: 4-13-17
 Relinquished by: _____ Date: _____

Custody Seals Intact: _____
 Custody Seal No.: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements: _____

Method of Shipment: _____
 Received by: _____ Date/Time: 4-14-17 0844
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____
 Cooler Temperature(s) °C and Other Remarks: 0.0, 4.9, 0.2



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-136545-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
5/17/2017 8:51:47 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Job ID: 400-136545-2

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-136545-2**

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-304178. The following samples were reduced due to limited volume: CCR-13 (400-136545-15), CCR-13 (400-136545-15[MS]) and CCR-13 (400-136545-15[MSD]).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-304717. The following samples were reduced due to limited volume: CCR-13 (400-136545-15), CCR-13 (400-136545-15[MS]) and CCR-13 (400-136545-15[MSD]).

- 1
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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-136545-1	CCR-1	Water	04/12/17 08:58	04/13/17 09:01
400-136545-2	CCR-2	Water	04/12/17 09:30	04/13/17 09:01
400-136545-3	CCR-3	Water	04/12/17 10:11	04/13/17 09:01
400-136545-4	CCR-4	Water	04/12/17 10:46	04/13/17 09:01
400-136545-5	CCR-5	Water	04/12/17 11:18	04/13/17 09:01
400-136545-6	CCR-6	Water	04/12/17 11:52	04/13/17 09:01
400-136545-7	CCR-7	Water	04/12/17 12:24	04/13/17 09:01
400-136545-8	CCR-8	Water	04/12/17 12:55	04/13/17 09:01
400-136545-9	DUP-01	Water	04/12/17 00:00	04/13/17 09:01
400-136545-10	CCR-9	Water	04/13/17 09:25	04/14/17 08:44
400-136545-11	CCR-10	Water	04/13/17 10:03	04/14/17 08:44
400-136545-12	FB-01	Water	04/13/17 09:50	04/14/17 08:44
400-136545-13	CCR-11	Water	04/13/17 10:38	04/14/17 08:44
400-136545-14	CCR-12	Water	04/13/17 11:36	04/14/17 08:44
400-136545-15	CCR-13	Water	04/13/17 12:12	04/14/17 08:44
400-136545-16	CCR-14	Water	04/13/17 12:48	04/14/17 08:44

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-1

Lab Sample ID: 400-136545-1

Date Collected: 04/12/17 08:58

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.59		0.338	0.467	1.00	0.0939	pCi/L	04/21/17 10:52	05/15/17 05:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					04/21/17 10:52	05/15/17 05:42	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.03		0.304	0.319	1.00	0.401	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	88.2		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.62		0.455	0.566	5.00	0.401	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-2

Lab Sample ID: 400-136545-2

Date Collected: 04/12/17 09:30

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.52		0.381	0.558	1.00	0.113	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.272	0.288	1.00	0.339	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	93.5		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.54		0.469	0.628	5.00	0.339	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-3

Lab Sample ID: 400-136545-3

Date Collected: 04/12/17 10:11

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.16		0.404	0.551	1.00	0.119	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.1		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.457	U	0.300	0.303	1.00	0.462	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.1		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	83.4		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.62		0.503	0.629	5.00	0.462	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-4

Lab Sample ID: 400-136545-4

Date Collected: 04/12/17 10:46

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	52.8		1.32	4.93	1.00	0.126	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	14.1		0.786	1.51	1.00	0.401	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	87.9		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	66.8		1.54	5.16	5.00	0.401	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-5

Lab Sample ID: 400-136545-5

Date Collected: 04/12/17 11:18

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	10.5		0.698	1.17	1.00	0.167	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.7		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.54		0.652	0.828	1.00	0.533	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.7		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	87.5		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	16.0		0.955	1.44	5.00	0.533	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-6

Lab Sample ID: 400-136545-6

Date Collected: 04/12/17 11:52

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.90		0.440	0.690	1.00	0.112	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.40		0.311	0.337	1.00	0.357	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	89.0		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.30		0.539	0.768	5.00	0.357	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-7

Date Collected: 04/12/17 12:24

Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	14.0		0.673	1.43	1.00	0.0984	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.40		0.527	0.725	1.00	0.396	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	86.4		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	19.4		0.855	1.60	5.00	0.396	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-8

Lab Sample ID: 400-136545-8

Date Collected: 04/12/17 12:55

Matrix: Water

Date Received: 04/13/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	8.80		0.538	0.958	1.00	0.110	pCi/L	04/21/17 10:52	05/15/17 05:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					04/21/17 10:52	05/15/17 05:43	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.484		0.248	0.252	1.00	0.364	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	87.5		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	9.28		0.592	0.990	5.00	0.364	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: DUP-01
Date Collected: 04/12/17 00:00
Date Received: 04/13/17 09:01

Lab Sample ID: 400-136545-9
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.52		0.342	0.466	1.00	0.112	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.708		0.250	0.258	1.00	0.331	pCi/L	04/21/17 11:16	05/08/17 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/21/17 11:16	05/08/17 14:51	1
Y Carrier	88.6		40 - 110					04/21/17 11:16	05/08/17 14:51	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.23		0.423	0.533	5.00	0.331	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-9

Lab Sample ID: 400-136545-10

Date Collected: 04/13/17 09:25

Matrix: Water

Date Received: 04/14/17 08:44

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.3		0.636	1.35	1.00	0.100	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.97		0.324	0.371	1.00	0.317	pCi/L	04/21/17 11:16	05/08/17 14:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					04/21/17 11:16	05/08/17 14:50	1
Y Carrier	89.3		40 - 110					04/21/17 11:16	05/08/17 14:50	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	15.3		0.714	1.40	5.00	0.317	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-10

Date Collected: 04/13/17 10:03

Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-11

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.25		0.212	0.240	1.00	0.112	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.243	U	0.246	0.247	1.00	0.399	pCi/L	04/21/17 11:16	05/08/17 14:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110					04/21/17 11:16	05/08/17 14:50	1
Y Carrier	83.7		40 - 110					04/21/17 11:16	05/08/17 14:50	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.50		0.324	0.344	5.00	0.399	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: FB-01
Date Collected: 04/13/17 09:50
Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-12
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00736	U	0.0517	0.0517	1.00	0.113	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.132	U	0.203	0.203	1.00	0.386	pCi/L	04/21/17 11:16	05/08/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					04/21/17 11:16	05/08/17 14:47	1
Y Carrier	86.4		40 - 110					04/21/17 11:16	05/08/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.139	U	0.209	0.210	5.00	0.386	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-11

Lab Sample ID: 400-136545-13

Date Collected: 04/13/17 10:38

Matrix: Water

Date Received: 04/14/17 08:44

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.44		0.382	0.553	1.00	0.0906	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.34		0.435	0.533	1.00	0.389	pCi/L	04/21/17 11:16	05/08/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					04/21/17 11:16	05/08/17 14:47	1
Y Carrier	84.5		40 - 110					04/21/17 11:16	05/08/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.78		0.579	0.768	5.00	0.389	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-12

Lab Sample ID: 400-136545-14

Date Collected: 04/13/17 11:36

Matrix: Water

Date Received: 04/14/17 08:44

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.12		0.271	0.331	1.00	0.123	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00594	U	0.223	0.223	1.00	0.398	pCi/L	04/21/17 11:16	05/08/17 14:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					04/21/17 11:16	05/08/17 14:47	1
Y Carrier	92.0		40 - 110					04/21/17 11:16	05/08/17 14:47	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.11		0.351	0.400	5.00	0.398	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-13
Date Collected: 04/13/17 12:12
Date Received: 04/14/17 08:44

Lab Sample ID: 400-136545-15
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	46.4		1.44	4.41	1.00	0.156	pCi/L	04/21/17 10:52	05/15/17 05:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					04/21/17 10:52	05/15/17 05:44	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.24		0.694	0.900	1.00	0.604	pCi/L	04/21/17 11:16	05/08/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					04/21/17 11:16	05/08/17 14:46	1
Y Carrier	86.4		40 - 110					04/21/17 11:16	05/08/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	52.6		1.60	4.51	5.00	0.604	pCi/L		05/16/17 18:11	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-136545-2

Client Sample ID: CCR-14

Lab Sample ID: 400-136545-16

Date Collected: 04/13/17 12:48

Matrix: Water

Date Received: 04/14/17 08:44

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	32.0		1.08	3.08	1.00	0.136	pCi/L	04/21/17 10:52	05/15/17 05:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					04/21/17 10:52	05/15/17 05:45	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.402	U	0.273	0.275	1.00	0.424	pCi/L	04/21/17 11:16	05/08/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					04/21/17 11:16	05/08/17 14:46	1
Y Carrier	92.7		40 - 110					04/21/17 11:16	05/08/17 14:46	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	32.4		1.12	3.09	5.00	0.424	pCi/L		05/16/17 18:11	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-138128-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
6/5/2017 4:01:40 PM

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Job ID: 400-138128-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-138128-1

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 354739 and analytical batch 355083 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The method blank for preparation batch 354739 and analytical batch 355083 contained Barium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-138128-3), CCR-4 (400-138128-4), CCR-5 (400-138128-5), CCR-6 (400-138128-6), CCR-7 (400-138128-7), CCR-8 (400-138128-8), CCR-9 (400-138128-10), CCR-11 (400-138128-13), CCR-12 (400-138128-14), CCR-13 (400-138128-15) and CCR-14 (400-138128-16). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 F C: The sample duplicate RPD for the following sample associated with batch 355501 was outside control limits. Duplicate RPD exceeds limit and one or both sample results are less than 4 times RL. The data are considered valid because the absolute difference is less than RL.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-10 (400-138128-11) and CCR-14 (400-138128-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 354648 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-1 (400-138128-1), CCR-2 (400-138128-2), CCR-3 (400-138128-3), CCR-4 (400-138128-4), CCR-6 (400-138128-6), CCR-8 (400-138128-8), DUP-01 (400-138128-9), CCR-9 (400-138128-10), CCR-10 (400-138128-11), CCR-11 (400-138128-13), CCR-12 (400-138128-14), CCR-13 (400-138128-15) and CCR-14 (400-138128-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 354650 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-138128-1	CCR-1	Water	05/17/17 08:55	05/18/17 08:33
400-138128-2	CCR-2	Water	05/17/17 09:28	05/18/17 08:33
400-138128-3	CCR-3	Water	05/17/17 10:08	05/18/17 08:33
400-138128-4	CCR-4	Water	05/17/17 10:43	05/18/17 08:33
400-138128-5	CCR-5	Water	05/17/17 11:20	05/18/17 08:33
400-138128-6	CCR-6	Water	05/17/17 12:07	05/18/17 08:33
400-138128-7	CCR-7	Water	05/17/17 12:54	05/18/17 08:33
400-138128-8	CCR-8	Water	05/17/17 13:30	05/18/17 08:33
400-138128-9	DUP-01	Water	05/17/17 00:00	05/18/17 08:33
400-138128-10	CCR-9	Water	05/18/17 08:37	05/19/17 10:12
400-138128-11	CCR-10	Water	05/18/17 09:08	05/19/17 10:12
400-138128-12	FB-01	Water	05/18/17 09:30	05/19/17 10:12
400-138128-13	CCR-11	Water	05/18/17 10:00	05/19/17 10:12
400-138128-14	CCR-12	Water	05/18/17 10:39	05/19/17 10:12
400-138128-15	CCR-13	Water	05/18/17 11:18	05/19/17 10:12
400-138128-16	CCR-14	Water	05/18/17 11:54	05/19/17 10:12

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-1

Date Collected: 05/17/17 08:55

Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 17:42	5
Arsenic	0.0017		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 17:42	5
Barium	0.019		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 17:42	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 17:42	5
Boron	0.044	I	0.050	0.021	mg/L		05/24/17 09:29	05/25/17 17:42	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 17:42	5
Calcium	26		0.25	0.13	mg/L		05/24/17 09:29	05/25/17 17:42	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 17:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 17:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 17:42	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 17:42	5
Molybdenum	0.0030	I	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 17:42	5
Selenium	0.0018		0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 17:42	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 17:42	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:29	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	150		5.0	3.4	mg/L			05/20/17 10:26	1
Chloride	12		2.0	0.60	mg/L			05/23/17 12:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			05/31/17 17:54	1
Sulfate	48		25	7.0	mg/L			05/23/17 13:37	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.82				SU			05/17/17 07:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-2

Date Collected: 05/17/17 09:28

Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 17:46	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 17:46	5
Barium	0.075		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 17:46	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 17:46	5
Boron	0.053		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 17:46	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 17:46	5
Calcium	66		0.25	0.13	mg/L		05/24/17 09:29	05/25/17 17:46	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 17:46	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 17:46	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 17:46	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 17:46	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 17:46	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 17:46	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 17:46	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:31	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		5.0	3.4	mg/L			05/20/17 10:26	1
Chloride	14		2.0	0.60	mg/L			05/23/17 12:10	1
Fluoride	0.10		0.10	0.032	mg/L			05/31/17 17:58	1
Sulfate	150		50	14	mg/L			05/23/17 13:37	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.49				SU			05/17/17 08:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-3
Date Collected: 05/17/17 10:08
Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-3
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 17:51	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 17:51	5
Barium	0.034		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 17:51	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 17:51	5
Boron	1.9		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 17:51	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 17:51	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 17:51	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 17:51	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 17:51	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 17:51	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 17:51	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 17:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 17:51	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		1.3	0.63	mg/L		05/24/17 09:29	05/26/17 13:28	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:33	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		5.0	3.4	mg/L			05/20/17 10:26	1
Chloride	43		2.0	0.60	mg/L			05/23/17 12:10	1
Fluoride	0.14		0.10	0.032	mg/L			05/31/17 18:04	1
Sulfate	1100		180	49	mg/L			05/23/17 14:22	35

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.23				SU			05/17/17 09:08	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-4

Date Collected: 05/17/17 10:43

Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:14	5
Arsenic	0.0010	I	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:14	5
Barium	0.34		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:14	5
Beryllium	0.00067	I	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:14	5
Boron	0.60		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:14	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:14	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:14	5
Cobalt	0.0031		0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:14	5
Lithium	0.034		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:14	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:14	5
Selenium	0.00059	I	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:14	5
Thallium	0.00027	I	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:14	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		5.0	2.5	mg/L		05/24/17 09:29	05/26/17 13:32	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6400		25	17	mg/L			05/20/17 10:26	1
Chloride	3200		200	60	mg/L			05/23/17 12:14	100
Fluoride	0.040	I	0.10	0.032	mg/L			05/31/17 18:10	1
Sulfate	380		100	28	mg/L			05/23/17 13:41	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.65				SU			05/17/17 09:43	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-5

Date Collected: 05/17/17 11:20

Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:18	5
Arsenic	0.00078	I	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:18	5
Barium	0.064		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:18	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:18	5
Boron	0.55		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:18	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:18	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:18	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:18	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:18	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:18	5
Selenium	0.00028	I	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:18	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:18	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.3		0.013	0.016	mg/L		05/24/17 09:29	05/26/17 13:37	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1200		5.0	2.5	mg/L		05/24/17 09:29	05/26/17 13:41	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8000		25	17	mg/L			05/20/17 10:26	1
Chloride	3400		200	60	mg/L			05/23/17 12:14	100
Fluoride	0.050	I	0.10	0.032	mg/L			05/31/17 18:14	1
Sulfate	250		50	14	mg/L			05/23/17 12:20	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.90				SU			05/17/17 10:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-6
Date Collected: 05/17/17 12:07
Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-6
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:23	5
Arsenic	0.00055	I	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:23	5
Barium	0.050		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:23	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:23	5
Boron	0.65		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:23	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:23	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:23	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:23	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:23	5
Lithium	0.36		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:23	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:23	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:23	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:23	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		2.5	1.3	mg/L		05/24/17 09:29	05/26/17 13:46	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4700		25	17	mg/L			05/20/17 10:26	1
Chloride	1800		200	60	mg/L			05/23/17 12:22	100
Fluoride	0.12		0.10	0.032	mg/L			05/31/17 18:16	1
Sulfate	410		100	28	mg/L			05/23/17 13:41	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.32				SU			05/17/17 11:07	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-7

Date Collected: 05/17/17 12:54

Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:27	5
Arsenic	0.00056	I	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:27	5
Barium	0.10		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:27	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:27	5
Boron	0.26		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:27	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:27	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:27	5
Cobalt	0.0010	I	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:27	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:27	5
Lithium	0.037		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:27	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:27	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:27	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:27	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	800		2.5	1.3	mg/L		05/24/17 09:29	05/26/17 13:50	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5400		25	17	mg/L			05/20/17 10:26	1
Chloride	2400		200	60	mg/L			05/23/17 12:22	100
Fluoride	0.34		0.10	0.032	mg/L			05/31/17 18:19	1
Sulfate	110		50	14	mg/L			05/23/17 12:26	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.11				SU			05/17/17 11:54	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-8

Lab Sample ID: 400-138128-8

Date Collected: 05/17/17 13:30

Matrix: Water

Date Received: 05/18/17 08:33

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:32	5
Arsenic	0.0022		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:32	5
Barium	0.064		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:32	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:32	5
Boron	0.42		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:32	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:32	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:32	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:32	5
Lithium	0.023		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:32	5
Molybdenum	0.020		0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:32	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:32	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:32	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	270		1.3	0.63	mg/L		05/24/17 09:29	05/26/17 13:55	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	950		5.0	3.4	mg/L			05/20/17 10:26	1
Chloride	10		2.0	0.60	mg/L			05/23/17 12:10	1
Fluoride	0.24		0.10	0.032	mg/L			05/31/17 18:21	1
Sulfate	470		100	28	mg/L			05/23/17 13:41	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.22				SU			05/17/17 12:30	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: DUP-01

Date Collected: 05/17/17 00:00

Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:36	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:36	5
Barium	0.019		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:36	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:36	5
Boron	0.032	I	0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:36	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:36	5
Calcium	25		0.25	0.13	mg/L		05/24/17 09:29	05/25/17 18:36	5
Chromium	0.0011	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:36	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:36	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:36	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:36	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:36	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:36	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:53	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			05/20/17 14:57	1
Chloride	11		2.0	0.60	mg/L			05/23/17 12:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			05/31/17 18:23	1
Sulfate	46		25	7.0	mg/L			05/23/17 13:44	5

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-9

Date Collected: 05/18/17 08:37

Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:41	5
Arsenic	0.0035		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:41	5
Barium	0.091		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:41	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:41	5
Boron	0.24		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:41	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:41	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:41	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:41	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:41	5
Lithium	0.19		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:41	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:41	5
Selenium	0.00068	I	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:41	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:41	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	980		2.5	1.3	mg/L		05/24/17 09:29	05/26/17 13:59	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:55	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5300		25	17	mg/L			05/21/17 07:57	1
Chloride	1900		200	60	mg/L			05/23/17 14:05	100
Fluoride	0.16		0.10	0.032	mg/L			05/31/17 18:27	1
Sulfate	860		500	140	mg/L			05/23/17 14:22	100

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.80				SU			05/18/17 07:37	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-10

Date Collected: 05/18/17 09:08

Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 18:45	5
Arsenic	0.0017		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 18:45	5
Barium	0.027		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 18:45	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 18:45	5
Boron	0.19		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 18:45	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 18:45	5
Calcium	95		0.25	0.13	mg/L		05/24/17 09:29	05/25/17 18:45	5
Chromium	0.0021	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 18:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 18:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 18:45	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 18:45	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 18:45	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 18:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 18:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 10:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	500		5.0	3.4	mg/L			05/21/17 07:57	1
Chloride	52		10	3.0	mg/L			05/23/17 14:28	5
Fluoride	0.10		0.10	0.032	mg/L			06/01/17 15:31	1
Sulfate	160		50	14	mg/L			05/23/17 14:22	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.54				SU			05/18/17 08:08	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: FB-01
Date Collected: 05/18/17 09:30
Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-12
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 19:26	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 19:26	5
Barium	0.00049	U	0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 19:26	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 19:26	5
Boron	0.021	U	0.050	0.021	mg/L		05/24/17 09:29	05/25/17 19:26	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 19:26	5
Calcium	0.13	U	0.25	0.13	mg/L		05/24/17 09:29	05/25/17 19:26	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 19:26	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 19:26	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 19:26	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 19:26	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 19:26	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 19:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 19:26	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 11:03	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			05/21/17 07:57	1
Chloride	0.60	U	2.0	0.60	mg/L			05/23/17 14:03	1
Fluoride	0.032	U	0.10	0.032	mg/L			06/01/17 15:37	1
Sulfate	1.4	U	5.0	1.4	mg/L			05/23/17 13:58	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-11

Lab Sample ID: 400-138128-13

Date Collected: 05/18/17 10:00

Matrix: Water

Date Received: 05/19/17 10:12

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 19:30	5
Arsenic	0.14		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 19:30	5
Barium	0.050		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 19:30	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 19:30	5
Boron	0.47		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 19:30	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 19:30	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 19:30	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 19:30	5
Lead	0.00074	I	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 19:30	5
Lithium	0.0055		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 19:30	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 19:30	5
Selenium	0.0015		0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 19:30	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 19:30	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	540		1.3	0.63	mg/L		05/24/17 09:29	05/26/17 14:22	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 11:05	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900		25	17	mg/L			05/21/17 07:57	1
Chloride	570		200	60	mg/L			05/23/17 14:05	100
Fluoride	0.39		0.10	0.032	mg/L			06/01/17 15:41	1
Sulfate	1200		500	140	mg/L			05/23/17 14:22	100

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.81				SU			05/18/17 09:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-12

Lab Sample ID: 400-138128-14

Date Collected: 05/18/17 10:39

Matrix: Water

Date Received: 05/19/17 10:12

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 19:35	5
Arsenic	0.026		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 19:35	5
Barium	0.013		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 19:35	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 19:35	5
Boron	0.61		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 19:35	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 19:35	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 19:35	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 19:35	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 19:35	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 19:35	5
Molybdenum	0.0066	I	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 19:35	5
Selenium	0.00043	I	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 19:35	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 19:35	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	550		2.5	1.3	mg/L		05/24/17 09:29	05/26/17 14:26	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 11:07	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			05/21/17 07:57	1
Chloride	24		2.0	0.60	mg/L			05/23/17 14:03	1
Fluoride	0.49		0.10	0.032	mg/L			06/01/17 15:43	1
Sulfate	1000		150	42	mg/L			05/23/17 14:26	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.29				SU			05/18/17 09:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-13

Date Collected: 05/18/17 11:18

Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 19:39	5
Arsenic	0.00080	I	0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 19:39	5
Barium	0.033		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 19:39	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 19:39	5
Boron	0.44		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 19:39	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 19:39	5
Chromium	0.0017	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 19:39	5
Cobalt	0.0012	I	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 19:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 19:39	5
Lithium	0.19		0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 19:39	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 19:39	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 19:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 19:39	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	530		2.5	1.3	mg/L		05/24/17 09:29	05/26/17 14:33	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 11:08	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2600		25	17	mg/L			05/21/17 07:57	1
Chloride	240		200	60	mg/L			05/23/17 14:05	100
Fluoride	0.37		0.10	0.032	mg/L			06/01/17 15:46	1
Sulfate	1200		500	140	mg/L			05/23/17 14:26	100

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.55				SU			05/18/17 10:18	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-1

Client Sample ID: CCR-14

Date Collected: 05/18/17 11:54

Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		05/24/17 09:29	05/25/17 19:44	5
Arsenic	0.0023		0.0013	0.00046	mg/L		05/24/17 09:29	05/25/17 19:44	5
Barium	0.012		0.0025	0.00049	mg/L		05/24/17 09:29	05/25/17 19:44	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		05/24/17 09:29	05/25/17 19:44	5
Boron	0.94		0.050	0.021	mg/L		05/24/17 09:29	05/25/17 19:44	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		05/24/17 09:29	05/25/17 19:44	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		05/24/17 09:29	05/25/17 19:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		05/24/17 09:29	05/25/17 19:44	5
Lead	0.00035	U	0.0013	0.00035	mg/L		05/24/17 09:29	05/25/17 19:44	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		05/24/17 09:29	05/25/17 19:44	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		05/24/17 09:29	05/25/17 19:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		05/24/17 09:29	05/25/17 19:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		05/24/17 09:29	05/25/17 19:44	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	420		2.5	1.3	mg/L		05/24/17 09:29	05/26/17 15:06	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		05/27/17 13:02	05/31/17 12:03	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700		5.0	3.4	mg/L			05/21/17 07:57	1
Chloride	82		10	3.0	mg/L			05/25/17 14:49	5
Fluoride	0.41		0.10	0.032	mg/L			06/01/17 15:50	1
Sulfate	1000		150	42	mg/L			05/25/17 14:59	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.01				SU			05/18/17 10:54	1

Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Sample: <u>Shawn Victory</u> Lab P/N: Whitmire, Cheyenne R Phone: <u>407-399-3348</u> E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): <u>530-Orlando</u>		COC No: <u>400-59095-24789.1</u> Page: <u>1</u> of <u>2</u> Job #: <u>400-138128</u>	
Due Date Requested: TAT Requested (days): PO #: <u>TA-15454542-01</u> WO #: <u>15-45454.2</u> Project #: <u>40007144</u> SSOW#:		Analysis Requested  <u>400-138128 COC</u>		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 Other:	
Sample Identification Sample ID: <u>CCR-1</u> <u>CCR-2</u> <u>CCR-3</u> <u>CCR-4</u> <u>CCR-5</u> <u>CCR-6</u> <u>CCR-7</u> <u>CCR-8</u> <u>DUP-01</u>		Matrix (W=water, S=solid, O=volatile, BT=Issue, A=Alt) Sample Type (C=comp, G=grab) Sample Time Sample Date Preservation Code:		Field Filtered Sample (Yes or No)	
		9315_Ra226_9320_Ra228 2540C_4500_F_C_SMA4500_CI_EF_SMA4500_SO4_E 6020_7470A		Total Number of containers:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by: <u>Shawn Victory</u>		Date/Time: <u>5-17-17</u>		Date/Time: <u>5/18/17 08:33</u>	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		Custody Seal No:		Copier Temperature(s) °C and Other Remarks: <u>53.58730c</u>	

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Chain of Custody Record

Client Information Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State: FL, Zip: 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): 530-Orlando		COC No: 400-59085-24789.1 Page: Page 1 of 2 Job #: 400-138128	
Sample: Shawn Victory Phone: 407-399-3348		Analysis Requested:			
Due Date Requested: TAT Requested (days):		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 Other:			
PO # TA-15454542-01 WO # 15-45454.2 Project # 40007144 SSOW#		Total Number of containers:			
Sample Identification CCR-9 CCR-10 FB-01 CCR-11 CCR-12 CCR-13 CCR-14		Field Filtered Sample (Yes or No) 9315_Ra226_9320_Ra228 2540C_4500_F.C_SMA500_Cl.F_SMA500_SO4.E 6020_7470A		Special Instructions/Note: MS/MSD Taken on CCR-10	
Sample Date 5-18-17		Sample Time 837 908 930 1000 1039 1118 1154		Matrix (W=water, S=solid, O=waste/sol, B=trace, A=air) Water Water Water Water Water Water Water Water Water Water Water Water Water Water Water Water Water	
Sample Type (C=Comp, G=grab) G		Preservation Code: G		Special Instructions/QC Requirements: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant		Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:		Method of Shipment:			
Relinquished by: <i>Shawn Victory</i>		Date: 5-18-17 1410		Received by: <i>Peppie Sussobey</i>	
Relinquished by:		Date/Time:		Date/Time: 5/19/2017 10:12	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact: 1 Yes 1 No		Cooler Temperature(s) °C and Other Remarks:			



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-138128-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
6/21/2017 5:01:54 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-138128-1	CCR-1	Water	05/17/17 08:55	05/18/17 08:33
400-138128-2	CCR-2	Water	05/17/17 09:28	05/18/17 08:33
400-138128-3	CCR-3	Water	05/17/17 10:08	05/18/17 08:33
400-138128-4	CCR-4	Water	05/17/17 10:43	05/18/17 08:33
400-138128-5	CCR-5	Water	05/17/17 11:20	05/18/17 08:33
400-138128-6	CCR-6	Water	05/17/17 12:07	05/18/17 08:33
400-138128-7	CCR-7	Water	05/17/17 12:54	05/18/17 08:33
400-138128-8	CCR-8	Water	05/17/17 13:30	05/18/17 08:33
400-138128-9	DUP-01	Water	05/17/17 00:00	05/18/17 08:33
400-138128-10	CCR-9	Water	05/18/17 08:37	05/19/17 10:12
400-138128-11	CCR-10	Water	05/18/17 09:08	05/19/17 10:12
400-138128-12	FB-01	Water	05/18/17 09:30	05/19/17 10:12
400-138128-13	CCR-11	Water	05/18/17 10:00	05/19/17 10:12
400-138128-14	CCR-12	Water	05/18/17 10:39	05/19/17 10:12
400-138128-15	CCR-13	Water	05/18/17 11:18	05/19/17 10:12
400-138128-16	CCR-14	Water	05/18/17 11:54	05/19/17 10:12

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-1

Lab Sample ID: 400-138128-1

Date Collected: 05/17/17 08:55

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.85		0.282	0.381	1.00	0.0884	pCi/L	05/25/17 14:42	06/20/17 08:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					05/25/17 14:42	06/20/17 08:23	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.733		0.253	0.261	1.00	0.331	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	84.1		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.58		0.379	0.462	5.00	0.331	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-2
Date Collected: 05/17/17 09:28
Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.62		0.314	0.452	1.00	0.0823	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.45		0.331	0.357	1.00	0.389	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	83.4		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.07		0.457	0.576	5.00	0.389	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-3

Lab Sample ID: 400-138128-3

Date Collected: 05/17/17 10:08

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.48		0.305	0.437	1.00	0.0925	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.331	U	0.218	0.221	1.00	0.335	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	83.0		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.81		0.375	0.489	5.00	0.335	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-4

Lab Sample ID: 400-138128-4

Date Collected: 05/17/17 10:43

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	43.7		1.23	4.12	1.00	0.0980	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.3		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	27.4		1.28	2.83	1.00	0.470	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.3		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	83.0		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	71.1		1.78	5.00	5.00	0.470	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-5

Lab Sample ID: 400-138128-5

Date Collected: 05/17/17 11:20

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	8.16		0.470	0.872	1.00	0.0768	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.3		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.63		0.525	0.737	1.00	0.364	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.3		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	84.5		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	13.8		0.705	1.14	5.00	0.364	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-6

Lab Sample ID: 400-138128-6

Date Collected: 05/17/17 12:07

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.89		0.397	0.663	1.00	0.102	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.64		0.384	0.454	1.00	0.350	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	81.9		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.53		0.552	0.803	5.00	0.350	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-7

Lab Sample ID: 400-138128-7

Date Collected: 05/17/17 12:54

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.1		0.591	1.32	1.00	0.0979	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	7.50		0.590	0.908	1.00	0.306	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	86.4		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	20.6		0.835	1.60	5.00	0.306	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-8
Date Collected: 05/17/17 13:30
Date Received: 05/18/17 08:33

Lab Sample ID: 400-138128-8
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.96		0.435	0.763	1.00	0.0905	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.355		0.219	0.221	1.00	0.332	pCi/L	05/26/17 08:42	06/08/17 11:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					05/26/17 08:42	06/08/17 11:00	1
Y Carrier	87.9		40 - 110					05/26/17 08:42	06/08/17 11:00	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.32		0.487	0.794	5.00	0.332	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: DUP-01

Lab Sample ID: 400-138128-9

Date Collected: 05/17/17 00:00

Matrix: Water

Date Received: 05/18/17 08:33

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.81		0.270	0.370	1.00	0.0781	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.677		0.261	0.269	1.00	0.366	pCi/L	05/26/17 08:42	06/08/17 11:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					05/26/17 08:42	06/08/17 11:01	1
Y Carrier	85.2		40 - 110					05/26/17 08:42	06/08/17 11:01	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.49		0.376	0.457	5.00	0.366	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-9
Date Collected: 05/18/17 08:37
Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-10
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.1		0.599	1.16	1.00	0.109	pCi/L	05/25/17 14:42	06/20/17 08:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.5		40 - 110					05/25/17 14:42	06/20/17 08:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.42		0.439	0.493	1.00	0.461	pCi/L	05/26/17 08:42	06/08/17 11:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.5		40 - 110					05/26/17 08:42	06/08/17 11:02	1
Y Carrier	84.1		40 - 110					05/26/17 08:42	06/08/17 11:02	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	13.5		0.742	1.26	5.00	0.461	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-10

Lab Sample ID: 400-138128-11

Date Collected: 05/18/17 09:08

Matrix: Water

Date Received: 05/19/17 10:12

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.792		0.151	0.167	1.00	0.0894	pCi/L	05/25/17 14:42	06/20/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					05/25/17 14:42	06/20/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.588		0.272	0.277	1.00	0.392	pCi/L	05/26/17 08:42	06/08/17 11:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					05/26/17 08:42	06/08/17 11:02	1
Y Carrier	82.6		40 - 110					05/26/17 08:42	06/08/17 11:02	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.38		0.311	0.323	5.00	0.392	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: FB-01
Date Collected: 05/18/17 09:30
Date Received: 05/19/17 10:12

Lab Sample ID: 400-138128-12
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00788	U	0.0457	0.0457	1.00	0.0898	pCi/L	05/25/17 14:42	06/20/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					05/25/17 14:42	06/20/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0119	U	0.185	0.185	1.00	0.336	pCi/L	05/26/17 08:42	06/08/17 11:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					05/26/17 08:42	06/08/17 11:03	1
Y Carrier	81.9		40 - 110					05/26/17 08:42	06/08/17 11:03	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.00404	U	0.191	0.191	5.00	0.336	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-11

Lab Sample ID: 400-138128-13

Date Collected: 05/18/17 10:00

Matrix: Water

Date Received: 05/19/17 10:12

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.30		0.366	0.533	1.00	0.124	pCi/L	05/25/17 14:42	06/20/17 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.9		40 - 110					05/25/17 14:42	06/20/17 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.63		0.554	0.699	1.00	0.470	pCi/L	05/26/17 08:42	06/08/17 11:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.9		40 - 110					05/26/17 08:42	06/08/17 11:03	1
Y Carrier	84.9		40 - 110					05/26/17 08:42	06/08/17 11:03	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.93		0.664	0.879	5.00	0.470	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-12

Lab Sample ID: 400-138128-14

Date Collected: 05/18/17 10:39

Matrix: Water

Date Received: 05/19/17 10:12

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.70		0.222	0.270	1.00	0.0900	pCi/L	05/25/17 14:42	06/20/17 08:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					05/25/17 14:42	06/20/17 08:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.303	U	0.238	0.239	1.00	0.374	pCi/L	05/26/17 08:42	06/08/17 11:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					05/26/17 08:42	06/08/17 11:03	1
Y Carrier	87.5		40 - 110					05/26/17 08:42	06/08/17 11:03	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.01		0.325	0.361	5.00	0.374	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-13

Lab Sample ID: 400-138128-15

Date Collected: 05/18/17 11:18

Matrix: Water

Date Received: 05/19/17 10:12

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	25.4		0.807	2.43	1.00	0.0839	pCi/L	05/25/17 14:42	06/20/17 08:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					05/25/17 14:42	06/20/17 08:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.86		0.482	0.657	1.00	0.325	pCi/L	05/26/17 08:42	06/08/17 11:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					05/26/17 08:42	06/08/17 11:03	1
Y Carrier	85.2		40 - 110					05/26/17 08:42	06/08/17 11:03	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	30.3		0.940	2.51	5.00	0.325	pCi/L		06/21/17 14:28	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-138128-2

Client Sample ID: CCR-14

Lab Sample ID: 400-138128-16

Date Collected: 05/18/17 11:54

Matrix: Water

Date Received: 05/19/17 10:12

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	24.3		0.802	2.33	1.00	0.0869	pCi/L	05/25/17 14:42	06/20/17 08:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					05/25/17 14:42	06/20/17 08:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.461		0.248	0.251	1.00	0.363	pCi/L	05/26/17 08:42	06/08/17 11:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					05/26/17 08:42	06/08/17 11:03	1
Y Carrier	76.3		40 - 110					05/26/17 08:42	06/08/17 11:03	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	24.8		0.839	2.34	5.00	0.363	pCi/L		06/21/17 14:28	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-139268-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
6/29/2017 4:48:31 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Job ID: 400-139268-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-139268-1

Metals

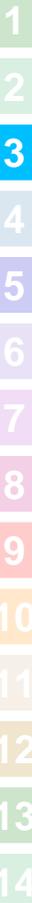
Method(s) 6020: The method blank for preparation batch 357719 and analytical batch 357965 contained Antimony above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-139268-3), CCR-4 (400-139268-4), CCR-5 (400-139268-5), CCR-6 (400-139268-6) and CCR-7 (400-139268-7). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 358240 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 358470 were outside control limits. Parent sample and (MS/MSD) had to be diluted to bring results within calibration range. Spike dilution suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-139268-1	CCR-1	Water	06/13/17 09:26	06/14/17 08:50
400-139268-2	CCR-2	Water	06/13/17 10:00	06/14/17 08:50
400-139268-3	CCR-3	Water	06/13/17 10:35	06/14/17 08:50
400-139268-4	CCR-4	Water	06/13/17 11:17	06/14/17 08:50
400-139268-5	CCR-5	Water	06/13/17 11:49	06/14/17 08:50
400-139268-6	CCR-6	Water	06/13/17 12:20	06/14/17 08:50
400-139268-7	CCR-7	Water	06/13/17 13:06	06/14/17 08:50
400-139268-8	CCR-8	Water	06/13/17 13:40	06/14/17 08:50

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-1

Date Collected: 06/13/17 09:26

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0012	I V	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:05	5
Arsenic	0.0017		0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:05	5
Barium	0.045		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:05	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:05	5
Boron	0.048	I	0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:05	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:05	5
Calcium	31		0.25	0.13	mg/L		06/20/17 15:29	06/21/17 16:05	5
Chromium	0.0027		0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:05	5
Cobalt	0.00045	I	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:05	5
Lead	0.00079	I	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:05	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 16:05	5
Molybdenum	0.0027	I	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:05	5
Selenium	0.0011	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/21/17 16:05	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:05	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			06/17/17 15:33	1
Chloride	3.9		2.0	0.60	mg/L			06/24/17 11:33	1
Fluoride	0.032	U	0.10	0.032	mg/L			06/27/17 18:45	1
Sulfate	42		20	5.6	mg/L			06/27/17 13:23	4

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.78				SU			06/13/17 08:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-2

Date Collected: 06/13/17 10:00

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:09	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:09	5
Barium	0.057		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:09	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:09	5
Boron	0.042	I	0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:09	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:09	5
Calcium	55		0.25	0.13	mg/L		06/20/17 15:29	06/21/17 16:09	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:09	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:09	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:09	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 16:09	5
Molybdenum	0.0012	I	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:09	5
Selenium	0.00067	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/21/17 16:09	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:09	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:51	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	260		5.0	3.4	mg/L			06/17/17 15:33	1
Chloride	9.6		2.0	0.60	mg/L			06/24/17 11:33	1
Fluoride	0.10		0.10	0.032	mg/L			06/27/17 18:48	1
Sulfate	140		35	9.8	mg/L			06/27/17 13:23	7

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.39				SU			06/13/17 09:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-3

Lab Sample ID: 400-139268-3

Date Collected: 06/13/17 10:35

Matrix: Water

Date Received: 06/14/17 08:50

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:32	5
Arsenic	0.00051	I	0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:32	5
Barium	0.035		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:32	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:32	5
Boron	1.8		0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:32	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:32	5
Chromium	0.0011	I	0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:32	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:32	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 16:32	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:32	5
Selenium	0.00086	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/21/17 16:32	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:32	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	450		1.3	0.63	mg/L		06/20/17 15:29	06/22/17 12:33	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:52	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		5.0	3.4	mg/L			06/17/17 15:33	1
Chloride	41		2.0	0.60	mg/L			06/24/17 11:33	1
Fluoride	0.16		0.10	0.032	mg/L			06/27/17 18:50	1
Sulfate	1200		200	56	mg/L			06/27/17 13:23	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.13				SU			06/13/17 09:35	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-4

Date Collected: 06/13/17 11:17

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	I V	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:36	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:36	5
Barium	0.31		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:36	5
Beryllium	0.00084	I	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:36	5
Boron	0.32		0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:36	5
Cadmium	0.00046	I	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:36	5
Chromium	0.0063		0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:36	5
Cobalt	0.0046		0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:36	5
Lead	0.0016		0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:36	5
Lithium	0.34		0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 16:36	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:36	5
Thallium	0.00026	I	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:36	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	940		2.5	1.3	mg/L		06/20/17 15:29	06/22/17 12:42	50

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.0012	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/22/17 12:38	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:54	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6400		25	17	mg/L			06/17/17 15:33	1
Chloride	3000		160	48	mg/L			06/27/17 16:54	80
Fluoride	0.28		0.10	0.032	mg/L			06/27/17 18:53	1
Sulfate	260		150	42	mg/L			06/24/17 13:20	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.69				SU			06/13/17 10:17	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-5

Date Collected: 06/13/17 11:49

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:41	5
Arsenic	0.00099	I	0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:41	5
Barium	0.065		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:41	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:41	5
Boron	0.56		0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:41	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:41	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:41	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:41	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:41	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:41	5
Selenium	0.00087	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/21/17 16:41	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:41	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.5		0.013	0.016	mg/L		06/20/17 15:29	06/22/17 12:47	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1200		5.0	2.5	mg/L		06/20/17 15:29	06/22/17 12:52	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7900		25	17	mg/L			06/17/17 15:33	1
Chloride	3800		200	60	mg/L			06/24/17 13:01	100
Fluoride	0.050	I	0.10	0.032	mg/L			06/27/17 18:55	1
Sulfate	260		250	70	mg/L			06/24/17 13:20	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.65				SU			06/13/17 10:49	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-6

Date Collected: 06/13/17 12:20

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:45	5
Arsenic	0.00088	I	0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:45	5
Barium	0.039		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:45	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:45	5
Boron	0.56		0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:45	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:45	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:45	5
Lithium	0.42		0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 16:45	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:45	5
Selenium	0.00043	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/21/17 16:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:45	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	790		2.5	1.3	mg/L		06/20/17 15:29	06/22/17 12:56	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:57	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4500		25	17	mg/L			06/17/17 15:33	1
Chloride	1600		100	30	mg/L			06/24/17 12:30	50
Fluoride	0.15		0.10	0.032	mg/L			06/27/17 18:57	1
Sulfate	670		250	70	mg/L			06/24/17 13:20	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.24				SU			06/13/17 11:20	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-7

Date Collected: 06/13/17 13:06

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 16:50	5
Arsenic	0.00068	I	0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 16:50	5
Barium	0.067		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 16:50	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 16:50	5
Boron	0.29		0.050	0.021	mg/L		06/20/17 15:29	06/21/17 16:50	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 16:50	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 16:50	5
Cobalt	0.00079	I	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 16:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 16:50	5
Lithium	0.018		0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 16:50	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 16:50	5
Selenium	0.00043	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/21/17 16:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 16:50	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	470		1.3	0.63	mg/L		06/20/17 15:29	06/22/17 13:01	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 10:59	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3900		25	17	mg/L			06/17/17 15:33	1
Chloride	1600		100	30	mg/L			06/24/17 12:30	50
Fluoride	0.35		0.10	0.032	mg/L			06/27/17 19:01	1
Sulfate	140	I	250	70	mg/L			06/24/17 13:20	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.99				SU			06/13/17 12:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Client Sample ID: CCR-8

Date Collected: 06/13/17 13:40

Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0017	I V	0.0025	0.0010	mg/L		06/20/17 15:29	06/21/17 15:42	5
Arsenic	0.0021		0.0013	0.00046	mg/L		06/20/17 15:29	06/21/17 15:42	5
Barium	0.030		0.0025	0.00049	mg/L		06/20/17 15:29	06/21/17 15:42	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/20/17 15:29	06/21/17 15:42	5
Boron	0.089		0.050	0.021	mg/L		06/20/17 15:29	06/21/17 15:42	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/20/17 15:29	06/21/17 15:42	5
Calcium	91		0.25	0.13	mg/L		06/20/17 15:29	06/21/17 15:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/20/17 15:29	06/21/17 15:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/20/17 15:29	06/21/17 15:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/20/17 15:29	06/21/17 15:42	5
Lithium	0.0053		0.0025	0.0032	mg/L		06/20/17 15:29	06/21/17 15:42	5
Molybdenum	0.019		0.010	0.00085	mg/L		06/20/17 15:29	06/21/17 15:42	5
Thallium	0.00015	I	0.00050	0.000085	mg/L		06/20/17 15:29	06/21/17 15:42	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00083	I	0.0013	0.00024	mg/L		06/20/17 15:29	06/22/17 12:29	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/17/17 13:12	06/21/17 11:01	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		5.0	3.4	mg/L			06/17/17 15:33	1
Chloride	4.7		2.0	0.60	mg/L			06/24/17 11:34	1
Fluoride	0.31		0.10	0.032	mg/L			06/27/17 18:38	1
Sulfate	100		25	7.0	mg/L			06/27/17 13:28	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.02				SU			06/13/17 12:40	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-1

Qualifiers

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.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Glossary

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

Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Supplier: <i>Starr Victory</i> Phone: 407-399-3348 Lab PM: Whitmore, Cheyenne R. E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 530-Orlando		COC No: 400-59095-24789.1 Page: Page 1 of 2 Job #: 400-139268				
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSO#:		Analysis Requested <div style="text-align: center;">  400-139268 COC </div>						
Sample Identification CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7 CCR-8		Sample Date 6-13-17 ↓ ↓ ↓ ↓ ↓ ↓ ↓	Sample Time 926 1000 1035 1117 1149 1220 1306 1340	Sample Type (C=comp, G=grab) G ↓ ↓ ↓ ↓ ↓ ↓ ↓	Matrix (W=water, S=solid, O=volatile, BT=Issue, A=Air) Water Water Water Water Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) X X X X X X X X X X X X	Preservation Code: D N D D D D D D D D D D	Special Instructions/Note: Total Number of containers: Special Instructions/Note: <i>extra samples/msd</i>
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological								
Deliverable Requested: I, II, III, IV, Other (specify)								
Empty Kit Relinquished by:								
Relinquished by: <i>Shantel</i> Date: 6-13-17 1530 Company: TAENC		Relinquished by: [Signature] Date/Time: 6-14-17 0950 Company:						
Relinquished by: [Signature] Date/Time: [Blank] Company:		Relinquished by: [Signature] Date/Time: [Blank] Company:						
Custody Seals Intact: Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: 4 by 5.1°C 5A-7						



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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-139268-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
7/19/2017 5:41:56 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Job ID: 400-139268-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-139268-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-315003. The following samples were reduced due to limited volume: CCR-8 (400-139268-8), CCR-8 (400-139268-8[MS]) and CCR-8 (400-139268-8[MSD]).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-314876. The following samples were reduced due to limited volume: CCR-8 (400-139268-8), CCR-8 (400-139268-8[MS]) and CCR-8 (400-139268-8[MSD]).

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-139268-1	CCR-1	Water	06/13/17 09:26	06/14/17 08:50
400-139268-2	CCR-2	Water	06/13/17 10:00	06/14/17 08:50
400-139268-3	CCR-3	Water	06/13/17 10:35	06/14/17 08:50
400-139268-4	CCR-4	Water	06/13/17 11:17	06/14/17 08:50
400-139268-5	CCR-5	Water	06/13/17 11:49	06/14/17 08:50
400-139268-6	CCR-6	Water	06/13/17 12:20	06/14/17 08:50
400-139268-7	CCR-7	Water	06/13/17 13:06	06/14/17 08:50
400-139268-8	CCR-8	Water	06/13/17 13:40	06/14/17 08:50

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Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-1

Lab Sample ID: 400-139268-1

Date Collected: 06/13/17 09:26

Matrix: Water

Date Received: 06/14/17 08:50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.49		0.300	0.434	1.00	0.0702	pCi/L	06/23/17 07:10	07/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/23/17 07:10	07/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.38		0.284	0.311	1.00	0.311	pCi/L	06/23/17 10:05	07/05/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/23/17 10:05	07/05/17 14:44	1
Y Carrier	90.1		40 - 110					06/23/17 10:05	07/05/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.87		0.413	0.534	5.00	0.311	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-2

Lab Sample ID: 400-139268-2

Date Collected: 06/13/17 10:00

Matrix: Water

Date Received: 06/14/17 08:50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.78		0.310	0.460	1.00	0.0931	pCi/L	06/23/17 07:10	07/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					06/23/17 07:10	07/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.46		0.328	0.354	1.00	0.405	pCi/L	06/23/17 10:05	07/05/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					06/23/17 10:05	07/05/17 14:44	1
Y Carrier	86.0		40 - 110					06/23/17 10:05	07/05/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.24		0.451	0.580	5.00	0.405	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-3

Lab Sample ID: 400-139268-3

Date Collected: 06/13/17 10:35

Matrix: Water

Date Received: 06/14/17 08:50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.40		0.296	0.426	1.00	0.0908	pCi/L	06/23/17 07:10	07/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/23/17 07:10	07/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.465		0.226	0.230	1.00	0.327	pCi/L	06/23/17 10:05	07/05/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/23/17 10:05	07/05/17 14:44	1
Y Carrier	84.9		40 - 110					06/23/17 10:05	07/05/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.87		0.373	0.484	5.00	0.327	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-4
Date Collected: 06/13/17 11:17
Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	44.7		1.06	4.16	1.00	0.0792	pCi/L	06/23/17 07:10	07/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/23/17 07:10	07/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	11.7		0.698	1.28	1.00	0.388	pCi/L	06/23/17 10:05	07/05/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/23/17 10:05	07/05/17 14:44	1
Y Carrier	88.6		40 - 110					06/23/17 10:05	07/05/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	56.4		1.27	4.35	5.00	0.388	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-5

Lab Sample ID: 400-139268-5

Date Collected: 06/13/17 11:49

Matrix: Water

Date Received: 06/14/17 08:50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	10.4		0.572	1.10	1.00	0.0997	pCi/L	06/23/17 07:10	07/17/17 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.1		40 - 110					06/23/17 07:10	07/17/17 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.97		0.593	0.809	1.00	0.433	pCi/L	06/23/17 10:05	07/05/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.1		40 - 110					06/23/17 10:05	07/05/17 14:44	1
Y Carrier	89.7		40 - 110					06/23/17 10:05	07/05/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	16.4		0.824	1.36	5.00	0.433	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-6

Lab Sample ID: 400-139268-6

Date Collected: 06/13/17 12:20

Matrix: Water

Date Received: 06/14/17 08:50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.12		0.374	0.594	1.00	0.100	pCi/L	06/23/17 07:10	07/17/17 06:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/23/17 07:10	07/17/17 06:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.46		0.313	0.340	1.00	0.356	pCi/L	06/23/17 10:05	07/05/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/23/17 10:05	07/05/17 14:44	1
Y Carrier	83.7		40 - 110					06/23/17 10:05	07/05/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.58		0.487	0.684	5.00	0.356	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-7

Lab Sample ID: 400-139268-7

Date Collected: 06/13/17 13:06

Matrix: Water

Date Received: 06/14/17 08:50

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.0		0.588	1.31	1.00	0.0849	pCi/L	06/23/17 07:10	07/17/17 06:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					06/23/17 07:10	07/17/17 06:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.34		0.429	0.586	1.00	0.289	pCi/L	06/23/17 10:05	07/05/17 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					06/23/17 10:05	07/05/17 14:45	1
Y Carrier	88.2		40 - 110					06/23/17 10:05	07/05/17 14:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	17.3		0.728	1.44	5.00	0.289	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139268-2

Client Sample ID: CCR-8
Date Collected: 06/13/17 13:40
Date Received: 06/14/17 08:50

Lab Sample ID: 400-139268-8
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.24		0.403	0.555	1.00	0.112	pCi/L	06/23/17 07:10	07/17/17 06:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					06/23/17 07:10	07/17/17 06:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0285	U	0.228	0.228	1.00	0.409	pCi/L	06/23/17 10:05	07/05/17 14:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					06/23/17 10:05	07/05/17 14:45	1
Y Carrier	90.8		40 - 110					06/23/17 10:05	07/05/17 14:45	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.27		0.463	0.600	5.00	0.409	pCi/L		07/18/17 15:26	1

Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-383-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Supplier: <i>Stacy Victory</i> Phone: 407-399-3348 Lab PM: Whitmire, Cheyenne R. E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): 530-Orlando Job # 400-139268		COC No: 400-59095-24789.1 Page: Page 1 of 2 Job # 400-139268					
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SOW#:		Analysis Requested <div style="text-align: center;">  400-139268 COC </div>							
Sample Identification CCR-1 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7 CCR-8		Sample Date 6-13-17 ↓ ↓ ↓ ↓ ↓ ↓	Sample Time 926 1000 1035 1117 1149 1220 1306 1340	Sample Type (C=comp, G=grab) G ↓ ↓ ↓ ↓ ↓ ↓	Matrix (W=water, S=solid, O=soil, BT=issue, A=air) Water Water Water Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) X X X X X X X X X X	D N D X X X X X X	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 Other: M - Hexane N - None O - AshAO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - other (specify)	Total Number of containers Special Instructions/Note: <i>extra samples for MSD</i>
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by: Relinquished by: <i>Shantel</i> Relinquished by: Relinquished by:		Time: Date/Time: 6-13-17 1530 Date/Time: Date/Time:							
Custody Seals Intact: Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seal No.:		Method of Shipment: Received by: <i>JAHC</i> Received by: Received by: Cooler Temperature(s) °C and Other Remarks: <i>46 by S.I.C. 5A-2</i>							



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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-139405-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
6/30/2017 11:10:20 AM

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Job ID: 400-139405-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-139405-1

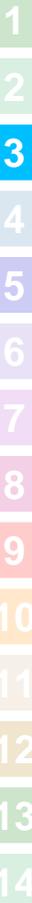
Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-9 (400-139405-2), CCR-11 (400-139405-4), CCR-12 (400-139405-5), CCR-13 (400-139405-6) and CCR-14 (400-139405-7). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-9 (400-139405-2), CCR-10 (400-139405-3), CCR-11 (400-139405-4), CCR-12 (400-139405-5), CCR-13 (400-139405-6), CCR-14 (400-139405-7), DUP-01 (400-139405-8), (400-139405-B-8 MS) and (400-139405-B-8 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 358573 were outside control limits. The parent sample and the (MS/MSD) required dilution to bring results within calibration range. It is suspected that spikes were diluted out. Reported because the associated laboratory control sample (LCS) recovery was within acceptance limits.



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-139405-1	FB-01	Water	06/14/17 08:35	06/15/17 08:37
400-139405-2	CCR-9	Water	06/14/17 09:18	06/15/17 08:37
400-139405-3	CCR-10	Water	06/14/17 09:55	06/15/17 08:37
400-139405-4	CCR-11	Water	06/14/17 10:29	06/15/17 08:37
400-139405-5	CCR-12	Water	06/14/17 11:07	06/15/17 08:37
400-139405-6	CCR-13	Water	06/14/17 11:42	06/15/17 08:37
400-139405-7	CCR-14	Water	06/14/17 12:16	06/15/17 08:37
400-139405-8	DUP-01	Water	06/14/17 00:00	06/15/17 08:37

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- 13
- 14

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: FB-01
Date Collected: 06/14/17 08:35
Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-1
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:18	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:18	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:18	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:18	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:18	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:18	5
Calcium	0.13	U	0.25	0.13	mg/L		06/21/17 19:03	06/22/17 17:18	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:18	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:18	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:18	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:18	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:18	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:18	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:18	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:33	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/18/17 12:39	1
Chloride	0.60	U	2.0	0.60	mg/L			06/27/17 15:52	1
Fluoride	0.032	U	0.10	0.032	mg/L			06/28/17 17:12	1
Sulfate	1.5	I	5.0	1.4	mg/L			06/27/17 13:39	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: CCR-9

Date Collected: 06/14/17 09:18

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:22	5
Arsenic	0.0033		0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:22	5
Barium	0.090		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:22	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:22	5
Boron	0.25		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:22	5
Cadmium	0.00058	I	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:22	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:22	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:22	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:22	5
Lithium	0.14		0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:22	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:22	5
Selenium	0.0012	I	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:22	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:22	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1100		2.5	1.3	mg/L		06/21/17 19:03	06/23/17 14:37	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:50	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5100		25	17	mg/L			06/18/17 12:39	1
Chloride	1900		100	30	mg/L			06/27/17 15:55	50
Fluoride	0.16		0.10	0.032	mg/L			06/28/17 17:16	1
Sulfate	1000		250	70	mg/L			06/27/17 14:03	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.89				SU			06/14/17 08:18	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: CCR-10
Date Collected: 06/14/17 09:55
Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-3
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:27	5
Arsenic	0.0020		0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:27	5
Barium	0.020		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:27	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:27	5
Boron	0.19		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:27	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:27	5
Calcium	71		0.25	0.13	mg/L		06/21/17 19:03	06/22/17 17:27	5
Chromium	0.0025		0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:27	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:27	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:27	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:27	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:27	5
Selenium	0.00025	I	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:27	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:27	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	I	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:51	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	370		5.0	3.4	mg/L			06/18/17 13:36	1
Chloride	41		10	3.0	mg/L			06/27/17 15:55	5
Fluoride	0.10		0.10	0.032	mg/L			06/28/17 17:18	1
Sulfate	71		25	7.0	mg/L			06/27/17 14:03	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.56				SU			06/14/17 08:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: CCR-11

Date Collected: 06/14/17 10:29

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0015	I	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:31	5
Arsenic	0.12		0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:31	5
Barium	0.052		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:31	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:31	5
Boron	0.56		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:31	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:31	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:31	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:31	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:31	5
Lithium	0.0061		0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:31	5
Molybdenum	0.00096	I	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:31	5
Selenium	0.0018		0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:31	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:31	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	560		2.5	1.3	mg/L		06/21/17 19:03	06/23/17 14:41	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:53	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2400		25	17	mg/L			06/18/17 12:39	1
Chloride	470		100	30	mg/L			06/27/17 15:55	50
Fluoride	0.40		0.10	0.032	mg/L			06/28/17 17:21	1
Sulfate	1500		250	70	mg/L			06/27/17 14:03	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.72				SU			06/14/17 09:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: CCR-12

Date Collected: 06/14/17 11:07

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:36	5
Arsenic	0.035		0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:36	5
Barium	0.015		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:36	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:36	5
Boron	0.60		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:36	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:36	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:36	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:36	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:36	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:36	5
Molybdenum	0.012		0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:36	5
Selenium	0.00077	I	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:36	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:36	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	590		2.5	1.3	mg/L		06/21/17 19:03	06/23/17 15:04	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:55	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.0	3.4	mg/L			06/18/17 12:39	1
Chloride	21		2.0	0.60	mg/L			06/27/17 16:17	1
Fluoride	0.57		0.10	0.032	mg/L			06/28/17 17:23	1
Sulfate	1100		250	70	mg/L			06/27/17 14:03	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.30				SU			06/14/17 10:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: CCR-13

Date Collected: 06/14/17 11:42

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:40	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:40	5
Barium	0.012		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:40	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:40	5
Boron	0.85		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:40	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:40	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:40	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:40	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:40	5
Lithium	0.017		0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:40	5
Molybdenum	0.0048	I	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:40	5
Selenium	0.00038	I	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:40	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:40	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	580		2.5	1.3	mg/L		06/21/17 19:03	06/23/17 15:09	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			06/18/17 13:36	1
Chloride	35		2.0	0.60	mg/L			06/27/17 16:17	1
Fluoride	0.15		0.10	0.032	mg/L			06/28/17 17:26	1
Sulfate	1300		250	70	mg/L			06/27/17 14:08	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.55				SU			06/14/17 10:42	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: CCR-14

Date Collected: 06/14/17 12:16

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:45	5
Arsenic	0.0049		0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:45	5
Barium	0.012		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:45	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:45	5
Boron	0.73		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:45	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:45	5
Chromium	0.0017	I	0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:45	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:45	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:45	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:45	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	360		1.3	0.63	mg/L		06/21/17 19:03	06/23/17 15:13	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 14:58	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		5.0	3.4	mg/L			06/18/17 13:36	1
Chloride	52		10	3.0	mg/L			06/27/17 16:53	5
Fluoride	0.38		0.10	0.032	mg/L			06/28/17 17:29	1
Sulfate	830		250	70	mg/L			06/27/17 14:08	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.91				SU			06/14/17 11:16	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Client Sample ID: DUP-01

Date Collected: 06/14/17 00:00

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/17 19:03	06/22/17 17:49	5
Arsenic	0.0022		0.0013	0.00046	mg/L		06/21/17 19:03	06/22/17 17:49	5
Barium	0.020		0.0025	0.00049	mg/L		06/21/17 19:03	06/22/17 17:49	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		06/21/17 19:03	06/22/17 17:49	5
Boron	0.20		0.050	0.021	mg/L		06/21/17 19:03	06/22/17 17:49	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		06/21/17 19:03	06/22/17 17:49	5
Calcium	71		0.25	0.13	mg/L		06/21/17 19:03	06/22/17 17:49	5
Chromium	0.0025		0.0025	0.0011	mg/L		06/21/17 19:03	06/22/17 17:49	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/17 19:03	06/22/17 17:49	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/17 19:03	06/22/17 17:49	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		06/21/17 19:03	06/22/17 17:49	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		06/21/17 19:03	06/22/17 17:49	5
Selenium	0.00036	I	0.0013	0.00024	mg/L		06/21/17 19:03	06/22/17 17:49	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/17 19:03	06/22/17 17:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	I	0.00020	0.000070	mg/L		06/21/17 09:13	06/22/17 15:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			06/17/17 15:33	1
Chloride	44		2.0	0.60	mg/L			06/27/17 16:17	1
Fluoride	0.10		0.10	0.032	mg/L			06/28/17 17:37	1
Sulfate	72		25	7.0	mg/L			06/27/17 14:08	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.56				SU			06/13/17 23:00	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

Glossary

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
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Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-139405-2
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
7/19/2017 5:50:23 PM

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Job ID: 400-139405-2

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-139405-2**

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-315011. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. FB-01 (400-139405-1), CCR-9 (400-139405-2), CCR-10 (400-139405-3), CCR-11 (400-139405-4), CCR-12 (400-139405-5), CCR-13 (400-139405-6), CCR-14 (400-139405-7) and DUP-01 (400-139405-8)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-314996. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. FB-01 (400-139405-1), CCR-9 (400-139405-2), CCR-10 (400-139405-3), CCR-11 (400-139405-4), CCR-12 (400-139405-5), CCR-13 (400-139405-6), CCR-14 (400-139405-7) and DUP-01 (400-139405-8)



Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-139405-1	FB-01	Water	06/14/17 08:35	06/15/17 08:37
400-139405-2	CCR-9	Water	06/14/17 09:18	06/15/17 08:37
400-139405-3	CCR-10	Water	06/14/17 09:55	06/15/17 08:37
400-139405-4	CCR-11	Water	06/14/17 10:29	06/15/17 08:37
400-139405-5	CCR-12	Water	06/14/17 11:07	06/15/17 08:37
400-139405-6	CCR-13	Water	06/14/17 11:42	06/15/17 08:37
400-139405-7	CCR-14	Water	06/14/17 12:16	06/15/17 08:37
400-139405-8	DUP-01	Water	06/14/17 00:00	06/15/17 08:37



Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: FB-01
Date Collected: 06/14/17 08:35
Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-1
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00957	U	0.0321	0.0322	1.00	0.0869	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00732	U	0.169	0.169	1.00	0.307	pCi/L	06/23/17 11:19	07/06/17 11:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/23/17 11:19	07/06/17 11:09	1
Y Carrier	90.1		40 - 110					06/23/17 11:19	07/06/17 11:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0169	U	0.172	0.172	5.00	0.307	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: CCR-9

Lab Sample ID: 400-139405-2

Date Collected: 06/14/17 09:18

Matrix: Water

Date Received: 06/15/17 08:37

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	15.7		0.797	1.62	1.00	0.0953	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.0		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.50		0.422	0.481	1.00	0.430	pCi/L	06/23/17 11:19	07/06/17 11:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.0		40 - 110					06/23/17 11:19	07/06/17 11:09	1
Y Carrier	83.7		40 - 110					06/23/17 11:19	07/06/17 11:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	18.2		0.902	1.69	5.00	0.430	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: CCR-10

Date Collected: 06/14/17 09:55

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.939		0.186	0.204	1.00	0.0824	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.210	U	0.208	0.209	1.00	0.336	pCi/L	06/23/17 11:19	07/06/17 11:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					06/23/17 11:19	07/06/17 11:10	1
Y Carrier	83.0		40 - 110					06/23/17 11:19	07/06/17 11:10	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.15		0.279	0.292	5.00	0.336	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: CCR-11

Date Collected: 06/14/17 10:29

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-4

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.11		0.491	0.737	1.00	0.0891	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.05		0.492	0.618	1.00	0.410	pCi/L	06/23/17 11:19	07/06/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					06/23/17 11:19	07/06/17 11:11	1
Y Carrier	87.5		40 - 110					06/23/17 11:19	07/06/17 11:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	10.2		0.696	0.962	5.00	0.410	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: CCR-12

Lab Sample ID: 400-139405-5

Date Collected: 06/14/17 11:07

Matrix: Water

Date Received: 06/15/17 08:37

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.80		0.351	0.432	1.00	0.0941	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.390		0.208	0.211	1.00	0.308	pCi/L	06/23/17 11:19	07/06/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					06/23/17 11:19	07/06/17 11:11	1
Y Carrier	91.6		40 - 110					06/23/17 11:19	07/06/17 11:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.19		0.408	0.481	5.00	0.308	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: CCR-13

Lab Sample ID: 400-139405-6

Date Collected: 06/14/17 11:42

Matrix: Water

Date Received: 06/15/17 08:37

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	8.14		0.555	0.919	1.00	0.0872	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.839		0.265	0.276	1.00	0.327	pCi/L	06/23/17 11:19	07/06/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					06/23/17 11:19	07/06/17 11:11	1
Y Carrier	82.2		40 - 110					06/23/17 11:19	07/06/17 11:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.98		0.615	0.959	5.00	0.327	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: CCR-14

Date Collected: 06/14/17 12:16

Date Received: 06/15/17 08:37

Lab Sample ID: 400-139405-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	41.4		1.39	3.98	1.00	0.104	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.824		0.278	0.288	1.00	0.365	pCi/L	06/23/17 11:19	07/06/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					06/23/17 11:19	07/06/17 11:11	1
Y Carrier	81.9		40 - 110					06/23/17 11:19	07/06/17 11:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	42.2		1.42	3.99	5.00	0.365	pCi/L		07/18/17 15:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-139405-2

Client Sample ID: DUP-01

Lab Sample ID: 400-139405-8

Date Collected: 06/14/17 00:00

Matrix: Water

Date Received: 06/15/17 08:37

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.27		0.239	0.265	1.00	0.0904	pCi/L	06/23/17 09:36	07/17/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					06/23/17 09:36	07/17/17 11:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.422		0.261	0.264	1.00	0.401	pCi/L	06/23/17 11:19	07/06/17 11:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					06/23/17 11:19	07/06/17 11:11	1
Y Carrier	85.2		40 - 110					06/23/17 11:19	07/06/17 11:11	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.69		0.354	0.374	5.00	0.401	pCi/L		07/18/17 15:26	1

TestAmerica Pensacola
 3355 McLeamore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Client Information Lab FIM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): 530-Orlando COC No: 400-59095-24789.1 Page: Page 1 of 2 Job #:	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSO#:#		Analysis Requested Total Number of Containers:	
Sample Identification Sample ID: FB-01 CCR-9 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 DUP-01		Sample Identification Sample Date: 6-14-17 Sample Time: 835 918 955 1029 1107 1142 1216 -	
Sample Identification Sample Type (C=Comp, G=grab) Preservation Code:		Sample Identification Field Filtered Sample (Yes or No) D N I D 9315_Ra226, 9320_Ra228 2540C, 4500_F, C, SM4509_C, E, SM4500_SQ4_E 6020, 7470A	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Possible Hazard Identification <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: Relinquished by: <i>Allen Vest</i> Relinquished by: Relinquished by:		Empty Kit Relinquished by: Relinquished by: Relinquished by: Relinquished by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seals Intact: Cooler Temperature(s) °C and Other Remarks: 0.5°C, 0.7°C	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-140455-1

Client Project/Site: CCR App.III/IV GW Monitoring - Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
7/31/2017 4:01:18 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Job ID: 400-140455-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-140455-1

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 360589 and analytical batch 360990 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-140455-4), CCR-4 (400-140455-5), CCR-5 (400-140455-6), CCR-6 (400-140455-7), CCR-7 (400-140455-8), CCR-8 (400-140455-9), CCR-9 (400-140455-10), CCR-11 (400-140455-12), CCR-12 (400-140455-13), CCR-13 (400-140455-14) and CCR-14 (400-140455-15). Elevated reporting limits (RLs) are provided.

Method(s) 6020: The following sample is labeled as a Field Blank. However, the following analytes recovered above the reporting limit: Calcium, Barium, and Lithium. The raw sample and the digested sample were reanalyzed to confirm the results. FB-01 (400-140455-3)

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 360949 was outside control limits. Sample matrix interference is suspected.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 361030 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 361075 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-2 (400-140455-2), CCR-4 (400-140455-5), CCR-5 (400-140455-6), CCR-6 (400-140455-7), CCR-7 (400-140455-8), CCR-9 (400-140455-10), CCR-11 (400-140455-12), CCR-11 (400-140455-12[MS]), CCR-11 (400-140455-12[MSD]) and CCR-14 (400-140455-15). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 361144 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 360984 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-1 (400-140455-1), CCR-2 (400-140455-2), CCR-3 (400-140455-4), CCR-4 (400-140455-5), CCR-5 (400-140455-6), CCR-6 (400-140455-7), CCR-7 (400-140455-8), CCR-8 (400-140455-9), CCR-9 (400-140455-10), CCR-10 (400-140455-11), CCR-11 (400-140455-12), CCR-11 (400-140455-12[MS]), CCR-11 (400-140455-12[MSD]), CCR-12 (400-140455-13), CCR-13 (400-140455-14), CCR-14 (400-140455-15), DUP-01 (400-140455-16), (400-140397-A-1), (400-140397-A-1 MS) and (400-140397-A-1 MSD). Elevated reporting limits (RLs) are provided.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-140455-1	CCR-1	Water	07/11/17 09:08	07/12/17 08:20
400-140455-2	CCR-2	Water	07/11/17 09:43	07/12/17 08:20
400-140455-3	FB-01	Water	07/11/17 08:52	07/12/17 08:20
400-140455-4	CCR-3	Water	07/11/17 10:18	07/12/17 08:20
400-140455-5	CCR-4	Water	07/11/17 10:52	07/12/17 08:20
400-140455-6	CCR-5	Water	07/11/17 11:27	07/12/17 08:20
400-140455-7	CCR-6	Water	07/11/17 12:00	07/12/17 08:20
400-140455-8	CCR-7	Water	07/11/17 12:34	07/12/17 08:20
400-140455-9	CCR-8	Water	07/11/17 13:08	07/12/17 08:20
400-140455-10	CCR-9	Water	07/13/17 09:16	07/14/17 08:07
400-140455-11	CCR-10	Water	07/13/17 09:50	07/14/17 08:07
400-140455-12	CCR-11	Water	07/13/17 10:20	07/14/17 08:07
400-140455-13	CCR-12	Water	07/13/17 10:58	07/14/17 08:07
400-140455-14	CCR-13	Water	07/13/17 11:40	07/14/17 08:07
400-140455-15	CCR-14	Water	07/13/17 12:10	07/14/17 08:07
400-140455-16	DUP-01	Water	07/13/17 00:00	07/14/17 08:07

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-1

Date Collected: 07/11/17 09:08

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 14:38	5
Arsenic	0.0013		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 14:38	5
Barium	0.033		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 14:38	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 14:38	5
Boron	0.054		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 14:38	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 14:38	5
Calcium	27		0.25	0.13	mg/L		07/15/17 12:47	07/19/17 14:38	5
Chromium	0.0018	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 14:38	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 14:38	5
Lead	0.00039	I	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 14:38	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 14:38	5
Molybdenum	0.0017	I	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 14:38	5
Selenium	0.0010	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 14:38	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 14:38	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			07/15/17 17:20	1
Chloride	5.0		2.0	0.60	mg/L			07/18/17 14:32	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/18/17 14:47	1
Sulfate	49		10	2.8	mg/L			07/19/17 09:59	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.81				SU			07/11/17 08:08	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-2

Date Collected: 07/11/17 09:43

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 14:42	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 14:42	5
Barium	0.056		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 14:42	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 14:42	5
Boron	0.039	I	0.050	0.021	mg/L		07/15/17 12:47	07/19/17 14:42	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 14:42	5
Calcium	53		0.25	0.13	mg/L		07/15/17 12:47	07/19/17 14:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 14:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 14:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 14:42	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 14:42	5
Molybdenum	0.0010	I	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 14:42	5
Selenium	0.00049	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 14:42	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 14:42	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:44	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		5.0	3.4	mg/L			07/15/17 16:42	1
Chloride	8.9		2.0	0.60	mg/L			07/18/17 14:33	1
Fluoride	0.080	I	0.10	0.032	mg/L			07/18/17 14:50	1
Sulfate	110		25	7.0	mg/L			07/19/17 09:11	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.45				SU			07/11/17 08:43	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: FB-01
Date Collected: 07/11/17 08:52
Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-3
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 14:46	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 14:46	5
Barium	0.0077		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 14:46	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 14:46	5
Boron	0.024	I	0.050	0.021	mg/L		07/15/17 12:47	07/19/17 14:46	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 14:46	5
Calcium	25		0.25	0.13	mg/L		07/15/17 12:47	07/19/17 14:46	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 14:46	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 14:46	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 14:46	5
Lithium	0.0049		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 14:46	5
Molybdenum	0.0014	I	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 14:46	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 14:46	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 14:46	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:45	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	160		5.0	3.4	mg/L			07/15/17 16:42	1
Chloride	5.8		2.0	0.60	mg/L			07/19/17 13:16	1
Fluoride	0.34		0.10	0.032	mg/L			07/18/17 14:52	1
Sulfate	5.5		5.0	1.4	mg/L			07/19/17 08:14	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-3

Date Collected: 07/11/17 10:18

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 14:51	5
Arsenic	0.00086	I	0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 14:51	5
Barium	0.039		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 14:51	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 14:51	5
Boron	1.8		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 14:51	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 14:51	5
Chromium	0.0011	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 14:51	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 14:51	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 14:51	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 14:51	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 14:51	5
Selenium	0.00034	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 14:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 14:51	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	540		2.5	1.3	mg/L		07/15/17 12:47	07/19/17 14:55	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:47	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			07/15/17 16:42	1
Chloride	46		2.0	0.60	mg/L			07/19/17 13:16	1
Fluoride	0.15		0.10	0.032	mg/L			07/18/17 15:00	1
Sulfate	1200		250	70	mg/L			07/19/17 09:15	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.11				SU			07/11/17 09:18	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-4

Date Collected: 07/11/17 10:52

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	I	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 15:18	5
Arsenic	0.0017		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 15:18	5
Barium	0.36		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 15:18	5
Beryllium	0.00080	I	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 15:18	5
Boron	0.43		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 15:18	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 15:18	5
Chromium	0.0021	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 15:18	5
Cobalt	0.0039		0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 15:18	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 15:18	5
Lithium	0.12		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 15:18	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 15:18	5
Selenium	0.0013		0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 15:18	5
Thallium	0.00031	I	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 15:18	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1200		10	5.0	mg/L		07/15/17 12:47	07/19/17 15:23	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:49	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8600		25	17	mg/L			07/15/17 16:42	1
Chloride	3000		140	42	mg/L			07/19/17 14:08	70
Fluoride	0.12		0.10	0.032	mg/L			07/18/17 15:06	1
Sulfate	300		100	28	mg/L			07/19/17 09:15	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.64				SU			07/11/17 09:52	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-5

Date Collected: 07/11/17 11:27

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 15:27	5
Arsenic	0.0015		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 15:27	5
Barium	0.070		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 15:27	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 15:27	5
Boron	0.56		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 15:27	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 15:27	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 15:27	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 15:27	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 15:27	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 15:27	5
Selenium	0.0010	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 15:27	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 15:27	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.9		0.013	0.016	mg/L		07/15/17 12:47	07/19/17 15:32	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1400		10	5.0	mg/L		07/15/17 12:47	07/19/17 15:36	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:50	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000		50	34	mg/L			07/15/17 16:42	1
Chloride	3500		160	48	mg/L			07/19/17 14:11	80
Fluoride	0.050	I	0.10	0.032	mg/L			07/18/17 15:09	1
Sulfate	260		100	28	mg/L			07/19/17 09:15	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.84				SU			07/11/17 10:27	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-6

Date Collected: 07/11/17 12:00

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 15:41	5
Arsenic	0.00083	I	0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 15:41	5
Barium	0.029		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 15:41	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 15:41	5
Boron	0.47		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 15:41	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 15:41	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 15:41	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 15:41	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 15:41	5
Lithium	0.13		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 15:41	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 15:41	5
Selenium	0.00073	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 15:41	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 15:41	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	700		2.5	1.3	mg/L		07/15/17 12:47	07/19/17 15:45	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:52	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4100		25	17	mg/L			07/15/17 16:42	1
Chloride	990		60	18	mg/L			07/19/17 13:47	30
Fluoride	0.15		0.10	0.032	mg/L			07/18/17 15:12	1
Sulfate	720		150	42	mg/L			07/19/17 09:16	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.50				SU			07/11/17 11:00	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-7

Date Collected: 07/11/17 12:34

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 15:50	5
Arsenic	0.00054	I	0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 15:50	5
Barium	0.044		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 15:50	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 15:50	5
Boron	0.34		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 15:50	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 15:50	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 15:50	5
Cobalt	0.00041	I	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 15:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 15:50	5
Lithium	0.0081		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 15:50	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 15:50	5
Selenium	0.00033	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 15:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 15:50	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	330		1.3	0.63	mg/L		07/15/17 12:47	07/19/17 15:54	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 12:54	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300		25	17	mg/L			07/15/17 16:42	1
Chloride	780		60	18	mg/L			07/19/17 13:47	30
Fluoride	0.24		0.10	0.032	mg/L			07/18/17 15:15	1
Sulfate	210		50	14	mg/L			07/19/17 09:20	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.32				SU			07/11/17 11:34	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-8

Date Collected: 07/11/17 13:08

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 16:16	5
Arsenic	0.0024		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 16:16	5
Barium	0.033		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 16:16	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 16:16	5
Boron	0.11		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 16:16	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 16:16	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 16:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 16:16	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 16:16	5
Lithium	0.0073		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 16:16	5
Molybdenum	0.016		0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 16:16	5
Selenium	0.00030	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 16:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 16:16	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		1.3	0.63	mg/L		07/15/17 12:47	07/19/17 16:21	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:20	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	370		5.0	3.4	mg/L			07/15/17 16:42	1
Chloride	6.6		2.0	0.60	mg/L			07/19/17 13:16	1
Fluoride	0.31		0.10	0.032	mg/L			07/18/17 15:18	1
Sulfate	120		25	7.0	mg/L			07/19/17 09:54	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.22				SU			07/11/17 12:08	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-9

Date Collected: 07/13/17 09:16

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 16:26	5
Arsenic	0.0037		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 16:26	5
Barium	0.093		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 16:26	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 16:26	5
Boron	0.22		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 16:26	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 16:26	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 16:26	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 16:26	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 16:26	5
Lithium	0.11		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 16:26	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 16:26	5
Selenium	0.0014		0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 16:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 16:26	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	990		5.0	2.5	mg/L		07/15/17 12:47	07/19/17 16:30	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:22	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5900		25	17	mg/L			07/15/17 15:59	1
Chloride	1900		100	30	mg/L			07/19/17 14:19	50
Fluoride	0.17		0.10	0.032	mg/L			07/18/17 15:21	1
Sulfate	830		200	56	mg/L			07/19/17 09:59	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.85				SU			07/13/17 08:16	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-10

Date Collected: 07/13/17 09:50

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 16:34	5
Arsenic	0.0018		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 16:34	5
Barium	0.018		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 16:34	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 16:34	5
Boron	0.18		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 16:34	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 16:34	5
Calcium	79		0.25	0.13	mg/L		07/15/17 12:47	07/19/17 16:34	5
Chromium	0.0027		0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 16:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 16:34	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 16:34	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 16:34	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 16:34	5
Selenium	0.00048	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 16:34	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 16:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	360		5.0	3.4	mg/L			07/15/17 15:59	1
Chloride	39		2.0	0.60	mg/L			07/19/17 13:36	1
Fluoride	0.10		0.10	0.032	mg/L			07/18/17 15:23	1
Sulfate	67		10	2.8	mg/L			07/19/17 09:59	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.62				SU			07/13/17 08:50	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-11

Date Collected: 07/13/17 10:20

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 16:39	5
Arsenic	0.094		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 16:39	5
Barium	0.054		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 16:39	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 16:39	5
Boron	0.57		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 16:39	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 16:39	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 16:39	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 16:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 16:39	5
Lithium	0.0041		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 16:39	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 16:39	5
Selenium	0.0023		0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 16:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 16:39	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	570		2.5	1.3	mg/L		07/15/17 12:47	07/19/17 16:43	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:25	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900		25	17	mg/L			07/15/17 15:59	1
Chloride	520		40	12	mg/L			07/19/17 14:42	20
Fluoride	0.45		0.10	0.032	mg/L			07/18/17 16:52	1
Sulfate	1500		250	70	mg/L			07/19/17 09:11	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.74				SU			07/13/17 09:20	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-12

Date Collected: 07/13/17 10:58

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 16:48	5
Arsenic	0.036		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 16:48	5
Barium	0.014		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 16:48	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 16:48	5
Boron	0.53		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 16:48	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 16:48	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 16:48	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 16:48	5
Lead	0.0010	I	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 16:48	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 16:48	5
Molybdenum	0.013		0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 16:48	5
Selenium	0.0010	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 16:48	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 16:48	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	570		2.5	1.3	mg/L		07/15/17 12:47	07/19/17 16:52	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:32	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		5.0	3.4	mg/L			07/15/17 15:59	1
Chloride	19		2.0	0.60	mg/L			07/20/17 08:04	1
Fluoride	0.63		0.10	0.032	mg/L			07/18/17 17:01	1
Sulfate	980		250	70	mg/L			07/19/17 09:28	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.33				SU			07/13/17 09:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-13

Date Collected: 07/13/17 11:40

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 17:15	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 17:15	5
Barium	0.010		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 17:15	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 17:15	5
Boron	0.68		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 17:15	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 17:15	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 17:15	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 17:15	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 17:15	5
Lithium	0.011		0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 17:15	5
Molybdenum	0.0037	I	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 17:15	5
Selenium	0.00085	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 17:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 17:15	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	590		2.5	1.3	mg/L		07/15/17 12:47	07/19/17 17:20	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		25	17	mg/L			07/15/17 15:59	1
Chloride	21		2.0	0.60	mg/L			07/20/17 08:05	1
Fluoride	0.14		0.10	0.032	mg/L			07/18/17 17:03	1
Sulfate	1200		250	70	mg/L			07/19/17 09:32	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.62				SU			07/13/17 10:40	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: CCR-14

Date Collected: 07/13/17 12:10

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 17:24	5
Arsenic	0.0031		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 17:24	5
Barium	0.015		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 17:24	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 17:24	5
Boron	0.82		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 17:24	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 17:24	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 17:24	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 17:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 17:24	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 17:24	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 17:24	5
Selenium	0.00068	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 17:24	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 17:24	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	410		1.3	0.63	mg/L		07/15/17 12:47	07/19/17 17:28	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600		5.0	3.4	mg/L			07/16/17 15:45	1
Chloride	75		4.0	1.2	mg/L			07/20/17 08:22	2
Fluoride	0.27		0.10	0.032	mg/L			07/18/17 17:06	1
Sulfate	890		250	70	mg/L			07/19/17 09:32	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.95				SU			07/13/17 11:10	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Client Sample ID: DUP-01

Date Collected: 07/13/17 00:00

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		07/15/17 12:47	07/19/17 17:33	5
Arsenic	0.0019		0.0013	0.00046	mg/L		07/15/17 12:47	07/19/17 17:33	5
Barium	0.018		0.0025	0.00049	mg/L		07/15/17 12:47	07/19/17 17:33	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		07/15/17 12:47	07/19/17 17:33	5
Boron	0.18		0.050	0.021	mg/L		07/15/17 12:47	07/19/17 17:33	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		07/15/17 12:47	07/19/17 17:33	5
Calcium	73		0.25	0.13	mg/L		07/15/17 12:47	07/19/17 17:33	5
Chromium	0.0025		0.0025	0.0011	mg/L		07/15/17 12:47	07/19/17 17:33	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		07/15/17 12:47	07/19/17 17:33	5
Lead	0.00035	U	0.0013	0.00035	mg/L		07/15/17 12:47	07/19/17 17:33	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		07/15/17 12:47	07/19/17 17:33	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		07/15/17 12:47	07/19/17 17:33	5
Selenium	0.00031	I	0.0013	0.00024	mg/L		07/15/17 12:47	07/19/17 17:33	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		07/15/17 12:47	07/19/17 17:33	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		07/17/17 16:19	07/20/17 13:48	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	380		5.0	3.4	mg/L			07/15/17 15:59	1
Chloride	33		2.0	0.60	mg/L			07/19/17 13:36	1
Fluoride	0.11		0.10	0.032	mg/L			07/18/17 17:09	1
Sulfate	69		25	7.0	mg/L			07/19/17 12:06	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.62				SU			07/12/17 23:00	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-1

Qualifiers

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
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.

Glossary

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

Chain of Custody Record



Client Information
 Client Contact: Mr. Sam Stafford
 Company: Golder Associates Inc.
 Address: 9428 Baymeadows Road Suite 400
 City: Jacksonville
 State, Zip: FL, 32256
 Phone: 904-363-3430 (Tel)
 Email: Sam_Stafford@golder.com
 Project Name: CCR Lakeland
 Site: SSOV#

Sample Information
 Sampler: Shawn Victory
 Lab PM: Whitmore, Cheyenne R
 Phone: 407-399-3348
 E-Mail: cheyenne.whitmore@testamerica.com

Logistics
 Carrier Tracking No(s): 530-Orlando
 COC No: 400-59085-24789-1
 Page: Page 1 of 2
 Job #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Swab, On-surface, BT-Tissue, Air)	Preservation Code:	Field Filtered Sample (Yes or No)		Analysis Requested		Total Number of containers	Special Instructions/Note:
						D	N	D	N		
CCR-1	7-11-17	908	G	Water		X	X	X	X		
CCR-2		943		Water		X	X	X	X		
FB-01		852		Water		X	X	X	X		
CCR-3		1018		Water		X	X	X	X		
CCR-4		1052		Water		X	X	X	X		
CCR-5		1127		Water		X	X	X	X		
CCR-6		1200		Water		X	X	X	X		
CCR-7		1234		Water		X	X	X	X		
CCR-8		1308		Water		X	X	X	X		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: *Shawn Victory* Date: 7-11-17 1510
 Relinquished by: *Shawn Victory* Date: 7-12-17 0820
 Relinquished by: _____ Date/Time: _____

Method of Shipment: _____
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____

Custody Seals Intact: Yes No
 Cooler Temperature(s) °C and Other: Remarks: 1.4°C, 5.0°C JRE



Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 550-Orlando		COC No: 400-59095-24789.1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOV#:		Analysis Requested <div style="text-align: center;">  400-140455 COC </div>			
Sample Identification Sample ID: CCR-9, CCR-10, CCR-11, CCR-12, CCR-13, CCR-14, DUP-01 Sample Date: 7-13-17 Sample Time: 9:16, 9:50, 10:20, 10:58, 11:40, 12:10 Sample Type (C-comp, G-grab): G Matrix (Water, Swab, Dried, etc.): Water Preservation Code:		Field Filtered Sample (Yes or No): 9515_Ra228, 9320_Ra228: X 2540C, 4500_F, C, SW4509, Cl, E, SM4500, SO4, E: X 6020, 7470A: X			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note: Total Number of Containers: X Extra Samples for MS/ASD			
Empty Kit Relinquished by: <i>Shawn Victory</i> Relinquished by: <i>Shawn Victory</i> Relinquished by:		Sample Disposal: <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Date/Time: 7-13-17 14:30 Date/Time:		Date/Time: 7-14-17 08:07 Date/Time:			
Date/Time:		Date/Time:			
Custody Seals Intact: \ Yes \ NO Custody Seal No.:		Cooler Temperature and Other Remarks: 3.0C F&C, 5.0C IR-2			



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-140455-2

Client Project/Site: CCR App.III/IV GW Monitoring - Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
8/15/2017 5:44:59 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Method Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-140455-1	CCR-1	Water	07/11/17 09:08	07/12/17 08:20
400-140455-2	CCR-2	Water	07/11/17 09:43	07/12/17 08:20
400-140455-3	FB-01	Water	07/11/17 08:52	07/12/17 08:20
400-140455-4	CCR-3	Water	07/11/17 10:18	07/12/17 08:20
400-140455-5	CCR-4	Water	07/11/17 10:52	07/12/17 08:20
400-140455-6	CCR-5	Water	07/11/17 11:27	07/12/17 08:20
400-140455-7	CCR-6	Water	07/11/17 12:00	07/12/17 08:20
400-140455-8	CCR-7	Water	07/11/17 12:34	07/12/17 08:20
400-140455-9	CCR-8	Water	07/11/17 13:08	07/12/17 08:20
400-140455-10	CCR-9	Water	07/13/17 09:16	07/14/17 08:07
400-140455-11	CCR-10	Water	07/13/17 09:50	07/14/17 08:07
400-140455-12	CCR-11	Water	07/13/17 10:20	07/14/17 08:07
400-140455-13	CCR-12	Water	07/13/17 10:58	07/14/17 08:07
400-140455-14	CCR-13	Water	07/13/17 11:40	07/14/17 08:07
400-140455-15	CCR-14	Water	07/13/17 12:10	07/14/17 08:07
400-140455-16	DUP-01	Water	07/13/17 00:00	07/14/17 08:07

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-1

Date Collected: 07/11/17 09:08

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-1

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.24		0.316	0.430	1.00	0.102	pCi/L	07/20/17 10:21	08/11/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					07/20/17 10:21	08/11/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.36		0.301	0.326	1.00	0.342	pCi/L	07/20/17 10:41	08/03/17 13:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					07/20/17 10:41	08/03/17 13:15	1
Y Carrier	91.6		40 - 110					07/20/17 10:41	08/03/17 13:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.59		0.436	0.539	5.00	0.342	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-2

Date Collected: 07/11/17 09:43

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-2

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.18		0.325	0.433	1.00	0.111	pCi/L	07/20/17 10:21	08/11/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					07/20/17 10:21	08/11/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.36		0.309	0.333	1.00	0.349	pCi/L	07/20/17 10:41	08/03/17 13:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					07/20/17 10:41	08/03/17 13:15	1
Y Carrier	91.6		40 - 110					07/20/17 10:41	08/03/17 13:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.54		0.448	0.546	5.00	0.349	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: FB-01
Date Collected: 07/11/17 08:52
Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.281		0.100	0.103	1.00	0.0898	pCi/L	07/20/17 10:21	08/11/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					07/20/17 10:21	08/11/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.141	U	0.185	0.185	1.00	0.362	pCi/L	07/20/17 10:41	08/03/17 13:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					07/20/17 10:41	08/03/17 13:15	1
Y Carrier	91.6		40 - 110					07/20/17 10:41	08/03/17 13:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.140	U	0.210	0.212	5.00	0.362	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-3

Date Collected: 07/11/17 10:18

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-4

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.40		0.392	0.557	1.00	0.101	pCi/L	07/20/17 10:21	08/11/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.4		40 - 110					07/20/17 10:21	08/11/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.625		0.279	0.285	1.00	0.393	pCi/L	07/20/17 10:41	08/03/17 13:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.4		40 - 110					07/20/17 10:41	08/03/17 13:15	1
Y Carrier	90.5		40 - 110					07/20/17 10:41	08/03/17 13:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.02		0.481	0.626	5.00	0.393	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-4

Date Collected: 07/11/17 10:52

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	52.6		1.28	4.91	1.00	0.0895	pCi/L	07/20/17 10:21	08/11/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					07/20/17 10:21	08/11/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	19.3		0.936	2.01	1.00	0.409	pCi/L	07/20/17 10:41	08/03/17 13:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					07/20/17 10:41	08/03/17 13:16	1
Y Carrier	94.2		40 - 110					07/20/17 10:41	08/03/17 13:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	71.9		1.58	5.30	5.00	0.409	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-5
Date Collected: 07/11/17 11:27
Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-6
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	10.8		0.665	1.18	1.00	0.136	pCi/L	07/20/17 10:21	08/11/17 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.4		40 - 110					07/20/17 10:21	08/11/17 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.11		0.611	0.771	1.00	0.497	pCi/L	07/20/17 10:41	08/03/17 13:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.4		40 - 110					07/20/17 10:41	08/03/17 13:16	1
Y Carrier	92.7		40 - 110					07/20/17 10:41	08/03/17 13:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	15.9		0.903	1.41	5.00	0.497	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-6
Date Collected: 07/11/17 12:00
Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-7
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.21		0.405	0.620	1.00	0.0914	pCi/L	07/20/17 10:21	08/11/17 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					07/20/17 10:21	08/11/17 06:12	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.65		0.331	0.365	1.00	0.347	pCi/L	07/20/17 10:41	08/03/17 13:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					07/20/17 10:41	08/03/17 13:16	1
Y Carrier	90.1		40 - 110					07/20/17 10:41	08/03/17 13:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.86		0.523	0.719	5.00	0.347	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-7

Date Collected: 07/11/17 12:34

Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-8

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	9.15		0.503	0.965	1.00	0.103	pCi/L	07/20/17 10:21	08/11/17 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					07/20/17 10:21	08/11/17 06:12	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.13		0.386	0.481	1.00	0.292	pCi/L	07/20/17 10:41	08/03/17 13:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					07/20/17 10:41	08/03/17 13:16	1
Y Carrier	93.5		40 - 110					07/20/17 10:41	08/03/17 13:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	12.3		0.634	1.08	5.00	0.292	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-8
Date Collected: 07/11/17 13:08
Date Received: 07/12/17 08:20

Lab Sample ID: 400-140455-9
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.33		0.360	0.531	1.00	0.0892	pCi/L	07/20/17 10:21	08/11/17 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					07/20/17 10:21	08/11/17 06:12	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0804	U	0.190	0.190	1.00	0.329	pCi/L	07/20/17 10:41	08/03/17 13:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					07/20/17 10:41	08/03/17 13:16	1
Y Carrier	92.0		40 - 110					07/20/17 10:41	08/03/17 13:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.41		0.407	0.564	5.00	0.329	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-9

Date Collected: 07/13/17 09:16

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-10

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.2		0.680	1.29	1.00	0.134	pCi/L	07/20/17 10:21	08/11/17 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.6		40 - 110					07/20/17 10:21	08/11/17 06:12	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.26		0.444	0.490	1.00	0.476	pCi/L	07/20/17 10:41	08/03/17 13:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.6		40 - 110					07/20/17 10:41	08/03/17 13:17	1
Y Carrier	92.3		40 - 110					07/20/17 10:41	08/03/17 13:17	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	14.4		0.812	1.38	5.00	0.476	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-10

Date Collected: 07/13/17 09:50

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-11

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.660		0.147	0.158	1.00	0.102	pCi/L	07/20/17 10:21	08/11/17 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					07/20/17 10:21	08/11/17 06:12	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.355		0.195	0.197	1.00	0.287	pCi/L	07/20/17 10:41	08/03/17 13:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					07/20/17 10:41	08/03/17 13:17	1
Y Carrier	96.1		40 - 110					07/20/17 10:41	08/03/17 13:17	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.02		0.244	0.253	5.00	0.287	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-11

Date Collected: 07/13/17 10:20

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-12

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.01		0.349	0.502	1.00	0.117	pCi/L	07/20/17 10:21	08/11/17 06:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					07/20/17 10:21	08/11/17 06:12	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.10		0.394	0.487	1.00	0.308	pCi/L	07/20/17 10:41	08/03/17 13:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					07/20/17 10:41	08/03/17 13:17	1
Y Carrier	93.1		40 - 110					07/20/17 10:41	08/03/17 13:17	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.11		0.527	0.699	5.00	0.308	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-12
Date Collected: 07/13/17 10:58
Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-13
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.17		0.256	0.322	1.00	0.0785	pCi/L	07/20/17 10:21	08/11/17 06:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					07/20/17 10:21	08/11/17 06:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.284	U	0.213	0.214	1.00	0.332	pCi/L	07/20/17 10:41	08/03/17 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					07/20/17 10:41	08/03/17 13:18	1
Y Carrier	92.0		40 - 110					07/20/17 10:41	08/03/17 13:18	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.46		0.333	0.387	5.00	0.332	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-13

Date Collected: 07/13/17 11:40

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-14

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.17		0.361	0.521	1.00	0.0926	pCi/L	07/20/17 10:21	08/11/17 06:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					07/20/17 10:21	08/11/17 06:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.886		0.330	0.340	1.00	0.470	pCi/L	07/20/17 10:41	08/03/17 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					07/20/17 10:41	08/03/17 13:18	1
Y Carrier	89.7		40 - 110					07/20/17 10:41	08/03/17 13:18	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.06		0.490	0.622	5.00	0.470	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: CCR-14

Date Collected: 07/13/17 12:10

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-15

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	33.6		1.10	3.22	1.00	0.0914	pCi/L	07/20/17 10:21	08/11/17 06:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.2		40 - 110					07/20/17 10:21	08/11/17 06:14	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.44		0.404	0.425	1.00	0.515	pCi/L	07/20/17 10:41	08/03/17 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.2		40 - 110					07/20/17 10:41	08/03/17 13:18	1
Y Carrier	84.1		40 - 110					07/20/17 10:41	08/03/17 13:18	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	35.1		1.17	3.25	5.00	0.515	pCi/L		08/14/17 18:03	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-140455-2

Client Sample ID: DUP-01

Date Collected: 07/13/17 00:00

Date Received: 07/14/17 08:07

Lab Sample ID: 400-140455-16

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.663		0.148	0.160	1.00	0.0774	pCi/L	07/20/17 10:21	08/11/17 06:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					07/20/17 10:21	08/11/17 06:14	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.606		0.260	0.266	1.00	0.364	pCi/L	07/20/17 10:41	08/03/17 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					07/20/17 10:41	08/03/17 13:18	1
Y Carrier	89.7		40 - 110					07/20/17 10:41	08/03/17 13:18	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.27		0.299	0.310	5.00	0.364	pCi/L		08/14/17 18:03	1

Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Sample: <u>Shawn Victory</u> Lab PM: Whitmire, Cheyenne R Phone: <u>407-399-3348</u> E-Mail: cheyenne.whitmire@testamericainc.com		Carrier Tracking No(s): 530-Orlando COC No: 400-59085-24789-1 Page 1 of 2 Job #:					
Due Date Requested: TAT Requested (days):		Analysis Requested <div style="border: 1px solid black; padding: 5px; display: inline-block;">  400-140455 COC </div>							
PO # TA-15454542-01 WO # 15-45454.2 Project # 40007144 SSOV#		Field Filtered Sample (Yes or No)							
Sample Identification CCR-1 CCR-2 FB-01 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7 CCR-8		Sample Date 7-11-17	Sample Time 908 943 852 1018 1052 1127 1200 1234 1308	Sample Type (C=Comp, G=grab) G	Matrix (Water, Sewage, Urine, Other) Water Water Water Water Water Water Water Water Water Water	Preservation Code: D N D X X X X X X	Special Instructions/Note: 6020, 7470A 2540C, 4500, F, C, S, M4500, C, E, E, S, M4500, S04, E 9316, Ra226, 9320, Ra228	Total Number of containers	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonia H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsH2O2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Empty Kit Relinquished by: <u>Shawn Victory</u> Relinquished by: <u>Shawn Victory</u> Relinquished by:		Date: 7-11-17 1510 Date/Time:		Method of Shipment:					
Custody Seals Intact: Yes \ No Custody Seal No		Date: 7-12-17 0820 Date/Time:		Received by: <u>Shawn Victory</u> Received by: <u>Shawn Victory</u> Received by:					
Cooler Temperature(s) °C and Other: Remarks 1.4°C, 5.0°C JRE		Date/Time:		Company: <u>TestAmerica</u> Company: <u>TestAmerica</u> Company:					



Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com Carrier Tracking No(s): 550-Orlando COC No: 400-59095-24789.1 Page: Page 1 of 2 Job #:	
Sampler: <i>Shawn Victory</i> Phone: <i>407-399-3348</i>		Analysis Requested  400-140455 COC	
Due Date Requested: TAT Requested (days): RO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOV#:		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 Other: 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)	
Sample Identification CCR-9 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14 DUP-01		Field Filtered Sample (Yes or No) 9515_Ra228, 9320_Ra228 2540C, 4500_F, C, SW4509, Cl, E, SM4500, SO4, E 6020, 7470A	
Sample Date 7-13-17	Sample Time 916 950 1020 1058 1140 1210 -	Sample Type (C=comp, G=grab) G	Matrix (W=water, S=sediment, D=dredge, O=other) Water Water Water Water Water Water Water Water Water Water
Preservation Code: X N D X X X X X X X X X X X X X X X X X X		Special Instructions/Note: Extra samples for ms/ASD	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: <i>Shawn Victory</i> Date/Time: 7-13-17 1430 Company: TAORL		Method of Shipment: Date/Time: 7-14-17 0807 Company: TA	
Relinquished by: <i>Shawn Victory</i> Date/Time: 7-13-17 1430 Company: TAORL		Received by: <i>[Signature]</i> Date/Time: 7-14-17 0807 Company: TA	
Relinquished by: <i>Shawn Victory</i> Date/Time: 7-13-17 1430 Company: TAORL		Received by: <i>[Signature]</i> Date/Time: 7-14-17 0807 Company: TA	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature and Other Remarks: 3.0C F&C, 5.0C IR-2	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-141890-1
Client Project/Site: CCR Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
8/28/2017 5:40:26 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Job ID: 400-141890-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-141890-1

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-141890-4), CCR-4 (400-141890-5), CCR-5 (400-141890-6), CCR-6 (400-141890-7), CCR-9 (400-141890-11), CCR-11 (400-141890-13), CCR-12 (400-141890-14), CCR-13 (400-141890-15) and CCR-14 (400-141890-16). Elevated reporting limits (RLs) are provided.

Method(s) 6020: Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 365322 and analytical batch 365886 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 364695 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 364542 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-3 (400-141890-4), CCR-4 (400-141890-5), CCR-5 (400-141890-6), CCR-6 (400-141890-7), (400-141935-F-1), (400-141935-F-1 MS), (400-141935-F-1 MSD), CCR-9 (400-141890-11), CCR-11 (400-141890-13), CCR-13 (400-141890-15) and CCR-14 (400-141890-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 364556 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 365147 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-1 (400-141890-1), CCR-2 (400-141890-3), CCR-3 (400-141890-4), CCR-4 (400-141890-5), CCR-5 (400-141890-6), CCR-6 (400-141890-7), CCR-7 (400-141890-8), DUP-01 (400-141890-9), CCR-8 (400-141890-10), CCR-8 (400-141890-10[MS]), CCR-8 (400-141890-10[MSD]), CCR-9 (400-141890-11), CCR-10 (400-141890-12), CCR-11 (400-141890-13), CCR-12 (400-141890-14), CCR-13 (400-141890-15) and CCR-14 (400-141890-16). Elevated reporting limits (RLs) are provided.

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-141890-1	CCR-1	Water	08/14/17 09:40	08/15/17 09:01
400-141890-2	FB-01	Water	08/14/17 09:05	08/15/17 09:01
400-141890-3	CCR-2	Water	08/14/17 10:22	08/15/17 09:01
400-141890-4	CCR-3	Water	08/14/17 11:00	08/15/17 09:01
400-141890-5	CCR-4	Water	08/14/17 11:36	08/15/17 09:01
400-141890-6	CCR-5	Water	08/14/17 12:06	08/15/17 09:01
400-141890-7	CCR-6	Water	08/14/17 12:45	08/15/17 09:01
400-141890-8	CCR-7	Water	08/14/17 13:18	08/15/17 09:01
400-141890-9	DUP-01	Water	08/14/17 00:00	08/15/17 09:01
400-141890-10	CCR-8	Water	08/16/17 08:55	08/17/17 08:47
400-141890-11	CCR-9	Water	08/16/17 09:26	08/17/17 08:47
400-141890-12	CCR-10	Water	08/16/17 09:57	08/17/17 08:47
400-141890-13	CCR-11	Water	08/16/17 10:34	08/17/17 08:47
400-141890-14	CCR-12	Water	08/16/17 11:07	08/17/17 08:47
400-141890-15	CCR-13	Water	08/16/17 11:46	08/17/17 08:47
400-141890-16	CCR-14	Water	08/16/17 12:18	08/17/17 08:47

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-1

Date Collected: 08/14/17 09:40

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 20:59	5
Arsenic	0.0015		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 20:59	5
Barium	0.028		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 20:59	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 20:59	5
Boron	0.031	I	0.050	0.021	mg/L		08/23/17 12:58	08/27/17 20:59	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 20:59	5
Calcium	29		0.25	0.13	mg/L		08/23/17 12:58	08/27/17 20:59	5
Chromium	0.0015	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 20:59	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 20:59	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 20:59	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 20:59	5
Molybdenum	0.0014	I	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 20:59	5
Selenium	0.00057	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 20:59	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 20:59	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:17	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			08/16/17 13:32	1
Chloride	7.8		2.0	0.60	mg/L			08/17/17 09:49	1
Fluoride	0.070	I	0.10	0.032	mg/L			08/18/17 10:35	1
Sulfate	66		10	2.8	mg/L			08/16/17 10:00	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.80				SU			08/14/17 08:40	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: FB-01
Date Collected: 08/14/17 09:05
Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-2
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 21:04	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 21:04	5
Barium	0.00049	U	0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 21:04	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 21:04	5
Boron	0.021	U	0.050	0.021	mg/L		08/23/17 12:58	08/27/17 21:04	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 21:04	5
Calcium	0.13	U	0.25	0.13	mg/L		08/23/17 12:58	08/27/17 21:04	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 21:04	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 21:04	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 21:04	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 21:04	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 21:04	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 21:04	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 21:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:19	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			08/16/17 13:32	1
Chloride	0.60	U	2.0	0.60	mg/L			08/17/17 09:49	1
Fluoride	0.032	U	0.10	0.032	mg/L			08/18/17 10:39	1
Sulfate	1.4	U	5.0	1.4	mg/L			08/16/17 10:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-2

Date Collected: 08/14/17 10:22

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 21:08	5
Arsenic	0.00047	I	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 21:08	5
Barium	0.045		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 21:08	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 21:08	5
Boron	0.024	I	0.050	0.021	mg/L		08/23/17 12:58	08/27/17 21:08	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 21:08	5
Calcium	51		0.25	0.13	mg/L		08/23/17 12:58	08/27/17 21:08	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 21:08	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 21:08	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 21:08	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 21:08	5
Molybdenum	0.0019	I	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 21:08	5
Selenium	0.00024	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 21:08	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 21:08	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:20	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	240		5.0	3.4	mg/L			08/16/17 13:32	1
Chloride	10		2.0	0.60	mg/L			08/17/17 09:49	1
Fluoride	0.10		0.10	0.032	mg/L			08/18/17 10:43	1
Sulfate	110		25	7.0	mg/L			08/22/17 11:03	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.72				SU			08/14/17 09:22	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-3

Lab Sample ID: 400-141890-4

Date Collected: 08/14/17 11:00

Matrix: Water

Date Received: 08/15/17 09:01

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 21:13	5
Arsenic	0.00059	I	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 21:13	5
Barium	0.034		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 21:13	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 21:13	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 21:13	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 21:13	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 21:13	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 21:13	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 21:13	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 21:13	5
Selenium	0.00030	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 21:13	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 21:13	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.50	0.21	mg/L		08/23/17 12:58	08/27/17 21:17	50
Calcium	510		2.5	1.3	mg/L		08/23/17 12:58	08/27/17 21:17	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:32	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		5.0	3.4	mg/L			08/16/17 13:32	1
Chloride	61		4.0	1.2	mg/L			08/17/17 10:17	2
Fluoride	0.17		0.10	0.032	mg/L			08/18/17 10:45	1
Sulfate	1200		200	56	mg/L			08/22/17 11:08	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.11				SU			08/14/17 10:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-4

Date Collected: 08/14/17 11:36

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 21:22	5
Arsenic	0.0012	I	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 21:22	5
Barium	0.29		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 21:22	5
Beryllium	0.00060	I	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 21:22	5
Boron	0.70		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 21:22	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 21:22	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 21:22	5
Cobalt	0.0028		0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 21:22	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 21:22	5
Lithium	0.027		0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 21:22	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 21:22	5
Selenium	0.0031		0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 21:22	5
Thallium	0.00027	I	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 21:22	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	980		10	5.0	mg/L		08/23/17 12:58	08/27/17 21:26	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6500		25	17	mg/L			08/16/17 13:32	1
Chloride	2600		120	36	mg/L			08/17/17 10:37	60
Fluoride	0.040	I	0.10	0.032	mg/L			08/18/17 11:03	1
Sulfate	490		100	28	mg/L			08/22/17 11:53	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	3.67				SU			08/14/17 10:36	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-5

Date Collected: 08/14/17 12:06

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 21:31	5
Arsenic	0.0011	I	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 21:31	5
Barium	0.073		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 21:31	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 21:31	5
Boron	0.61		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 21:31	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 21:31	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 21:31	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 21:31	5
Lead	0.00052	I	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 21:31	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 21:31	5
Selenium	0.00049	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 21:31	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 21:31	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	3.4		0.013	0.016	mg/L		08/23/17 12:58	08/27/17 21:58	25

Method: 6020 - Metals (ICP/MS) - Total Recoverable - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1400		10	5.0	mg/L		08/23/17 12:58	08/27/17 22:02	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8700		50	34	mg/L			08/16/17 13:32	1
Chloride	3600		160	48	mg/L			08/17/17 10:37	80
Fluoride	0.050	I	0.10	0.032	mg/L			08/19/17 10:14	1
Sulfate	260		50	14	mg/L			08/22/17 11:53	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.85				SU			08/14/17 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-6

Date Collected: 08/14/17 12:45

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 22:07	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 22:07	5
Barium	0.019		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 22:07	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 22:07	5
Boron	0.41		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 22:07	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 22:07	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 22:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 22:07	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 22:07	5
Lithium	0.13		0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 22:07	5
Molybdenum	0.0026	I	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 22:07	5
Selenium	0.00037	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 22:07	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 22:07	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	380		2.5	1.3	mg/L		08/23/17 12:58	08/27/17 22:11	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		25	17	mg/L			08/16/17 13:32	1
Chloride	480		20	6.0	mg/L			08/17/17 10:37	10
Fluoride	0.21		0.10	0.032	mg/L			08/19/17 10:17	1
Sulfate	430		100	28	mg/L			08/22/17 11:53	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.75				SU			08/14/17 11:45	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-7
Date Collected: 08/14/17 13:18
Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-8
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 22:16	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 22:16	5
Barium	0.023		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 22:16	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 22:16	5
Boron	0.12		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 22:16	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 22:16	5
Calcium	100		0.25	0.13	mg/L		08/23/17 12:58	08/27/17 22:16	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 22:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 22:16	5
Lead	0.00039	I	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 22:16	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 22:16	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 22:16	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 22:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 22:16	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	730		5.0	3.4	mg/L			08/16/17 13:32	1
Chloride	200		10	3.0	mg/L			08/23/17 08:25	5
Fluoride	0.12		0.10	0.032	mg/L			08/19/17 10:20	1
Sulfate	93		25	7.0	mg/L			08/22/17 11:11	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.66				SU			08/14/17 12:18	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: DUP-01
Date Collected: 08/14/17 00:00
Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-9
Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 22:25	5
Arsenic	0.0013		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 22:25	5
Barium	0.028		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 22:25	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 22:25	5
Boron	0.034	I	0.050	0.021	mg/L		08/23/17 12:58	08/27/17 22:25	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 22:25	5
Calcium	30		0.25	0.13	mg/L		08/23/17 12:58	08/27/17 22:25	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 22:25	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 22:25	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 22:25	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 22:25	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 22:25	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 22:25	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 22:25	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		5.0	3.4	mg/L			08/16/17 13:32	1
Chloride	8.3		2.0	0.60	mg/L			08/17/17 09:49	1
Fluoride	0.032	U	0.10	0.032	mg/L			08/18/17 10:56	1
Sulfate	64		10	2.8	mg/L			08/16/17 10:00	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.80				SU			08/13/17 23:00	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-8

Date Collected: 08/16/17 08:55

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 22:34	5
Arsenic	0.0017		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 22:34	5
Barium	0.038		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 22:34	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 22:34	5
Boron	0.15		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 22:34	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 22:34	5
Calcium	100		0.25	0.13	mg/L		08/23/17 12:58	08/27/17 22:34	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 22:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 22:34	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 22:34	5
Lithium	0.0071		0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 22:34	5
Molybdenum	0.014		0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 22:34	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 22:34	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 22:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 14:43	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	4.9		2.0	0.60	mg/L			08/23/17 07:40	1
Fluoride	0.34		0.10	0.032	mg/L			08/19/17 10:22	1
Sulfate	110		25	7.0	mg/L			08/22/17 11:03	5

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.24				SU			08/16/17 07:55	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-9

Date Collected: 08/16/17 09:26

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0017	I	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 23:23	5
Arsenic	0.0049		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 23:23	5
Barium	0.098		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 23:23	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 23:23	5
Boron	0.24		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 23:23	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 23:23	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 23:23	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 23:23	5
Lead	0.0028		0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 23:23	5
Lithium	0.12		0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 23:23	5
Molybdenum	0.0014	I	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 23:23	5
Selenium	0.0015		0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 23:23	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 23:23	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	860		5.0	2.5	mg/L		08/23/17 12:58	08/27/17 23:28	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 15:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5600		25	17	mg/L			08/19/17 15:42	1
Chloride	1900		100	30	mg/L			08/23/17 08:28	50
Fluoride	0.20		0.10	0.032	mg/L			08/19/17 10:26	1
Sulfate	840		200	56	mg/L			08/22/17 11:58	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.81				SU			08/16/17 08:26	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-10

Date Collected: 08/16/17 09:57

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 23:32	5
Arsenic	0.0016		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 23:32	5
Barium	0.015		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 23:32	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 23:32	5
Boron	0.17		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 23:32	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 23:32	5
Calcium	55		0.25	0.13	mg/L		08/23/17 12:58	08/27/17 23:32	5
Chromium	0.0028		0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 23:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 23:32	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 23:32	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 23:32	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 23:32	5
Selenium	0.00058	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 23:32	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 23:32	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 15:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	35		2.0	0.60	mg/L			08/23/17 07:40	1
Fluoride	0.11		0.10	0.032	mg/L			08/19/17 10:28	1
Sulfate	41		10	2.8	mg/L			08/22/17 11:58	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.62				SU			08/16/17 08:57	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-11

Date Collected: 08/16/17 10:34

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 23:37	5
Arsenic	0.12		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 23:37	5
Barium	0.055		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 23:37	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 23:37	5
Boron	0.53		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 23:37	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 23:37	5
Chromium	0.0014	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 23:37	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 23:37	5
Lead	0.00051	I	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 23:37	5
Lithium	0.0083		0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 23:37	5
Molybdenum	0.0011	I	0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 23:37	5
Selenium	0.0019		0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 23:37	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 23:37	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	530		2.5	1.3	mg/L		08/23/17 12:58	08/27/17 23:41	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 15:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2800		25	17	mg/L			08/19/17 15:42	1
Chloride	580		40	12	mg/L			08/23/17 08:57	20
Fluoride	0.47		0.10	0.032	mg/L			08/19/17 10:42	1
Sulfate	1600		250	70	mg/L			08/22/17 12:22	50

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.75				SU			08/16/17 09:34	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-12

Date Collected: 08/16/17 11:07

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/27/17 23:46	5
Arsenic	0.080		0.0013	0.00046	mg/L		08/23/17 12:58	08/27/17 23:46	5
Barium	0.013		0.0025	0.00049	mg/L		08/23/17 12:58	08/27/17 23:46	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/27/17 23:46	5
Boron	0.57		0.050	0.021	mg/L		08/23/17 12:58	08/27/17 23:46	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/27/17 23:46	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		08/23/17 12:58	08/27/17 23:46	5
Cobalt	0.0013	I	0.0025	0.00040	mg/L		08/23/17 12:58	08/27/17 23:46	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/27/17 23:46	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/27/17 23:46	5
Molybdenum	0.011		0.010	0.00085	mg/L		08/23/17 12:58	08/27/17 23:46	5
Selenium	0.0014		0.0013	0.00024	mg/L		08/23/17 12:58	08/27/17 23:46	5
Thallium	0.00035	I	0.00050	0.000085	mg/L		08/23/17 12:58	08/27/17 23:46	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	490		2.5	1.3	mg/L		08/23/17 12:58	08/28/17 00:13	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 15:42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		5.0	3.4	mg/L			08/19/17 15:42	1
Chloride	20		2.0	0.60	mg/L			08/23/17 07:41	1
Fluoride	0.72		0.10	0.032	mg/L			08/19/17 10:44	1
Sulfate	1000		200	56	mg/L			08/22/17 12:01	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.34				SU			08/16/17 10:07	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-13

Date Collected: 08/16/17 11:46

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/28/17 00:17	5
Arsenic	0.00069	I	0.0013	0.00046	mg/L		08/23/17 12:58	08/28/17 00:17	5
Barium	0.029		0.0025	0.00049	mg/L		08/23/17 12:58	08/28/17 00:17	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/28/17 00:17	5
Boron	0.51		0.050	0.021	mg/L		08/23/17 12:58	08/28/17 00:17	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/28/17 00:17	5
Chromium	0.0013	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/28/17 00:17	5
Cobalt	0.00094	I	0.0025	0.00040	mg/L		08/23/17 12:58	08/28/17 00:17	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/28/17 00:17	5
Lithium	0.13		0.0025	0.0032	mg/L		08/23/17 12:58	08/28/17 00:17	5
Molybdenum	0.00085	U	0.010	0.00085	mg/L		08/23/17 12:58	08/28/17 00:17	5
Selenium	0.00051	I	0.0013	0.00024	mg/L		08/23/17 12:58	08/28/17 00:17	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/28/17 00:17	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	560		2.5	1.3	mg/L		08/23/17 12:58	08/28/17 00:22	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 15:44	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2400		25	17	mg/L			08/19/17 15:42	1
Chloride	270		20	6.0	mg/L			08/23/17 08:57	10
Fluoride	0.51		0.10	0.032	mg/L			08/25/17 14:27	1
Sulfate	1300		200	56	mg/L			08/22/17 11:58	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.86				SU			08/16/17 10:46	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: CCR Lakeland

TestAmerica Job ID: 400-141890-1

Client Sample ID: CCR-14

Date Collected: 08/16/17 12:18

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		08/23/17 12:58	08/28/17 00:26	5
Arsenic	0.0022		0.0013	0.00046	mg/L		08/23/17 12:58	08/28/17 00:26	5
Barium	0.018		0.0025	0.00049	mg/L		08/23/17 12:58	08/28/17 00:26	5
Beryllium	0.00034	U	0.0020	0.00034	mg/L		08/23/17 12:58	08/28/17 00:26	5
Boron	1.1		0.050	0.021	mg/L		08/23/17 12:58	08/28/17 00:26	5
Cadmium	0.00034	U	0.0010	0.00034	mg/L		08/23/17 12:58	08/28/17 00:26	5
Chromium	0.0019	I	0.0025	0.0011	mg/L		08/23/17 12:58	08/28/17 00:26	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		08/23/17 12:58	08/28/17 00:26	5
Lead	0.00035	U	0.0013	0.00035	mg/L		08/23/17 12:58	08/28/17 00:26	5
Lithium	0.0032	U	0.0025	0.0032	mg/L		08/23/17 12:58	08/28/17 00:26	5
Molybdenum	0.0020	I	0.010	0.00085	mg/L		08/23/17 12:58	08/28/17 00:26	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		08/23/17 12:58	08/28/17 00:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		08/23/17 12:58	08/28/17 00:26	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	460		1.3	0.63	mg/L		08/23/17 12:58	08/28/17 00:31	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		08/20/17 12:47	08/22/17 15:45	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700		25	17	mg/L			08/19/17 15:42	1
Chloride	95		4.0	1.2	mg/L			08/23/17 08:28	2
Fluoride	0.40		0.10	0.032	mg/L			08/25/17 14:06	1
Sulfate	1100		200	56	mg/L			08/22/17 11:58	40

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.01				SU			08/16/17 11:18	1

Chain of Custody Record



Client Information		Sampler		Lab PM		Carrier Tracking No(s)		COC No.	
Mr. Sam Stafford		Shawn Victory		Whitmire, Cheyenne R		530-Orlando		400-59085-24789.1	
Company: Golder Associates Inc.		Phone: 407-399-3348		E-Mail: cheyenne.whitmire@lestamerica.com				Page 1 of 2	
Address: 9428 Baymeadows Road Suite 400		Due Date Requested:		Analysis Requested				Job #: 141890	
City: Jacksonville		TAT Requested (days):						Preservation Codes:	
State, Zip: FL, 32256		PO #: TA-15454542-01						A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone: 904-363-3430(Tel)		WO #: 15-45454.2						M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email: Sam_Stafford@golder.com		Project #: 40007144						Total Number of Containers	
Project Name: CCR Lakeland		SSOW#:						Special Instructions/Note:	
Site:									
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastelol, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	D	N	D	I
CCR-1	8-14-17	940	G	Water	X	X	X	X	X
FB-01		905		Water	X	X	X	X	X
CCR-2		1022		Water	X	X	X	X	X
CCR-3		1100		Water	X	X	X	X	X
CCR-4		1136		Water	X	X	X	X	X
CCR-5		1206		Water	X	X	X	X	X
CCR-6		1245		Water	X	X	X	X	X
CCR-7		1318		Water	X	X	X	X	X
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
 400-141890 COC									
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements:									
Empty Kit Relinquished by:									
Relinquished by: <i>Shawn Victory</i>		Date: 8-14-17		Time: 1520		Company: TADR		Company:	
Relinquished by:		Date/Time:		Company:		Relinquished by: <i>[Signature]</i>		Date/Time: 8/15/17	
Relinquished by:		Date/Time:		Company:		Relinquished by: <i>[Signature]</i>		Date/Time: 901	
Custody Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.9°C, 2.1°C IR7		Company: TA		Company:	



Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Phone: 407-399-3348 Sampler: Shawn Victory		COC No: 400-63013-24789.1 Page: Page 1 of 2 Job #:		Carrier Tracking No: 330244803	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOW#:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 6020, 7470A 2540C, 4500, F, C, SM4500, CLE, SM4500, S04, E 9315, Ra226, 9320, Ra228		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 Other:		Special Instructions/Note: Total Number of containers:	
Sample Identification CCR-8 CCR-9 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14		Sample Date 8-16-17 9-26 9-27 10-34 11-07 11-16 12-18		Sample Time 8:55 9:26 9:57 10:34 11:07 11:46 12:18		Sample Type (C=Comp, G=grab) G G G G G G G	
Matrix (W=water, S=solid, O=other, BT=Basal, AA=Air) Water Water Water Water Water Water Water Water Water Water Water		Preservation Code: D N D N D N D N D N D N D		Special Instructions/Note: extrasamples for MS/MSD		Special Instructions/Note: 400-141890 COC	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)							
Empty Kit Relinquished by: Shawn Victory		Date: 8-16-17 14:00		Company: TAORC		Method of Shipment:	
Relinquished by:		Date/Time: 8/17/17 8:47		Company: TA		Company:	
Relinquished by:		Date/Time:		Company:		Company:	
Relinquished by:		Date/Time:		Company:		Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.0°C, 0.0°C IAT		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-141890-2

Client Project/Site: CCR App.III/IV GW Monitoring - Lakeland

For:
Golder Associates Inc.
9428 Baymeadows Road
Suite 400
Jacksonville, Florida 32256

Attn: Mr. Sam Stafford



Authorized for release by:
9/18/2017 3:08:24 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Job ID: 400-141890-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-141890-2

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): DUP-01 (400-141890-9)
Logged this sample in at the end of the others.

RAD

Method(s) PrecSep_0: Method(s) PrecSep_0: Radium 228 Prep Batch 160-323591. The following samples were reduced due to limited volume: CCR-8 (400-141890-10), CCR-8 (400-141890-10[MS]) and CCR-8 (400-141890-10[MSD]).

Method(s) PrecSep_0: Radium 228 Prep Batch 160-323823. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.
CCR-5 (400-141890-6)

Method(s) PrecSep_0: radium 228 Prep Batch 160-323823. The following sample was reduced due to re-analysis: CCR-5 (400-141890-6).

Method(s) PrecSep-21: Method(s) PrecSep-21: Radium 226 Prep Batch 160-323580. The following samples were reduced due to limited volume: CCR-8 (400-141890-10), CCR-8 (400-141890-10[MS]) and CCR-8 (400-141890-10[MSD]).

Method(s) PrecSep-21: Radium 226 Prep Batch: 160-323611. Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.
CCR-5 (400-141890-6)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-323611. The following sample was reduced due to re-analysis: CCR-5 (400-141890-6).

Method Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Sample Summary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-141890-1	CCR-1	Water	08/14/17 09:40	08/15/17 09:01
400-141890-2	FB-01	Water	08/14/17 09:05	08/15/17 09:01
400-141890-3	CCR-2	Water	08/14/17 10:22	08/15/17 09:01
400-141890-4	CCR-3	Water	08/14/17 11:00	08/15/17 09:01
400-141890-5	CCR-4	Water	08/14/17 11:36	08/15/17 09:01
400-141890-6	CCR-5	Water	08/14/17 12:06	08/15/17 09:01
400-141890-7	CCR-6	Water	08/14/17 12:45	08/15/17 09:01
400-141890-8	CCR-7	Water	08/14/17 13:18	08/15/17 09:01
400-141890-9	DUP-01	Water	08/14/17 00:00	08/15/17 09:01
400-141890-10	CCR-8	Water	08/16/17 08:55	08/17/17 08:47
400-141890-11	CCR-9	Water	08/16/17 09:26	08/17/17 08:47
400-141890-12	CCR-10	Water	08/16/17 09:57	08/17/17 08:47
400-141890-13	CCR-11	Water	08/16/17 10:34	08/17/17 08:47
400-141890-14	CCR-12	Water	08/16/17 11:07	08/17/17 08:47
400-141890-15	CCR-13	Water	08/16/17 11:46	08/17/17 08:47
400-141890-16	CCR-14	Water	08/16/17 12:18	08/17/17 08:47

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-1

Date Collected: 08/14/17 09:40

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-1

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.51		0.331	0.524	1.00	0.0695	pCi/L	08/18/17 10:31	09/12/17 06:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/18/17 10:31	09/12/17 06:14	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.13		0.291	0.309	1.00	0.355	pCi/L	08/18/17 11:50	08/28/17 14:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/18/17 11:50	08/28/17 14:17	1
Y Carrier	84.5		40 - 110					08/18/17 11:50	08/28/17 14:17	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.65		0.441	0.609	5.00	0.355	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: FB-01
Date Collected: 08/14/17 09:05
Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-2
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0197	U	0.0377	0.0378	1.00	0.0686	pCi/L	08/18/17 10:31	09/12/17 06:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					08/18/17 10:31	09/12/17 06:14	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.152	U	0.223	0.223	1.00	0.373	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	86.7		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.171	U	0.226	0.226	5.00	0.373	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-2

Date Collected: 08/14/17 10:22

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.67		0.200	0.251	1.00	0.0532	pCi/L	08/18/17 10:31	09/12/17 06:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					08/18/17 10:31	09/12/17 06:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.738		0.280	0.288	1.00	0.395	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	86.0		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.41		0.345	0.382	5.00	0.395	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-3

Lab Sample ID: 400-141890-4

Date Collected: 08/14/17 11:00

Matrix: Water

Date Received: 08/15/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.75		0.302	0.453	1.00	0.0617	pCi/L	08/18/17 10:31	09/12/17 06:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					08/18/17 10:31	09/12/17 06:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.421		0.245	0.248	1.00	0.372	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	87.1		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.17		0.389	0.516	5.00	0.372	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-4

Lab Sample ID: 400-141890-5

Date Collected: 08/14/17 11:36

Matrix: Water

Date Received: 08/15/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	39.1		1.05	3.67	1.00	0.0739	pCi/L	08/18/17 10:31	09/12/17 06:15	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	84.7		40 - 110					08/18/17 10:31	09/12/17 06:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	22.5		1.06	2.33	1.00	0.404	pCi/L	08/18/17 11:50	08/28/17 14:16	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	84.7		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	86.0		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	61.7		1.49	4.35	5.00	0.404	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-5

Lab Sample ID: 400-141890-6

Date Collected: 08/14/17 12:06

Matrix: Water

Date Received: 08/15/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	9.21		0.740	1.11	1.00	0.141	pCi/L	08/23/17 09:59	09/14/17 06:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					08/23/17 09:59	09/14/17 06:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.03		0.987	1.23	1.00	0.839	pCi/L	08/23/17 10:49	08/30/17 10:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					08/23/17 10:49	08/30/17 10:09	1
Y Carrier	75.9		40 - 110					08/23/17 10:49	08/30/17 10:09	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	17.2		1.23	1.66	5.00	0.839	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-6

Lab Sample ID: 400-141890-7

Date Collected: 08/14/17 12:45

Matrix: Water

Date Received: 08/15/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.26		0.285	0.409	1.00	0.0666	pCi/L	08/18/17 10:31	09/12/17 06:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					08/18/17 10:31	09/12/17 06:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.791		0.294	0.303	1.00	0.410	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	84.5		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.05		0.410	0.509	5.00	0.410	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-7

Date Collected: 08/14/17 13:18

Date Received: 08/15/17 09:01

Lab Sample ID: 400-141890-8

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.91		0.343	0.491	1.00	0.0607	pCi/L	08/18/17 10:31	09/12/17 06:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					08/18/17 10:31	09/12/17 06:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.291	0.306	1.00	0.361	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	83.4		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.93		0.450	0.579	5.00	0.361	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: DUP-01

Lab Sample ID: 400-141890-9

Date Collected: 08/14/17 00:00

Matrix: Water

Date Received: 08/15/17 09:01

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.22		0.327	0.502	1.00	0.0933	pCi/L	08/18/17 10:31	09/12/17 06:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					08/18/17 10:31	09/12/17 06:16	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.03		0.282	0.297	1.00	0.353	pCi/L	08/18/17 11:50	08/28/17 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					08/18/17 11:50	08/28/17 14:16	1
Y Carrier	85.6		40 - 110					08/18/17 11:50	08/28/17 14:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.25		0.432	0.583	5.00	0.353	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-8

Lab Sample ID: 400-141890-10

Date Collected: 08/16/17 08:55

Matrix: Water

Date Received: 08/17/17 08:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.87		0.414	0.602	1.00	0.101	pCi/L	08/23/17 08:33	09/14/17 13:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/23/17 08:33	09/14/17 13:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.401	U	0.290	0.292	1.00	0.449	pCi/L	08/23/17 09:09	08/31/17 14:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/23/17 09:09	08/31/17 14:43	1
Y Carrier	85.6		40 - 110					08/23/17 09:09	08/31/17 14:43	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.27		0.505	0.670	5.00	0.449	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-9

Date Collected: 08/16/17 09:26

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-11

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.8		0.598	1.30	1.00	0.0837	pCi/L	08/23/17 08:33	09/14/17 13:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					08/23/17 08:33	09/14/17 13:08	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.67		0.441	0.504	1.00	0.428	pCi/L	08/23/17 09:09	08/31/17 14:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					08/23/17 09:09	08/31/17 14:43	1
Y Carrier	86.4		40 - 110					08/23/17 09:09	08/31/17 14:43	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	15.5		0.743	1.40	5.00	0.428	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-10

Date Collected: 08/16/17 09:57

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-12

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.663		0.135	0.148	1.00	0.0771	pCi/L	08/23/17 08:33	09/14/17 13:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					08/23/17 08:33	09/14/17 13:08	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.201	U	0.224	0.225	1.00	0.368	pCi/L	08/23/17 09:09	08/31/17 14:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					08/23/17 09:09	08/31/17 14:43	1
Y Carrier	89.7		40 - 110					08/23/17 09:09	08/31/17 14:43	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.864		0.262	0.269	5.00	0.368	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-11

Date Collected: 08/16/17 10:34

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-13

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.37		0.338	0.518	1.00	0.0684	pCi/L	08/23/17 08:33	09/14/17 13:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					08/23/17 08:33	09/14/17 13:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.62		0.476	0.581	1.00	0.425	pCi/L	08/23/17 09:09	08/31/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					08/23/17 09:09	08/31/17 14:44	1
Y Carrier	82.2		40 - 110					08/23/17 09:09	08/31/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.99		0.583	0.778	5.00	0.425	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-12

Date Collected: 08/16/17 11:07

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-14

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.05		0.244	0.306	1.00	0.0859	pCi/L	08/23/17 08:33	09/14/17 13:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					08/23/17 08:33	09/14/17 13:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.496		0.249	0.253	1.00	0.366	pCi/L	08/23/17 09:09	08/31/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					08/23/17 09:09	08/31/17 14:44	1
Y Carrier	91.2		40 - 110					08/23/17 09:09	08/31/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.55		0.349	0.397	5.00	0.366	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-13

Date Collected: 08/16/17 11:46

Date Received: 08/17/17 08:47

Lab Sample ID: 400-141890-15

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	31.3		0.919	2.96	1.00	0.0821	pCi/L	08/23/17 08:33	09/14/17 13:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					08/23/17 08:33	09/14/17 13:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.94		0.513	0.685	1.00	0.402	pCi/L	08/23/17 09:09	08/31/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					08/23/17 09:09	08/31/17 14:44	1
Y Carrier	86.4		40 - 110					08/23/17 09:09	08/31/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	36.2		1.05	3.04	5.00	0.402	pCi/L		09/15/17 12:58	1

Client Sample Results

Client: Golder Associates Inc.
 Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Client Sample ID: CCR-14

Lab Sample ID: 400-141890-16

Date Collected: 08/16/17 12:18

Matrix: Water

Date Received: 08/17/17 08:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	27.3		0.901	2.62	1.00	0.0928	pCi/L	08/23/17 08:33	09/14/17 13:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/23/17 08:33	09/14/17 13:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.904		0.282	0.294	1.00	0.363	pCi/L	08/23/17 09:09	08/31/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					08/23/17 09:09	08/31/17 14:44	1
Y Carrier	87.1		40 - 110					08/23/17 09:09	08/31/17 14:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	28.2		0.944	2.63	5.00	0.363	pCi/L		09/15/17 12:58	1

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: CCR App.III/IV GW Monitoring - Lakeland

TestAmerica Job ID: 400-141890-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Chain of Custody Record



Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Sampler: <i>Shawn Victory</i> Phone: 407-399-3348 Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@lestamericainc.com Carrier Tracking No(s): 530-Orlando		COC No: 400-59085-24789.1 Page: Page 1 of 2 Job #: 141890	
Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOW#:		Analysis Requested Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Sample Identification Sample ID: CCR-1 FB-01 CCR-2 CCR-3 CCR-4 CCR-5 CCR-6 CCR-7		Field Filtered Sample (Yes or No) 9315_Ra226, 9320_Ra228 2540C, 4500_F, C, SM4500_C1, E, SM4500_S04, E 6020, 7470A		Total Number of Containers:	
Sample Date: 8-14-17 Sample Time: 9:40 9:05 10:22 11:00 11:36 12:06 12:45 13:18		Sample Type (C=comp, G=grab) G G G G G G G G		Matrix (W=water, S=solid, O=wastelol, BT=tissue, A=air) Water Water Water Water Water Water Water Water Water Water	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Special Instructions/Note: 400-141890 COC			
Empty Kit Relinquished by: <i>Shawn Victory</i> Date: 8-14-17 15:20		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Relinquished by: <i>Shawn Victory</i> Date/Time: 8-14-17 15:20 Company: TADRL		Received by: <i>[Signature]</i> Date/Time: 8/15/17 9:01 Company: TA			
Relinquished by: Date/Time:		Received by: Date/Time:			
Relinquished by: Date/Time:		Received by: Date/Time:			
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 0.9°C, 2.1°C IR7			



Chain of Custody Record

Client Information Client Contact: Mr. Sam Stafford Company: Golder Associates Inc. Address: 9428 Baymeadows Road Suite 400 City: Jacksonville State, Zip: FL, 32256 Phone: 904-363-3430(Tel) Email: Sam_Stafford@golder.com Project Name: CCR Lakeland Site:		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Phone: 407-399-3348 Project #: 40007144 SSOW#:		Carrier Tracking # (B/E/B/D) 3302444444 COC No: 400-63013-24789.1 Page: Page 1 of 2 Job #:	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: TA-15454542-01 WO #: 15-45454.2 Project #: 40007144 SSOW#:		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 Other:			
Sample Identification Sample ID: CCR-8 CCR-9 CCR-10 CCR-11 CCR-12 CCR-13 CCR-14		Sample Date 8-16-17 9-26 9-27 10-34 11-07 11-16 12-18	Sample Time 8:55 9:26 9:57 10:34 11:07 11:46 12:18	Sample Type (C=Comp, G=grab) G G G G G G G	Matrix (W=water, S=solid, O=other, BT=Basal, AA=Air) Water Water Water Water Water Water Water Water Water Water Water Water
Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Total Number of Containers 400-141890 COC Special Instructions/Note: extra samples for MS/MSD			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Empty Kit Relinquished by Relinquished by: <i>Shawn Kelly</i> Relinquished by: Relinquished by:		Date: Date/Time: 8-16-17 14:00 Date/Time: Date/Time:			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 0.0°C, 0.0°C IAT			

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3030 E Lake Parker Dr
Lakeland, FL 33805

CCR SAMPLING October 2017
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-01	7101205-01	10-12-17 12:33	10-18-17 14:31	EPA 200.7	Boron	40.700		3.000	5.000	ug/L	PES
CCR-01	7101205-01	10-12-17 12:33	10-24-17 08:53	EPA 200.7	Calcium	31.200		0.040	0.160	mg/L	N_D
CCR-01	7101205-01	10-12-17 12:33	10-23-17 19:07	EPA 300.0	Chloride	6.750		0.030	0.120	mg/L	CF
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	-	Color	Clear				[blank]	AB
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	EPA 360.2	Dissolved Oxygen	0.360		0.100	0.200	mg/L	AB
CCR-01	7101205-01	10-12-17 12:33	10-16-17 16:00	EPA 300.0	Fluoride	0.050	U	0.050	0.200	mg/L	PES
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	EPA 150.1	pH	5.160		0.050	0.050	SU	AB
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	-	Sheen	No Sheen				N/A	AB
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	EPA 120.1	Specific Conductance	228.000		1.000	5.000	uS/cm	AB
CCR-01	7101205-01	10-12-17 12:33	10-23-17 19:07	EPA 300.0	Sulfate as SO4	71.600		0.200	0.800	mg/L	CF
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	EPA 170.1	Temperature	27.800		0.100	0.100	°C	AB
CCR-01	7101205-01	10-12-17 12:33	10-16-17 15:30	EPA 160.1	Total Dissolved Solids	189.000		10.000	20.000	mg/L	ND
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	EPA 180.1	Turbidity	0.500		0.100	0.500	NTU	AB
CCR-01	7101205-01	10-12-17 12:33	10-12-17 12:33	DEP-SOP	Water Level	133.160		0.100	0.500	FT	AB
CCR-02	7101205-02	10-12-17 13:23	10-18-17 14:33	EPA 200.7	Boron	36.900		3.000	5.000	ug/L	PES
CCR-02	7101205-02	10-12-17 13:23	10-24-17 08:56	EPA 200.7	Calcium	18.400		0.040	0.160	mg/L	N_D
CCR-02	7101205-02	10-12-17 13:23	10-24-17 02:26	EPA 300.0	Chloride	1.990		0.030	0.120	mg/L	CF
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	-	Color	Clear				[blank]	AB
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	EPA 360.2	Dissolved Oxygen	0.720		0.100	0.200	mg/L	AB
CCR-02	7101205-02	10-12-17 13:23	10-16-17 16:00	EPA 300.0	Fluoride	0.050	I	0.050	0.200	mg/L	PES
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	EPA 150.1	pH	5.550		0.050	0.050	SU	AB
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	-	Sheen	No Sheen				N/A	AB
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	EPA 120.1	Specific Conductance	125.000		1.000	5.000	uS/cm	AB
CCR-02	7101205-02	10-12-17 13:23	10-24-17 02:26	EPA 300.0	Sulfate as SO4	25.000		0.200	0.800	mg/L	CF
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	EPA 170.1	Temperature	29.200		0.100	0.100	°C	AB
CCR-02	7101205-02	10-12-17 13:23	10-16-17 15:32	EPA 160.1	Total Dissolved Solids	147.000		10.000	20.000	mg/L	ND
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	EPA 180.1	Turbidity	20.400		0.100	0.500	NTU	AB
CCR-02	7101205-02	10-12-17 13:23	10-12-17 13:23	DEP-SOP	Water Level	132.200		0.100	0.500	FT	AB
CCR-03	7101205-03	10-12-17 13:49	10-18-17 14:35	EPA 200.7	Boron	1860.000		3.000	5.000	ug/L	PES
CCR-03	7101205-03	10-12-17 13:49	10-24-17 08:59	EPA 200.7	Calcium	473.000		0.040	0.160	mg/L	N_D
CCR-03	7101205-03	10-12-17 13:49	10-23-17 15:14	EPA 300.0	Chloride	53.000		0.030	0.120	mg/L	CF
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	-	Color	Clear				[blank]	AB
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	EPA 360.2	Dissolved Oxygen	0.230		0.100	0.200	mg/L	AB
CCR-03	7101205-03	10-12-17 13:49	10-16-17 16:00	EPA 300.0	Fluoride	0.162	I	0.050	0.200	mg/L	PES
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	EPA 150.1	pH	5.400		0.050	0.050	SU	AB
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	-	Sheen	No Sheen				N/A	AB
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	EPA 120.1	Specific Conductance	2140.000		1.000	5.000	uS/cm	AB
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	EPA 170.1	Temperature	27.800		0.100	0.100	°C	AB
CCR-03	7101205-03	10-12-17 13:49	10-16-17 15:34	EPA 160.1	Total Dissolved Solids	2000.000	J-7	10.000	20.000	mg/L	ND
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	EPA 180.1	Turbidity	9.180		0.100	0.500	NTU	AB
CCR-03	7101205-03	10-12-17 13:49	10-12-17 13:49	DEP-SOP	Water Level	132.993		0.100	0.500	FT	AB
CCR-03	7101205-03RE1	10-12-17 13:49	10-23-17 15:40	EPA 300.0	Sulfate as SO4	1240.000	J-7	4.000	16.000	mg/L	CF
CCR-04	7101205-04	10-12-17 14:20	10-18-17 14:38	EPA 200.7	Boron	863.000		3.000	5.000	ug/L	PES
CCR-04	7101205-04	10-12-17 14:20	10-24-17 09:02	EPA 200.7	Calcium	677.000		0.040	0.160	mg/L	N_D
CCR-04	7101205-04	10-12-17 14:20	10-23-17 16:06	EPA 300.0	Chloride	1460.000	J-7	1.200	4.800	mg/L	CF
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	-	Color	Clear				[blank]	AB
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	EPA 360.2	Dissolved Oxygen	0.310		0.100	0.200	mg/L	AB
CCR-04	7101205-04	10-12-17 14:20	10-16-17 16:00	EPA 300.0	Fluoride	0.264		0.050	0.200	mg/L	PES
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	EPA 150.1	pH	4.030		0.050	0.050	SU	AB
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	-	Sheen	No Sheen				N/A	AB
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	EPA 120.1	Specific Conductance	5680.000		1.000	5.000	uS/cm	AB
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	EPA 170.1	Temperature	29.100		0.100	0.100	°C	AB
CCR-04	7101205-04	10-12-17 14:20	10-16-17 15:36	EPA 160.1	Total Dissolved Solids	3800.000	J-7	10.000	20.000	mg/L	ND
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	EPA 180.1	Turbidity	18.600		0.100	0.500	NTU	AB
CCR-04	7101205-04	10-12-17 14:20	10-12-17 14:20	DEP-SOP	Water Level	129.984		0.100	0.500	FT	AB
CCR-04	7101205-04RE1	10-12-17 14:20	10-23-17 16:32	EPA 300.0	Sulfate as SO4	929.000	J-7	2.000	8.000	mg/L	CF
CCR-05	7101205-05	10-12-17 14:53	10-18-17 14:40	EPA 200.7	Boron	670.000		3.000	5.000	ug/L	PES
CCR-05	7101205-05	10-12-17 14:53	10-24-17 09:05	EPA 200.7	Calcium	1380.000		0.040	0.160	mg/L	N_D
CCR-05	7101205-05	10-12-17 14:53	10-23-17 16:57	EPA 300.0	Chloride	4210.000	J-7	1.500	6.000	mg/L	CF
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	-	Color	Clear				[blank]	AB
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	EPA 360.2	Dissolved Oxygen	0.240		0.100	0.200	mg/L	AB
CCR-05	7101205-05	10-12-17 14:53	10-16-17 16:00	EPA 300.0	Fluoride	0.056	I	0.050	0.200	mg/L	PES
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	EPA 150.1	pH	5.130		0.050	0.050	SU	AB
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	-	Sheen	No Sheen				N/A	AB
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	EPA 120.1	Specific Conductance	12750.000		1.000	5.000	uS/cm	AB
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	EPA 170.1	Temperature	26.500		0.100	0.100	°C	AB
CCR-05	7101205-05	10-12-17 14:53	10-16-17 15:38	EPA 160.1	Total Dissolved Solids	7750.000	J-7	10.000	20.000	mg/L	ND
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	EPA 180.1	Turbidity	24.500		0.100	0.500	NTU	AB
CCR-05	7101205-05	10-12-17 14:53	10-12-17 14:53	DEP-SOP	Water Level	132.195		0.100	0.500	FT	AB
CCR-05	7101205-05RE1	10-12-17 14:53	10-23-17 17:23	EPA 300.0	Sulfate as SO4	325.000	J-7	2.000	8.000	mg/L	CF
CCR-06	7101205-06	10-13-17 09:37	10-18-17 14:42	EPA 200.7	Boron	372.000		3.000	5.000	ug/L	PES
CCR-06	7101205-06	10-13-17 09:37	10-24-17 09:09	EPA 200.7	Calcium	151.000		0.040	0.160	mg/L	N_D
CCR-06	7101205-06	10-13-17 09:37	10-23-17 18:15	EPA 300.0	Chloride	19.800		0.300	1.200	mg/L	CF
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	-	Color	Clear				[blank]	AB
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	EPA 360.2	Dissolved Oxygen	0.460		0.100	0.200	mg/L	AB
CCR-06	7101205-06	10-13-17 09:37	10-16-17 16:00	EPA 300.0	Fluoride	0.228		0.050	0.200	mg/L	PES
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	EPA 150.1	pH	6.390		0.050	0.050	SU	AB
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	-	Sheen	No Sheen				N/A	AB
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	EPA 120.1	Specific Conductance	491.000		1.000	5.000	uS/cm	AB
CCR-06	7101205-06	10-13-17 09:37	10-23-17 18:15	EPA 300.0	Sulfate as SO4	264.000	J-7	2.000	8.000	mg/L	CF
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	EPA 170.1	Temperature	27.900		0.100	0.100	°C	AB
CCR-06	7101205-06	10-13-17 09:37	10-16-17 15:40	EPA 160.1	Total Dissolved Solids	610.000	J-7	10.000	20.000	mg/L	ND
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	EPA 180.1	Turbidity	2.720		0.100	0.500	NTU	AB
CCR-06	7101205-06	10-13-17 09:37	10-13-17 09:37	DEP-SOP	Water Level	134.180		0.100	0.500	FT	AB
CCR-07	7101205-07	10-13-17 10:07	10-18-17 14:44	EPA 200.7	Boron	104.000		3.000	5.000	ug/L	PES
CCR-07	7101205-07	10-13-17 10:07	10-24-17 09:12	EPA 200.7	Calcium	34.100		0.040	0.160	mg/L	N_D
CCR-07	7101205-07	10-13-17 10:07	10-25-17 18:38	EPA 300.0	Chloride	19.900		0.300	1.200	mg/L	CF
CCR-07	7101205-07	10-13-17 10:07	10-13-17 10:07	-	Color	Clear				[blank]	AB
CCR-07	7101205-07	10-13-17 10:07	10-13-17 10:07	EPA 360.2	Dissolved Oxygen	0.360		0.100	0.200	mg/L	AB
CCR-07	7101205-07	10-13-17 10:07	10-16-17 16:00	EPA 300.0	Fluoride	0.089	I	0.050	0.200	mg/L	PES
CCR-07	7101205-07	10-13-17 10:07	10-13-17 10:07	EPA 150.1	pH	5.080		0.050	0.050	SU	AB
CCR-07	7101205-07	10-13-17 10:07	10-13-17 10:07	-	Sheen	No Sheen				N/A	AB
CCR-07	7101205-07	10-13-17 10:07	10-13-								

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-08	7101205-08	10-13-17 10:38	10-23-17 22:34	EPA 300.0	Chloride	4.570		0.030	0.120	mg/L	CF
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	-	Color	Clear				[blank]	AB
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	EPA 360.2	Dissolved Oxygen	4.510		0.100	0.200	mg/L	AB
CCR-08	7101205-08	10-13-17 10:38	10-16-17 16:00	EPA 300.0	Fluoride	0.321		0.050	0.200	mg/L	PES
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	EPA 150.1	pH	8.800		0.050	0.050	SU	AB
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	-	Sheen	No Sheen				N/A	AB
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	EPA 120.1	Specific Conductance	488.000		1.000	5.000	uS/cm	AB
CCR-08	7101205-08	10-13-17 10:38	10-23-17 22:34	EPA 300.0	Sulfate as SO4	93.000		0.200	0.800	mg/L	CF
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	EPA 170.1	Temperature	26.700		0.100	0.100	°C	AB
CCR-08	7101205-08	10-13-17 10:38	10-16-17 15:44	EPA 160.1	Total Dissolved Solids	323.000		10.000	20.000	mg/L	ND
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	EPA 180.1	Turbidity	4.610		0.100	0.500	NTU	AB
CCR-08	7101205-08	10-13-17 10:38	10-13-17 10:38	DEP-SOP	Water Level	135.140		0.100	0.500	FT	AB
CCR-09	7101205-09	10-13-17 11:16	10-18-17 14:49	EPA 200.7	Boron	246.000		3.000	5.000	ug/L	PES
CCR-09	7101205-09	10-13-17 11:16	10-24-17 09:24	EPA 200.7	Calcium	922.000		0.040	0.160	mg/L	N_D
CCR-09	7101205-09	10-13-17 11:16	10-23-17 23:51	EPA 300.0	Chloride	1920.000	J-7	0.600	2.400	mg/L	CF
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	-	Color	Brown				[blank]	AB
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	EPA 360.2	Dissolved Oxygen	2.440		0.100	0.200	mg/L	AB
CCR-09	7101205-09	10-13-17 11:16	10-16-17 16:00	EPA 300.0	Fluoride	0.204		0.050	0.200	mg/L	PES
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	EPA 150.1	pH	5.200		0.050	0.050	SU	AB
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	-	Sheen	No Sheen				N/A	AB
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	EPA 120.1	Specific Conductance	7560.000		1.000	5.000	uS/cm	AB
CCR-09	7101205-09	10-13-17 11:16	10-23-17 23:51	EPA 300.0	Sulfate as SO4	1030.000	J-7	4.000	16.000	mg/L	CF
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	EPA 170.1	Temperature	27.300		0.100	0.100	°C	AB
CCR-09	7101205-09	10-13-17 11:16	10-16-17 15:46	EPA 160.1	Total Dissolved Solids	4830.000	J-7	10.000	20.000	mg/L	ND
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	EPA 180.1	Turbidity	45.000		0.100	0.500	NTU	AB
CCR-09	7101205-09	10-13-17 11:16	10-13-17 11:16	DEP-SOP	Water Level	133.230		0.100	0.500	FT	AB
CCR-10	7101205-10	10-13-17 12:46	10-18-17 14:51	EPA 200.7	Boron	165.000		3.000	5.000	ug/L	PES
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	EPA 200.7	Calcium	44.900		0.040	0.160	mg/L	N_D
CCR-10	7101205-10	10-13-17 12:46	10-24-17 00:17	EPA 300.0	Chloride	11.500		0.030	0.120	mg/L	CF
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	-	Color	Clear				[blank]	AB
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	EPA 360.2	Dissolved Oxygen	4.480		0.100	0.200	mg/L	AB
CCR-10	7101205-10	10-13-17 12:46	10-16-17 16:00	EPA 300.0	Fluoride	0.114	I	0.050	0.200	mg/L	PES
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	EPA 150.1	pH	6.080		0.050	0.050	SU	AB
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	-	Sheen	No Sheen				N/A	AB
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	EPA 120.1	Specific Conductance	425.000		1.000	5.000	uS/cm	AB
CCR-10	7101205-10	10-13-17 12:46	10-24-17 00:17	EPA 300.0	Sulfate as SO4	19.000		0.200	0.800	mg/L	CF
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	EPA 170.1	Temperature	27.400		0.100	0.100	°C	AB
CCR-10	7101205-10	10-13-17 12:46	10-16-17 15:48	EPA 160.1	Total Dissolved Solids	300.000		10.000	20.000	mg/L	ND
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	EPA 180.1	Turbidity	21.900		0.100	0.500	NTU	AB
CCR-10	7101205-10	10-13-17 12:46	10-13-17 12:46	DEP-SOP	Water Level	132.760		0.100	0.500	FT	AB
CCR-11	7101205-11	10-13-17 13:14	10-18-17 15:07	EPA 200.7	Boron	445.000		3.000	5.000	ug/L	PES
CCR-11	7101205-11	10-13-17 13:14	10-31-17 15:15	EPA 200.7	Calcium	516.000		0.040	0.160	mg/L	N_D
CCR-11	7101205-11	10-13-17 13:14	10-24-17 01:09	EPA 300.0	Chloride	505.000	J-7	0.300	1.200	mg/L	CF
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	-	Color	Clear				[blank]	AB
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	EPA 360.2	Dissolved Oxygen	0.530		0.100	0.200	mg/L	AB
CCR-11	7101205-11	10-13-17 13:14	10-16-17 16:00	EPA 300.0	Fluoride	0.511		0.050	0.200	mg/L	PES
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	EPA 150.1	pH	4.880		0.050	0.050	SU	AB
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	-	Sheen	No Sheen				N/A	AB
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	EPA 120.1	Specific Conductance	4630.000		1.000	5.000	uS/cm	AB
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	EPA 170.1	Temperature	25.100		0.100	0.100	°C	AB
CCR-11	7101205-11	10-13-17 13:14	10-16-17 15:50	EPA 160.1	Total Dissolved Solids	3330.000	J-7	10.000	20.000	mg/L	ND
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	EPA 180.1	Turbidity	21.300		0.100	0.500	NTU	AB
CCR-11	7101205-11	10-13-17 13:14	10-13-17 13:14	DEP-SOP	Water Level	133.140		0.100	0.500	FT	AB
CCR-11	7101205-11RE1	10-13-17 13:14	10-24-17 01:35	EPA 300.0	Sulfate as SO4	1550.000	J-7	4.000	16.000	mg/L	CF
CCR-12	7101205-12	10-13-17 13:43	10-18-17 15:09	EPA 200.7	Boron	567.000		3.000	5.000	ug/L	PES
CCR-12	7101205-12	10-13-17 13:43	10-31-17 15:18	EPA 200.7	Calcium	591.000		0.040	0.160	mg/L	N_D
CCR-12	7101205-12	10-13-17 13:43	10-25-17 15:11	EPA 300.0	Chloride	21.600		0.030	0.120	mg/L	CF
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	-	Color	Clear				[blank]	AB
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	EPA 360.2	Dissolved Oxygen	0.200		0.100	0.200	mg/L	AB
CCR-12	7101205-12	10-13-17 13:43	10-16-17 16:00	EPA 300.0	Fluoride	0.582		0.050	0.200	mg/L	PES
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	EPA 150.1	pH	6.640		0.050	0.050	SU	AB
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	-	Sheen	No Sheen				N/A	AB
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	EPA 120.1	Specific Conductance	2510.000		1.000	5.000	uS/cm	AB
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	EPA 170.1	Temperature	26.700		0.100	0.100	°C	AB
CCR-12	7101205-12	10-13-17 13:43	10-16-17 15:52	EPA 160.1	Total Dissolved Solids	2190.000	J-7	10.000	20.000	mg/L	ND
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	EPA 180.1	Turbidity	11.800		0.100	0.500	NTU	AB
CCR-12	7101205-12	10-13-17 13:43	10-13-17 13:43	DEP-SOP	Water Level	132.800		0.100	0.500	FT	AB
CCR-12	7101205-12RE1	10-13-17 13:43	10-25-17 15:37	EPA 300.0	Sulfate as SO4	1250.000	J-7	4.000	16.000	mg/L	CF
CCR-13	7101205-13	10-13-17 14:13	10-18-17 15:12	EPA 200.7	Boron	305.000		3.000	5.000	ug/L	PES
CCR-13	7101205-13	10-13-17 14:13	10-31-17 15:22	EPA 200.7	Calcium	548.000		0.040	0.160	mg/L	N_D
CCR-13	7101205-13	10-13-17 14:13	10-25-17 16:02	EPA 300.0	Chloride	288.000		0.300	1.200	mg/L	CF
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	-	Color	Clear				[blank]	AB
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	EPA 360.2	Dissolved Oxygen	0.240		0.100	0.200	mg/L	AB
CCR-13	7101205-13	10-13-17 14:13	10-16-17 16:00	EPA 300.0	Fluoride	1.050		0.050	0.200	mg/L	PES
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	EPA 150.1	pH	4.590		0.050	0.050	SU	AB
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	-	Sheen	No Sheen				N/A	AB
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	EPA 120.1	Specific Conductance	3600.000		1.000	5.000	uS/cm	AB
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	EPA 170.1	Temperature	27.300		0.100	0.100	°C	AB
CCR-13	7101205-13	10-13-17 14:13	10-16-17 15:54	EPA 160.1	Total Dissolved Solids	2810.000	J-7	10.000	20.000	mg/L	ND
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	EPA 180.1	Turbidity	18.500		0.100	0.500	NTU	AB
CCR-13	7101205-13	10-13-17 14:13	10-13-17 14:13	DEP-SOP	Water Level	132.820		0.100	0.500	FT	AB
CCR-13	7101205-13RE1	10-13-17 14:13	10-25-17 16:28	EPA 300.0	Sulfate as SO4	1480.000	J-7	4.000	16.000	mg/L	CF
CCR-14	7101205-14	10-13-17 14:42	10-18-17 15:14	EPA 200.7	Boron	1150.000		3.000	5.000	ug/L	PES
CCR-14	7101205-14	10-13-17 14:42	10-31-17 15:25	EPA 200.7	Calcium	504.000		0.040	0.160	mg/L	N_D
CCR-14	7101205-14	10-13-17 14:42	10-25-17 16:54	EPA 300.0	Chloride	104.000		0.300	1.200	mg/L	CF
CCR-14	7101205-14	10-13-17 14:42	10-13-17 14:42	-	Color	Clear				[blank]	AB
CCR-14	7101205-14	10-13-17 14:42	10-13-17 14:42	EPA 360.2	Dissolved Oxygen	1.080		0.100	0.200	mg/L	AB
CCR-14	7101205-14	10-13-17 14:42	10-16-17 16:00	EPA 300.0	Fluoride	0.533		0.050	0.200	mg/L	PES
CCR-14	7101205-14	10-13-17 14:42	10-13-17 14:42	EPA 150.1	pH	5.320		0.050	0.050	SU	AB
CCR-14	7101205-14	10-13-17 14:42	10-13-17 14:42	-	Sheen	No Sheen				N/A	AB
CCR-14	7101205-14	10-13-17 14:42	10-13-17 14:42	EPA 120.1	Specific Conductance	2550.000		1.000	5.000	uS/cm	AB
CCR-14	7101205-14	10-13-17 14:42	10-13-17 14:42	EPA 170.1	Temperature	27.200		0.100	0.100	°C	AB
CCR-14	7101205-14	10-13-17 14:42	10-16-17 15:56	EPA 160.1	Total Dissolved Solids	2150.000	J-7	10.000	20.000	mg/L	ND
CCR-14											

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
Equipment Blank	7101205-15	10-13-17 14:50	10-16-17 15:58	EPA 160.1	Total Dissolved Solid	11.000	I	10.000	20.000	mg/L	ND
Equipment Blank	7101205-15	10-13-17 14:50	10-13-17 14:50	EPA 180.1	Turbidity	0.320	I	0.100	0.500	NTU	AB
Equipment Blank	7101205-15	10-13-17 14:50	10-13-17 14:50	DEP-SOP	Water Level	0.100	U	0.100	0.500	FT	AB

U = Compound was analyzed for but not detected.

J-7 = Estimated Value exceeds the MCL.

I = The reported value is between the laboratory MDL and the laboratory PQL.

3030 E Lake Parker Dr
Lakeland, FL 33805

CCR SAMPLING November 2017
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-02	7112805-02	11-29-17 12:10	12-06-17 12:07	EPA 200.7	Boron	0.0955		0.0030	0.0050	ug/L	PES
CCR-02	7112805-02	11-29-17 12:10	12-07-17 12:01	EPA 200.7	Calcium	50.1000		0.0400	0.1600	mg/L	N_D
CCR-02	7112805-02	11-29-17 12:10	11-30-17 20:16	EPA 300.0	Chloride	13.8000		0.0300	0.1200	mg/L	CF
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	-	Color	Clear				[blank]	AB
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	EPA 360.2	Dissolved Oxygen	0.4400		0.1000	0.2000	mg/L	AB
CCR-02	7112805-02	11-29-17 12:10	12-05-17 14:30	EPA 300.0	Fluoride	0.1110		0.0500	0.2000	mg/L	PES
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	EPA 150.1	pH	5.0800		0.0500	0.0500	SU	AB
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	-	Sheen	No Sheen				N/A	AB
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	EPA 120.1	Specific Conductanc	340.0000		1.0000	5.0000	uS/cm	AB
CCR-02	7112805-02	11-29-17 12:10	11-30-17 20:16	EPA 300.0	Sulfate as SO4	116.0000		0.2000	0.8000	mg/L	CF
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	EPA 170.1	Temperature	28.3000		0.1000	0.1000	°C	AB
CCR-02	7112805-02	11-29-17 12:10	12-05-17 14:10	EPA 160.1	Total Dissolved Soli	238.0000		10.0000	20.0000	mg/L	CF
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	EPA 180.1	Turbidity	9.3000		0.1000	0.5000	NTU	AB
CCR-02	7112805-02	11-29-17 12:10	11-29-17 12:10	DEP-SOP	Water Level	9.7400		0.1000	0.5000	FT	AB
CCR-03	7112805-03	11-29-17 13:35	12-06-17 12:09	EPA 200.7	Boron	1.7600		0.0030	0.0050	ug/L	PES
CCR-03	7112805-03	11-29-17 13:35	12-07-17 12:04	EPA 200.7	Calcium	964.0000		0.0400	0.1600	mg/L	N_D
CCR-03	7112805-03	11-29-17 13:35	11-30-17 17:40	EPA 300.0	Chloride	38.4000		0.0300	0.1200	mg/L	CF
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	-	Color	Clear				[blank]	AB
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	EPA 360.2	Dissolved Oxygen	0.1600		0.1000	0.2000	mg/L	AB
CCR-03	7112805-03	11-29-17 13:35	12-05-17 15:19	EPA 300.0	Fluoride	0.1850		0.0500	0.2000	mg/L	PES
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	EPA 150.1	pH	5.4200		0.0500	0.0500	SU	AB
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	-	Sheen	No Sheen				N/A	AB
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	EPA 120.1	Specific Conductanc	2030.0000		1.0000	5.0000	uS/cm	AB
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	EPA 170.1	Temperature	27.2000		0.1000	0.1000	°C	AB
CCR-03	7112805-03	11-29-17 13:35	12-05-17 14:12	EPA 160.1	Total Dissolved Soli	1770.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	EPA 180.1	Turbidity	1.2900		0.1000	0.5000	NTU	AB
CCR-03	7112805-03	11-29-17 13:35	11-29-17 13:35	DEP-SOP	Water Level	5.7800		0.1000	0.5000	FT	AB
CCR-03	7112805-03RE1	11-29-17 13:35	11-30-17 18:06	EPA 300.0	Sulfate as SO4	1070.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-04	7112805-04	11-29-17 14:20	12-06-17 12:11	EPA 200.7	Boron	0.7520		0.0030	0.0050	ug/L	PES
CCR-04	7112805-04	11-29-17 14:20	12-07-17 12:08	EPA 200.7	Calcium	405.0000		0.0400	0.1600	mg/L	N_D
CCR-04	7112805-04	11-29-17 14:20	11-30-17 18:32	EPA 300.0	Chloride	2670.0000	J-7	1.2000	4.8000	mg/L	CF
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	-	Color	Clear				[blank]	AB
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	EPA 360.2	Dissolved Oxygen	0.3400		0.1000	0.2000	mg/L	AB
CCR-04	7112805-04	11-29-17 14:20	12-05-17 14:30	EPA 300.0	Fluoride	0.4050		0.0500	0.2000	mg/L	PES
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	EPA 150.1	pH	3.9300		0.0500	0.0500	SU	AB
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	-	Sheen	No Sheen				N/A	AB
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	EPA 120.1	Specific Conductanc	8820.0000		1.0000	5.0000	uS/cm	AB
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	EPA 170.1	Temperature	26.7000		0.1000	0.1000	°C	AB
CCR-04	7112805-04	11-29-17 14:20	12-05-17 14:14	EPA 160.1	Total Dissolved Soli	5370.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	EPA 180.1	Turbidity	3.2000		0.1000	0.5000	NTU	AB
CCR-04	7112805-04	11-29-17 14:20	11-29-17 14:20	DEP-SOP	Water Level	14.0000		0.1000	0.5000	FT	AB
CCR-04	7112805-04RE1	11-29-17 14:20	11-30-17 18:58	EPA 300.0	Sulfate as SO4	677.0000	J-7	2.0000	8.0000	mg/L	CF
CCR-05	7112805-05	11-29-17 15:05	12-06-17 12:14	EPA 200.7	Boron	0.6980		0.0030	0.0050	ug/L	PES
CCR-05	7112805-05	11-29-17 15:05	12-07-17 12:11	EPA 200.7	Calcium	1310.0000		0.0400	0.1600	mg/L	N_D
CCR-05	7112805-05	11-29-17 15:05	11-30-17 19:24	EPA 300.0	Chloride	4060.0000	J-7	1.2000	4.8000	mg/L	CF
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	-	Color	Clear				[blank]	AB
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	EPA 360.2	Dissolved Oxygen	0.3200		0.1000	0.2000	mg/L	AB
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	EPA 150.1	pH	5.1700		0.0500	0.0500	SU	AB
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	-	Sheen	No Sheen				N/A	AB
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	EPA 120.1	Specific Conductanc	12890.0000		1.0000	5.0000	uS/cm	AB
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	EPA 170.1	Temperature	26.2000		0.1000	0.1000	°C	AB
CCR-05	7112805-05	11-29-17 15:05	12-05-17 14:16	EPA 160.1	Total Dissolved Soli	7540.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	EPA 180.1	Turbidity	3.0400		0.1000	0.5000	NTU	AB
CCR-05	7112805-05	11-29-17 15:05	11-29-17 15:05	DEP-SOP	Water Level	9.9600		0.1000	0.5000	FT	AB
CCR-05	7112805-05RE1	11-29-17 15:05	11-30-17 19:50	EPA 300.0	Sulfate as SO4	319.0000	J-7	2.0000	8.0000	mg/L	CF
CCR-06	7112805-06	11-30-17 11:15	12-06-17 12:16	EPA 200.7	Boron	0.4340		0.0030	0.0050	ug/L	PES
CCR-06	7112805-06	11-30-17 11:15	12-07-17 12:14	EPA 200.7	Calcium	231.0000		0.0400	0.1600	mg/L	N_D
CCR-06	7112805-06	11-30-17 11:15	12-01-17 15:58	EPA 300.0	Chloride	439.0000	J-7	0.3000	1.2000	mg/L	CF
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	-	Color	Clear				[blank]	AB
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	EPA 360.2	Dissolved Oxygen	0.3000		0.1000	0.2000	mg/L	AB
CCR-06	7112805-06	11-30-17 11:15	12-05-17 14:30	EPA 300.0	Fluoride	0.2720		0.0500	0.2000	mg/L	PES
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	EPA 150.1	pH	6.0500		0.0500	0.0500	SU	AB
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	-	Sheen	No Sheen				N/A	AB
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	EPA 120.1	Specific Conductanc	2180.0000		1.0000	5.0000	uS/cm	AB
CCR-06	7112805-06	11-30-17 11:15	12-01-17 15:58	EPA 300.0	Sulfate as SO4	237.0000	J-7	2.0000	8.0000	mg/L	CF
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	EPA 170.1	Temperature	27.5000		0.1000	0.1000	°C	AB
CCR-06	7112805-06	11-30-17 11:15	12-05-17 14:18	EPA 160.1	Total Dissolved Soli	1260.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	EPA 180.1	Turbidity	2.7900		0.1000	0.5000	NTU	AB
CCR-06	7112805-06	11-30-17 11:15	11-30-17 11:15	DEP-SOP	Water Level	8.4500		0.1000	0.5000	FT	AB
CCR-07	7112805-07	11-30-17 12:00	12-06-17 12:18	EPA 200.7	Boron	0.5610		0.0030	0.0050	ug/L	PES
CCR-07	7112805-07	11-30-17 12:00	12-07-17 12:17	EPA 200.7	Calcium	196.0000		0.0400	0.1600	mg/L	N_D
CCR-07	7112805-07	11-30-17 12:00	12-01-17 16:50	EPA 300.0	Chloride	311.0000	J-7	0.3000	1.2000	mg/L	CF
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	-	Color	Clear				[blank]	AB
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	EPA 360.2	Dissolved Oxygen	0.2000		0.1000	0.2000	mg/L	AB
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	EPA 150.1	pH	4.6700		0.0500	0.0500	SU	AB
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	-	Sheen	No Sheen				N/A	AB
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	EPA 120.1	Specific Conductanc	1617.0000		1.0000	5.0000	uS/cm	AB
CCR-07	7112805-07	11-30-17 12:00	12-01-17 16:50	EPA 300.0	Sulfate as SO4	419.0000	J-7	2.0000	8.0000	mg/L	CF
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	EPA 170.1	Temperature	26.7000		0.1000	0.1000	°C	AB
CCR-07	7112805-07	11-30-17 12:00	12-05-17 14:20	EPA 160.1	Total Dissolved Soli	1180.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	EPA 180.1	Turbidity	9.8000		0.1000	0.5000	NTU	AB
CCR-07	7112805-07	11-30-17 12:00	11-30-17 12:00	DEP-SOP	Water Level	9.0200		0.1000	0.5000	FT	AB
CCR-08	7112805-08	11-30-17 13:38	12-06-17 12:21	EPA 200.7	Boron	0.1000		0.0030	0.0050	ug/L	PES
CCR-08	7112805-08	11-30-17 13:38	12-07-17 12:20	EPA 200.7	Calcium	92.6000		0.0400	0.1600	mg/L	N_D
CCR-08	7112805-08	11-30-17 13:38	11-30-17 13:38	-	Color	Clear				[blank]	AB
CCR-08	7112805-08	11-30-17 13:38	11-30-17 13:38	EPA 360.2	Dissolved Oxygen	0.4800		0.1000	0.2000	mg/L	AB
CCR-08	7112805-08	11-30-17 13:38	12-05-17 14:30	EPA 300.0	Fluoride	0.3430		0.0500	0.2000	mg/L	PES
CCR-08	7112805-08	11-30-17 13:38	11-30-17 13:38	EPA 150.1	pH	6.6300		0.0500	0.0500	SU	AB
CCR-08	7112805-08	11-30-17 13:38	11-30-17 13:38	-	Sheen	No Sheen				N/A	AB
CCR-08	7112805-08	11-30-17 13:38	11-30-17 13:38	EPA 120.1	Specific Conductanc	5.2200		1.0000	5.0000	uS/cm	AB
CCR-08	7112805-08	11-30-17 13:38	12-01-17 18:59	EPA 300.0	Sulfate as SO4	119.0000	J-7				

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	-	Color	Clear				[blank]	AB
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	EPA 360.2	Dissolved Oxygen	0.4000		0.1000	0.2000	mg/L	AB
CCR-09	7112805-09	11-30-17 14:36	12-05-17 14:30	EPA 300.0	Fluoride	0.2170		0.0500	0.2000	mg/L	PES
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	EPA 150.1	pH	5.0600		0.0500	0.0500	SU	AB
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	-	Sheen	No Sheen				N/A	AB
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	EPA 120.1	Specific Conductanc	7110.0000		1.0000	5.0000	uS/cm	AB
CCR-09	7112805-09	11-30-17 14:36	12-01-17 18:07	EPA 300.0	Sulfate as SO4	1080.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	EPA 170.1	Temperature	27.1000		0.1000	0.1000	°C	AB
CCR-09	7112805-09	11-30-17 14:36	12-05-17 14:24	EPA 160.1	Total Dissolved Solik	4700.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	EPA 180.1	Turbidity	15.7000		0.1000	0.5000	NTU	AB
CCR-09	7112805-09	11-30-17 14:36	11-30-17 14:36	DEP-SOP	Water Level	9.4600		0.1000	0.5000	FT	AB
CCR-10	7112805-10	12-01-17 10:02	12-06-17 11:44	EPA 200.7	Boron	0.1590		0.0030	0.0050	ug/L	PES
CCR-10	7112805-10	12-01-17 10:02	12-07-17 12:32	EPA 200.7	Calcium	44.1000		0.0400	0.1600	mg/L	N_D
CCR-10	7112805-10	12-01-17 10:02	12-04-17 20:16	EPA 300.0	Chloride	14.1000		0.0300	0.1200	mg/L	CF
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	-	Color	Clear				[blank]	AB
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	EPA 360.2	Dissolved Oxygen	0.1800		0.1000	0.2000	mg/L	AB
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	EPA 150.1	pH	5.8100		0.0500	0.0500	SU	AB
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	-	Sheen	No Sheen				N/A	AB
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	EPA 120.1	Specific Conductanc	449.6000		1.0000	5.0000	uS/cm	AB
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	EPA 170.1	Temperature	26.0000		0.1000	0.1000	°C	AB
CCR-10	7112805-10	12-01-17 10:02	12-05-17 14:26	EPA 160.1	Total Dissolved Solik	277.0000		10.0000	20.0000	mg/L	CF
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	EPA 180.1	Turbidity	15.5000		0.1000	0.5000	NTU	AB
CCR-10	7112805-10	12-01-17 10:02	12-01-17 10:02	DEP-SOP	Water Level	6.8100		0.1000	0.5000	FT	AB
CCR-11	7112805-11	12-01-17 10:34	12-06-17 11:35	EPA 200.7	Boron	0.4480		0.0030	0.0050	ug/L	PES
CCR-11	7112805-11	12-01-17 10:34	12-07-17 12:35	EPA 200.7	Calcium	517.0000		0.0400	0.1600	mg/L	N_D
CCR-11	7112805-11	12-01-17 10:34	12-04-17 16:49	EPA 300.0	Chloride	507.0000	J-7	0.6000	2.4000	mg/L	CF
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	-	Color	Clear				[blank]	AB
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	EPA 360.2	Dissolved Oxygen	0.5000		0.1000	0.2000	mg/L	AB
CCR-11	7112805-11	12-01-17 10:34	12-05-17 14:30	EPA 300.0	Fluoride	0.5380		0.0500	0.2000	mg/L	PES
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	EPA 150.1	pH	4.5500		0.0500	0.0500	SU	AB
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	-	Sheen	No Sheen				N/A	AB
CCR-11	7112805-11	12-01-17 10:34	12-04-17 16:49	EPA 300.0	Sulfate as SO4	1620.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	EPA 170.1	Temperature	24.9000		0.1000	0.1000	°C	AB
CCR-11	7112805-11	12-01-17 10:34	12-05-17 14:28	EPA 160.1	Total Dissolved Solik	3330.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	EPA 180.1	Turbidity	4.4800		0.1000	0.5000	NTU	AB
CCR-11	7112805-11	12-01-17 10:34	12-01-17 10:34	DEP-SOP	Water Level	4.9400		0.1000	0.5000	FT	AB
CCR-12	7112805-12	12-01-17 11:24	12-06-17 11:46	EPA 200.7	Boron	0.5620		0.0030	0.0050	ug/L	PES
CCR-12	7112805-12	12-01-17 11:24	12-07-17 15:21	EPA 200.7	Calcium	542.0000		0.0400	0.1600	mg/L	N_D
CCR-12	7112805-12	12-01-17 11:24	12-04-17 17:15	EPA 300.0	Chloride	22.1000		0.0300	0.1200	mg/L	CF
CCR-12	7112805-12	12-01-17 11:24	12-19-17 13:35	-	Color	Clear				[blank]	AB
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	EPA 360.2	Dissolved Oxygen	0.1600		0.1000	0.2000	mg/L	AB
CCR-12	7112805-12	12-01-17 11:24	12-05-17 14:30	EPA 300.0	Fluoride	0.5920		0.0500	0.2000	mg/L	PES
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	EPA 150.1	pH	6.6500		0.0500	0.0500	SU	AB
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	-	Sheen	No Sheen				N/A	AB
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	EPA 120.1	Specific Conductanc	2550.0000		1.0000	5.0000	uS/cm	AB
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	EPA 170.1	Temperature	25.5000		0.1000	0.1000	°C	AB
CCR-12	7112805-12	12-01-17 11:24	12-07-17 13:50	EPA 160.1	Total Dissolved Solik	2260.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	EPA 180.1	Turbidity	15.9000		0.1000	0.5000	NTU	AB
CCR-12	7112805-12	12-01-17 11:24	12-01-17 11:24	DEP-SOP	Water Level	5.5000		0.1000	0.5000	FT	AB
CCR-12	7112805-12RE1	12-01-17 11:24	12-04-17 17:40	EPA 300.0	Sulfate as SO4	1230.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-13	7112805-13	12-01-17 13:23	12-06-17 11:49	EPA 200.7	Boron	0.2490		0.0030	0.0050	ug/L	PES
CCR-13	7112805-13	12-01-17 13:23	12-07-17 15:24	EPA 200.7	Calcium	461.0000		0.0400	0.1600	mg/L	N_D
CCR-13	7112805-13	12-01-17 13:23	12-04-17 18:06	EPA 300.0	Chloride	428.0000	J-7	0.6000	2.4000	mg/L	CF
CCR-13	7112805-13	12-01-17 13:23	12-19-17 13:35	-	Color	Clear				[blank]	AB
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	EPA 360.2	Dissolved Oxygen	0.1800		0.1000	0.2000	mg/L	AB
CCR-13	7112805-13	12-01-17 13:23	12-05-17 14:30	EPA 300.0	Fluoride	1.0800		0.0500	0.2000	mg/L	PES
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	EPA 150.1	pH	4.2800		0.0500	0.0500	SU	AB
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	-	Sheen	No Sheen				N/A	AB
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	EPA 120.1	Specific Conductanc	3910.0000		1.0000	5.0000	uS/cm	AB
CCR-13	7112805-13	12-01-17 13:23	12-04-17 18:06	EPA 300.0	Sulfate as SO4	1430.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	EPA 170.1	Temperature	26.0000		0.1000	0.1000	°C	AB
CCR-13	7112805-13	12-01-17 13:23	12-07-17 13:52	EPA 160.1	Total Dissolved Solik	3000.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	EPA 180.1	Turbidity	15.3000		0.1000	0.5000	NTU	AB
CCR-13	7112805-13	12-01-17 13:23	12-01-17 13:23	DEP-SOP	Water Level	6.3100		0.1000	0.5000	FT	AB
CCR-14	7112805-14	12-01-17 14:28	12-06-17 12:05	EPA 200.7	Boron	1.0800		0.0030	0.0050	ug/L	PES
CCR-14	7112805-14	12-01-17 14:28	12-07-17 15:30	EPA 200.7	Calcium	441.0000		0.0400	0.1600	mg/L	N_D
CCR-14	7112805-14	12-01-17 14:28	12-04-17 18:32	EPA 300.0	Chloride	91.2000		0.6000	2.4000	mg/L	CF
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	-	Color	Clear				[blank]	AB
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	EPA 360.2	Dissolved Oxygen	0.1900		0.1000	0.2000	mg/L	AB
CCR-14	7112805-14	12-01-17 14:28	12-05-17 14:30	EPA 300.0	Fluoride	0.0500	U	0.0500	0.2000	mg/L	PES
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	EPA 150.1	pH	5.2300		0.0500	0.0500	SU	AB
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	-	Sheen	No Sheen				N/A	AB
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	EPA 120.1	Specific Conductanc	2540.0000		1.0000	5.0000	uS/cm	AB
CCR-14	7112805-14	12-01-17 14:28	12-04-17 18:32	EPA 300.0	Sulfate as SO4	1300.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	EPA 170.1	Temperature	25.6000		0.1000	0.1000	°C	AB
CCR-14	7112805-14	12-01-17 14:28	12-07-17 13:54	EPA 160.1	Total Dissolved Solik	2160.0000	J-7	10.0000	20.0000	mg/L	CF
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	EPA 180.1	Turbidity	2.2500		0.1000	0.5000	NTU	AB
CCR-14	7112805-14	12-01-17 14:28	12-01-17 14:28	DEP-SOP	Water Level	7.4500		0.1000	0.5000	FT	AB
Equipment Blank	7112805-15	12-01-17 14:43	12-06-17 12:25	EPA 200.7	Boron	0.0038	I	0.0030	0.0050	ug/L	PES
Equipment Blank	7112805-15	12-01-17 14:43	12-07-17 15:27	EPA 200.7	Calcium	0.3070		0.0400	0.1600	mg/L	N_D
Equipment Blank	7112805-15	12-01-17 14:43	12-04-17 19:50	EPA 300.0	Chloride	0.0640		0.0300	0.1200	mg/L	CF
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	-	Color	Clear				[blank]	AB
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	EPA 360.2	Dissolved Oxygen	4.0100		0.1000	0.2000	mg/L	AB
Equipment Blank	7112805-15	12-05-17 14:30	12-05-17 14:30	EPA 300.0	Fluoride	0.4940		0.0500	0.2000	mg/L	PES
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	EPA 150.1	pH	6.3500		0.0500	0.0500	SU	AB
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	-	Sheen	No Sheen				N/A	AB
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	EPA 120.1	Specific Conductanc	1.1600		1.0000	5.0000	uS/cm	AB
Equipment Blank	7112805-15	12-01-17 14:43	12-04-17 19:50	EPA 300.0	Sulfate as SO4	0.2660		0.2000	0.8000	mg/L	CF
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	EPA 170.1	Temperature	26.9000		0.1000	0.1000	°C	AB
Equipment Blank	7112805-15	12-01-17 14:43	12-07-17 13:56	EPA 160.1	Total Dissolved Solik	U	U	5.0000	10.0000	mg/L	CF
Equipment Blank	7112805-15	12-01-17 14:43	12-01-17 14:43	EPA 180.1	Turbidity	0.7200		0.1000	0.5000	NTU	AB

U = Compound was analyzed for but not detected.

J-7 = Estimated Value exceeds the MCL.

3030 E Lake Parker Dr
Lakeland, FL 33805

CCR SAMPLING Dec. 2017 (Re-Sample)
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-10	7120704-10	12-07-17 14:25	12-12-17 13:51	EPA 200.7	Boron	0.1590		0.0030	0.0050	ug/L	PES
CCR-10	7120704-10	12-07-17 14:25	12-19-17 10:18	EPA 200.7	Calcium	49.0000		0.0400	0.1600	mg/L	N_D
CCR-10	7120704-10	12-07-17 14:25	12-08-17 18:58	EPA 300.0	Chloride	14.5000		0.0300	0.1200	mg/L	CF
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	-	Color	Clear				[blank]	AB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	EPA 360.2	Dissolved Oxygen	0.2000		0.1000	0.2000	mg/L	AB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	EPA 150.1	pH	5.9400		0.0500	0.0500	SU	AB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	-	Sheen	No Sheen				N/A	AB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	EPA 120.1	Specific Conductance	447.0000		1.0000	5.0000	uS/cm	AB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	EPA 170.1	Temperature	25.7000		0.1000	0.1000	°C	AB
CCR-10	7120704-10	12-07-17 14:25	12-12-17 14:05	EPA 160.1	Total Dissolved Solids	276.0000		10.0000	20.0000	mg/L	DB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	EPA 180.1	Turbidity	2.5300		0.1000	0.5000	NTU	AB
CCR-10	7120704-10	12-07-17 14:25	12-07-17 14:25	DEP-SOP	Water Level	6.4900		0.1000	0.5000	FT	AB
CCR-11	7120704-11	12-07-17 15:15	12-12-17 13:49	EPA 200.7	Boron	0.4480		0.0030	0.0050	ug/L	PES
CCR-11	7120704-11	12-07-17 15:15	12-19-17 10:21	EPA 200.7	Calcium	455.0000		0.0400	0.1600	mg/L	N_D
CCR-11	7120704-11	12-07-17 15:15	12-08-17 18:33	EPA 300.0	Chloride	517.0000	J-7	0.6000	2.4000	mg/L	CF
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	-	Color	Clear				[blank]	AB
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	EPA 360.2	Dissolved Oxygen	0.5000		0.1000	0.2000	mg/L	AB
CCR-11	7120704-11	12-07-17 15:15	12-12-17 15:00	EPA 300.0	Fluoride	0.5720		0.0500	0.2000	mg/L	PES
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	EPA 150.1	pH	4.5500		0.0500	0.0500	SU	AB
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	-	Sheen	No Sheen				N/A	AB
CCR-11	7120704-11	12-07-17 15:15	12-08-17 18:33	EPA 300.0	Sulfate as SO4	1630.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	EPA 170.1	Temperature	24.9000		0.1000	0.1000	°C	AB
CCR-11	7120704-11	12-07-17 15:15	12-12-17 14:07	EPA 160.1	Total Dissolved Solids	3300.0000	J-7	10.0000	20.0000	mg/L	DB
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	EPA 180.1	Turbidity	4.4800		0.1000	0.5000	NTU	AB
CCR-11	7120704-11	12-07-17 15:15	12-07-17 15:15	DEP-SOP	Water Level	4.7400		0.1000	0.5000	FT	AB
CCR-14	7120704-14	12-07-17 15:53	12-12-17 13:54	EPA 200.7	Boron	1.0800		0.0030	0.0050	ug/L	PES
CCR-14	7120704-14	12-07-17 15:53	12-19-17 10:24	EPA 200.7	Calcium	456.0000		0.0400	0.1600	mg/L	N_D
CCR-14	7120704-14	12-07-17 15:53	12-08-17 18:07	EPA 300.0	Chloride	91.7000		0.6000	2.4000	mg/L	CF
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	-	Color	Clear				[blank]	AB
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	EPA 360.2	Dissolved Oxygen	0.1700		0.1000	0.2000	mg/L	AB
CCR-14	7120704-14	12-07-17 15:53	12-12-17 15:00	EPA 300.0	Fluoride	0.5110		0.0500	0.2000	mg/L	PES
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	EPA 150.1	pH	5.3200		0.0500	0.0500	SU	AB
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	-	Sheen	No Sheen				N/A	AB
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	EPA 120.1	Specific Conductance	2580.0000		1.0000	5.0000	uS/cm	AB
CCR-14	7120704-14	12-07-17 15:53	12-08-17 18:07	EPA 300.0	Sulfate as SO4	1310.0000	J-7	4.0000	16.0000	mg/L	CF
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	EPA 170.1	Temperature	24.8000		0.1000	0.1000	°C	AB
CCR-14	7120704-14	12-07-17 15:53	12-12-17 14:09	EPA 160.1	Total Dissolved Solids	2100.0000	J-7	10.0000	20.0000	mg/L	DB
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	EPA 180.1	Turbidity	2.2700		0.1000	0.5000	NTU	AB
CCR-14	7120704-14	12-07-17 15:53	12-07-17 15:53	DEP-SOP	Water Level	7.3800		0.1000	0.5000	FT	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-12-17 13:56	EPA 200.7	Boron	0.0041	I	0.0030	0.0050	ug/L	PES
Equipment Blank	7120704-15	12-07-17 16:06	12-19-17 10:27	EPA 200.7	Calcium	1.1400		0.0400	0.1600	mg/L	N_D
Equipment Blank	7120704-15	12-07-17 16:06	12-08-17 17:41	EPA 300.0	Chloride	0.0300	U	0.0300	0.1200	mg/L	CF
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	-	Color	Clear				[blank]	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	EPA 360.2	Dissolved Oxygen	2.7900		0.1000	0.2000	mg/L	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-12-17 15:00	EPA 300.0	Fluoride	0.0500	U	0.0500	0.2000	mg/L	PES
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	EPA 150.1	pH	6.7800		0.0500	0.0500	SU	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	-	Sheen	No Sheen				N/A	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	EPA 120.1	Specific Conductance	1.9200		1.0000	5.0000	uS/cm	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-08-17 17:41	EPA 300.0	Sulfate as SO4	0.2000	U	0.2000	0.8000	mg/L	CF
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	EPA 170.1	Temperature	24.6000		0.1000	0.1000	°C	AB
Equipment Blank	7120704-15	12-07-17 16:06	12-12-17 14:11	EPA 160.1	Total Dissolved Solids	5.0000	U	5.0000	10.0000	mg/L	DB
Equipment Blank	7120704-15	12-07-17 16:06	12-07-17 16:06	EPA 180.1	Turbidity	0.3700		0.1000	0.5000	NTU	AB

U = Compound was analyzed for but not detected.

J-7 = Estimated Value exceeds the MCL.

I = The reported value is between the laboratory MDL and the laboratory PQL.

APPENDIX B
STATISTICAL WORKSHEETS

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Boron

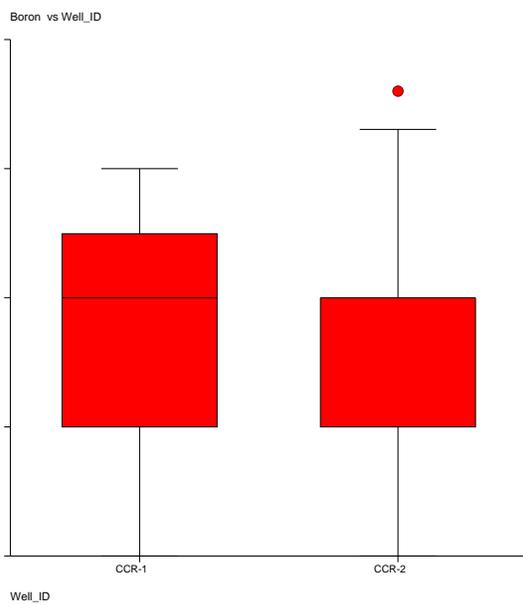
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	0.1501	0.88067	No
Kurtosis	-0.5493	0.58277	No
Skewness and Kurtosis (Omnibus)	0.3243	0.85031	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.5090	0.48308	No
Levene (Data - Means)	0.6448	0.43057	No
Conover (Ranks of Deviations)	0.3285	0.56652	No
Bartlett (Likelihood Ratio)	0.5750	0.44827	No

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Boron

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	1.200728E-05	1.200728E-05	0.1099	0.74336	No	0.06161
Within (Error)	22	0.002402951	0.000109225				
Adjusted Total	23	0.002414958					
Total	24						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	0.1015	0.74999	No
Corrected for Ties	1	0.1104	0.73973	No
Number Sets of Ties	4			
Multiplicity Factor	1104			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	13	168.00	12.92	0.3187	0.04
CCR-2	11	132.00	12.00	-0.3187	0.04

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	0.0404	0.84070	No
Van der Waerden - Normal Quantiles	1	0.0511	0.82119	No

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Boron

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	24	0.03704167	0.03698252			
A: Well_ID						
CCR-1	13	0.03769231	0.0007097902	0.04	0.009268087	0.002898608
CCR-2	11	0.03627273	-0.0007097902	0.04	0.01171402	0.003151119

Tukey-Kramer Multiple-Comparison Test

Response: Boron
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=22 MSE=0.000109225 Critical Value=2.9410

Group	Count	Mean	Different From Groups
CCR-1	13	0.03769231	
CCR-2	11	0.03627273	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Calcium

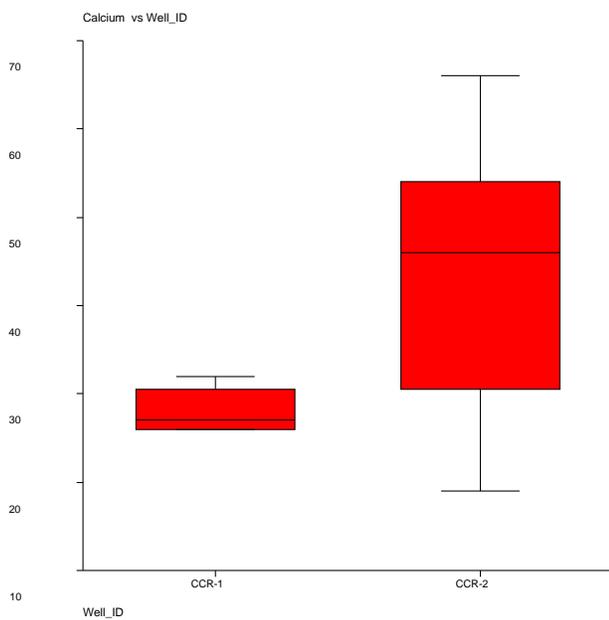
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	-1.7122	0.08685	No
Kurtosis	1.7575	0.07882	No
Skewness and Kurtosis (Omnibus)	6.0207	0.04927	Yes

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	10.8765	0.00303	Yes
Levene (Data - Means)	17.8570	0.00030	Yes
Conover (Ranks of Deviations)	13.0455	0.00030	Yes
Bartlett (Likelihood Ratio)	28.0194	0.00000	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Calcium

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	1523.115	1523.115	14.0837	0.00098	Yes	0.94938
Within (Error)	24	2595.539	108.1474				
Adjusted Total	25	4118.654					
Total	26						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.
 H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	6.8402	0.00891	Yes
Corrected for Ties	1	6.8992	0.00862	Yes
Number Sets of Ties	7			
Multiplicity Factor	150			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	13	124.50	9.58	-2.6154	27
CCR-2	13	226.50	17.42	2.6154	46

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.
 H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	5.1960	0.02264	Yes
Van der Waerden - Normal Quantiles	1	5.4671	0.01938	Yes

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Calcium

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	26	35.88462	35.88462			
A: Well_ID						
CCR-1	13	28.23077	-7.653846	27	2.204308	2.884274
CCR-2	13	43.53846	7.653846	46	14.54084	2.884274

Tukey-Kramer Multiple-Comparison Test

Response: Calcium
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=24 MSE=108.1474 Critical Value=2.9269

Group	Count	Mean	Different From Groups
CCR-1	13	28.23077	CCR-2
CCR-2	13	43.53846	CCR-1

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Chloride

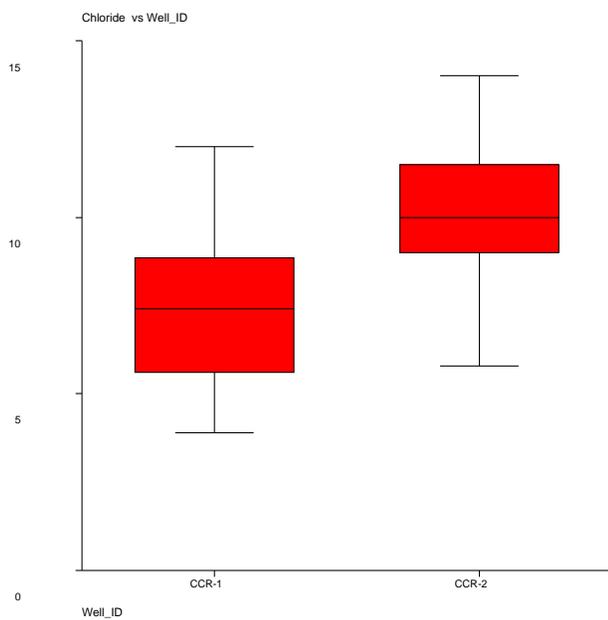
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	0.5802	0.56180	No
Kurtosis	0.2127	0.83153	No
Skewness and Kurtosis (Omnibus)	0.3819	0.82619	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.3225	0.57540	No
Levene (Data - Means)	0.3004	0.58867	No
Conover (Ranks of Deviations)	0.3100	0.57770	No
Bartlett (Likelihood Ratio)	0.0156	0.90061	No

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Chloride

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	47.385	47.385	9.9597	0.00427	Yes	0.85711
Within (Error)	24	114.1846	4.757692				
Adjusted Total	25	161.5696					
Total	26						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.
 H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	9.0000	0.00270	Yes
Corrected for Ties	1	9.0309	0.00265	Yes
Number Sets of Ties	7			
Multiplicity Factor	60			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	13	117.00	9.00	-3.0000	7.4
CCR-2	13	234.00	18.00	3.0000	10

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.
 H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	8.5147	0.00352	Yes
Van der Waerden - Normal Quantiles	1	8.6001	0.00336	Yes

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Chloride

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	26	8.696154	8.696154			
A: Well_ID						
CCR-1	13	7.346154	-1.35	7.4	2.220967	0.6049598
CCR-2	13	10.04615	1.35	10	2.140722	0.6049598

Tukey-Kramer Multiple-Comparison Test

Response: Chloride
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=24 MSE=4.757692 Critical Value=2.9269

Group	Count	Mean	Different From Groups
CCR-1	13	7.346154	CCR-2
CCR-2	13	10.04615	CCR-1

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Fluoride

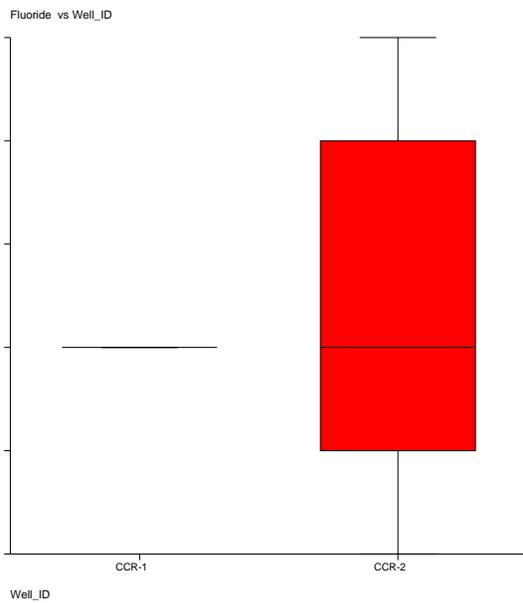
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	0.4295	0.66753	No
Kurtosis	-0.6043	0.54563	No
Skewness and Kurtosis (Omnibus)	0.5497	0.75968	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.3225	0.57540	
Levene (Data - Means)	0.3004	0.58867	
Conover (Ranks of Deviations)	1.3575	0.24398	No
Bartlett (Likelihood Ratio)	0.0000	1.00000	No

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Fluoride

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	1.978022E-05	1.978022E-05	0.0638	0.80493	No	0.05624
Within (Error)	12	0.003723077	0.0003102564				
Adjusted Total	13	0.003742857					
Total	14						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	0.0615	0.80408	No
Corrected for Ties	1	0.0644	0.79972	No
Number Sets of Ties	5			
Multiplicity Factor	120			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	1	6.50	6.50	-0.2481	0.07
CCR-2	13	98.50	7.58	0.2481	0.07

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	0.0413	0.83898	No
Van der Waerden - Normal Quantiles	1	0.0448	0.83242	No

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Fluoride

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	14	0.07428572	0.07230769			
A: Well_ID						
CCR-1	1	0.07	-0.002307692	0.07		0.0176141
CCR-2	13	0.07461538	0.002307692	0.07	0.0176141	0.004885272

Tukey-Kramer Multiple-Comparison Test

Response: Fluoride
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=12 MSE=0.0003102564 Critical Value=3.0892

Group	Count	Mean	Different From Groups
CCR-1	1	0.07	
CCR-2	13	0.07461538	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response pH

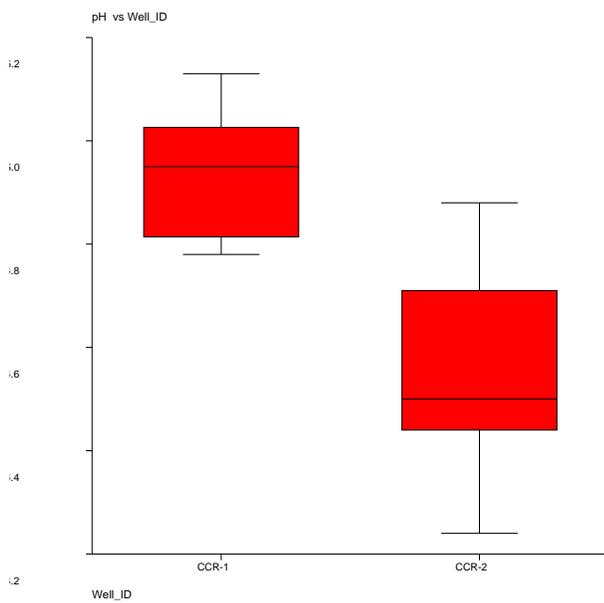
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	0.9564	0.33889	No
Kurtosis	0.2180	0.82747	No
Skewness and Kurtosis (Omnibus)	0.9621	0.61812	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	1.2858	0.26802	No
Levene (Data - Means)	2.6051	0.11959	No
Conover (Ranks of Deviations)	1.3792	0.24023	No
Bartlett (Likelihood Ratio)	2.5108	0.11307	No

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response pH

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	0.9769846	0.9769846	40.2210	0.00000	Yes	0.99998
Within (Error)	24	0.5829692	0.02429038				
Adjusted Total	25	1.559954					
Total	26						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.
 H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	15.3905	0.00009	Yes
Corrected for Ties	1	15.4169	0.00009	Yes
Number Sets of Ties	2			
Multiplicity Factor	30			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	13	252.00	19.38	3.9231	4.95
CCR-2	13	99.00	7.62	-3.9231	4.5

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.
 H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	14.0980	0.00017	Yes
Van der Waerden - Normal Quantiles	1	14.3500	0.00015	Yes

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response pH

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	26	4.746923	4.746923			
A: Well_ID						
CCR-1	13	4.940769	0.1938462	4.95	0.1163659	0.04322605
CCR-2	13	4.553077	-0.1938462	4.5	0.1871891	0.04322605

Tukey-Kramer Multiple-Comparison Test

Response: pH
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=24 MSE=0.02429038 Critical Value=2.9269

Group	Count	Mean	Different From Groups
CCR-1	13	4.940769	CCR-2
CCR-2	13	4.553077	CCR-1

Notes:
 This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Sulfate

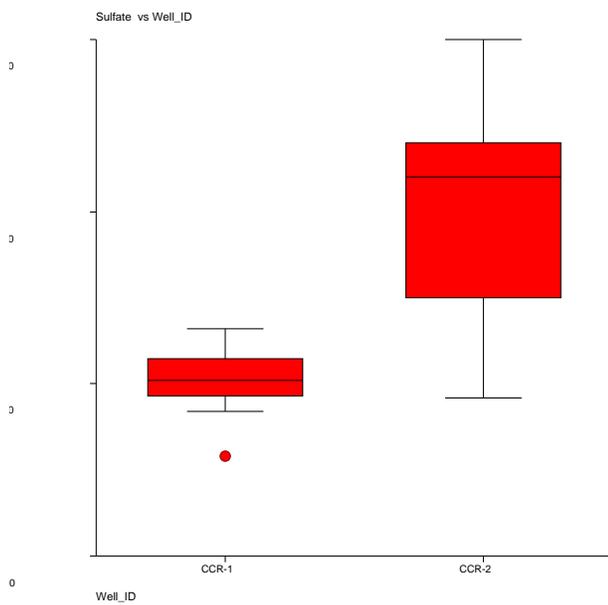
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	-1.0126	0.31125	No
Kurtosis	1.2164	0.22382	No
Skewness and Kurtosis (Omnibus)	2.5050	0.28578	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	8.1555	0.00894	Yes
Levene (Data - Means)	12.7215	0.00164	Yes
Conover (Ranks of Deviations)	9.4211	0.00214	Yes
Bartlett (Likelihood Ratio)	12.9916	0.00031	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Sulfate

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	14986.16	14986.16	25.0973	0.00005	Yes	0.99768
Within (Error)	23	13733.84	597.1235				
Adjusted Total	24	28720					
Total	25						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.
 H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	10.4741	0.00121	Yes
Corrected for Ties	1	10.4983	0.00119	Yes
Number Sets of Ties	3			
Multiplicity Factor	36			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	12	96.50	8.04	-3.2364	51
CCR-2	13	228.50	17.58	3.2364	110

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.
 H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	9.5715	0.00198	Yes
Van der Waerden - Normal Quantiles	1	9.7100	0.00183	Yes

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response Sulfate

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	25	76.4	75.41987			
A: Well_ID						
CCR-1	12	50.91667	-24.5032	51	9.65268	7.054097
CCR-2	13	99.92308	24.5032	110	32.54346	6.777358

Tukey-Kramer Multiple-Comparison Test

Response: Sulfate
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=23 MSE=597.1235 Critical Value=2.9336

Group	Count	Mean	Different From Groups
CCR-1	12	50.91667	CCR-2
CCR-2	13	99.92308	CCR-1

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response TDS

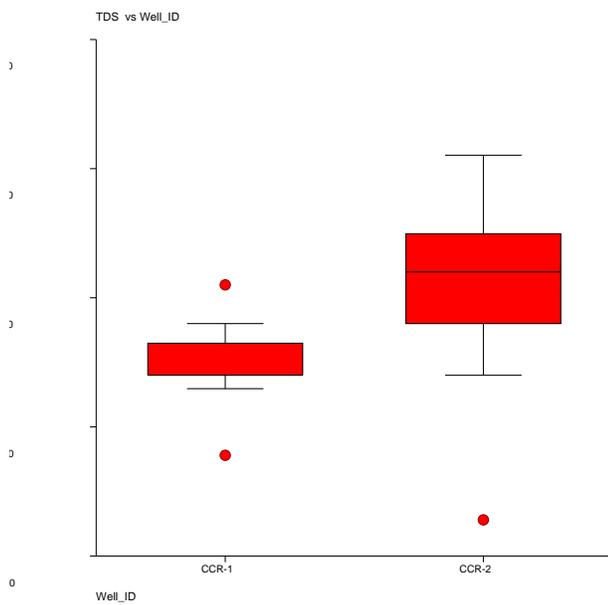
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	-2.9323	0.00336	Yes
Kurtosis	2.9051	0.00367	Yes
Skewness and Kurtosis (Omnibus)	17.0379	0.00020	Yes

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	2.4717	0.12900	No
Levene (Data - Means)	3.0617	0.09293	No
Conover (Ranks of Deviations)	3.0405	0.08121	No
Bartlett (Likelihood Ratio)	7.1803	0.00737	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response TDS

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? (α=0.05)	Power (α=0.05)
Between (Well_ID)	1	22803.85	22803.85	7.8118	0.01005	Yes	0.76476
Within (Error)	24	70059.7	2919.154				
Adjusted Total	25	92863.54					
Total	26						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Not Corrected for Ties	1	8.2472	0.00408	Yes
Corrected for Ties	1	8.3877	0.00378	Yes
Number Sets of Ties	6			
Multiplicity Factor	294			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR-1	13	119.50	9.19	-2.8718	140
CCR-2	13	231.50	17.81	2.8718	220

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.05)
Terry-Hoeffding - Expected Normal Scores	1	6.9182	0.00853	Yes
Van der Waerden - Normal Quantiles	1	7.2007	0.00729	Yes

One-Way Analysis of Variance Report

Dataset G:\Projects\15-\15-45454.2\GW Data\Stats\LE_AppIII_Back.NCSS
 Response TDS

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	26	178.6923	178.6923			
A: Well_ID						
CCR-1	13	149.0769	-29.61539	140	30.51355	14.985
CCR-2	13	208.3077	29.61539	220	70.05163	14.985

Tukey-Kramer Multiple-Comparison Test

Response: TDS
 Term A: Well_ID

Alpha=0.050 Error Term=S(A) DF=24 MSE=2919.154 Critical Value=2.9269

Group	Count	Mean	Different From Groups
CCR-1	13	149.0769	CCR-2
CCR-2	13	208.3077	CCR-1

Notes:
 This report provides multiple comparison tests for all pairwise differences between the means.

Outlier Tests for Selected Variables replacing nondetects with 1/2 the Detection Limit

Date/Time of Computation ProUCL 5.111/9/2017 2:40:12 PM

From File LE_ApplII_Background_grp.xls

Full Precision OFF

Rosner's Outlier Test for 1 Outliers in Result (boron)

Total N 26
Number NDs 2
Number Detects 26
Mean with NDs=DL/2 0.0345
SD with NDs=DL/2 0.012
Number of data 26
Number of suspected outliers 1
NDs replaced with half value.

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.0345	0.0117	0.0105	2	2.044	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Outlier Tests for Selected Variables replacing nondetects with 1/2 the Detection Limit

Date/Time of Computation ProUCL 5.111/9/2017 2:18:07 PM

From File LE_AppIII_Background2.xls

Full Precision OFF

Dixon's Outlier Test for CCR1 (calcium)

Total N = 13

Number NDs = 0

Number Detects = 13

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 32 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.167

For 10% significance level, 32 is not an outlier.

For 5% significance level, 32 is not an outlier.

For 1% significance level, 32 is not an outlier.

2. Data Value 26 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 26 is not an outlier.

For 5% significance level, 26 is not an outlier.

For 1% significance level, 26 is not an outlier.

Dixon's Outlier Test for CCR1 (chloride)

Total N = 13

Number NDs = 0

Number Detects = 13

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 12 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.443

For 10% significance level, 12 is not an outlier.

For 5% significance level, 12 is not an outlier.

For 1% significance level, 12 is not an outlier.

2. Data Value 3.9 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.309

For 10% significance level, 3.9 is not an outlier.

For 5% significance level, 3.9 is not an outlier.

For 1% significance level, 3.9 is not an outlier.

Dixon's Outlier Test for CCR1 (fluoride)

Total N = 13

Number NDs = 12

Number Detects = 1

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 0.07 is a Potential Outlier (Upper Tail)?

Test Statistic: 1.000

For 10% significance level, 0.07 is an outlier.

For 5% significance level, 0.07 is an outlier.

For 1% significance level, 0.07 is an outlier.

2. Data Value 0.016 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

Dixon's Outlier Test for CCR1 (ph)

Total N = 13

Number NDs = 0

Number Detects = 13

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 5.13 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.242

For 10% significance level, 5.13 is not an outlier.

For 5% significance level, 5.13 is not an outlier.

For 1% significance level, 5.13 is not an outlier.

2. Data Value 4.78 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.091

For 10% significance level, 4.78 is not an outlier.

For 5% significance level, 4.78 is not an outlier.

For 1% significance level, 4.78 is not an outlier.

Dixon's Outlier Test for CCR1 (sulfate)

Total N = 13

Number NDs = 1

Number Detects = 12

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 66 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.216

For 10% significance level, 66 is not an outlier.

For 5% significance level, 66 is not an outlier.

For 1% significance level, 66 is not an outlier.

2. Data Value 0.7 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.674

For 10% significance level, 0.7 is an outlier.

For 5% significance level, 0.7 is an outlier.

For 1% significance level, 0.7 is an outlier.

Dixon's Outlier Test for CCR1 (tds)

Total N = 13

Number NDs = 0

Number Detects = 13

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 210 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 210 is an outlier.

For 5% significance level, 210 is not an outlier.

For 1% significance level, 210 is not an outlier.

2. Data Value 78 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.608

For 10% significance level, 78 is an outlier.

For 5% significance level, 78 is an outlier.

For 1% significance level, 78 is not an outlier.

Theil-Sen Trend Test Analysis

User Selected Options
Date/Time of Computation ProUCL 5.111/9/2017 2:30:16 PM
From File LE_AppIII_Background2.xls
Full Precision OFF
Average Replicates Replicates at sampling events will be averaged!
Confidence Coefficient 0.95
Level of Significance 0.05

CCR1-calcium

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	13
Number of Replicates	0
Minimum	26
Maximum	32
Mean	28.23
Geometric Mean	28.15
Median	27
Standard Deviation	2.204
Coefficient of Variation	0.0781

Mann-Kendall Statistics

M-K Test Value (S)	19
Tabulated p-value	0.153
Standard Deviation of S	15.95
Standardized Value of S	1.129
Approximate p-value	0.13

Approximate inference for Theil-Sen Trend Test

Number of Slopes	78
Theil-Sen Slope	0.0414
Theil-Sen Intercept	25.93
M1	23.37
M2	54.63
95% LCL of Slope (0.025)	-0.0293
95% UCL of Slope (0.975)	0.156

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	27	25.93	1.073
2	5.959	26	26.17	-0.174
3	9.847	27	26.33	0.665
4	12.91	26	26.46	-0.462
5	18.9	26	26.71	-0.71
6	22.9	30	26.88	3.124
7	25.9	31	27	4
8	31.9	32	27.25	4.751
9	35.9	29	27.41	1.586
10	40.9	26	27.62	-1.621
11	44.76	31	27.78	3.219
12	48.82	27	27.95	-0.95
13	53.69	29	28.15	0.848

CCR1-chloride

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	13
Number of Replicates	0
Minimum	3.9
Maximum	12
Mean	7.346
Geometric Mean	7.036
Median	7.4
Standard Deviation	2.221
Coefficient of Variation	0.302

Mann-Kendall Statistics

M-K Test Value (S)	14
Tabulated p-value	0.218
Standard Deviation of S	16.33
Standardized Value of S	0.796
Approximate p-value	0.213

Approximate inference for Theil-Sen Trend Test

Number of Slopes	78
Theil-Sen Slope	0.0603
Theil-Sen Intercept	5.838
M1	23
M2	55
95% LCL of Slope (0.025)	-0.0396
95% UCL of Slope (0.975)	0.142

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	5.9	5.838	0.0617
2	5.959	6.4	6.198	0.202
3	9.847	5.6	6.432	-0.832
4	12.91	5.6	6.617	-1.017
5	18.9	7.4	6.978	0.422
6	22.9	8.8	7.219	1.581
7	25.9	8.9	7.4	1.5
8	31.9	9.4	7.762	1.638
9	35.9	8.8	8.003	0.797
10	40.9	12	8.305	3.695
11	44.76	3.9	8.537	-4.637
12	48.82	5	8.782	-3.782
13	53.69	7.8	9.076	-1.276

CCR1-ph

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	13
Number of Replicates	0
Minimum	4.78
Maximum	5.13
Mean	4.941
Geometric Mean	4.94
Median	4.95
Standard Deviation	0.116
Coefficient of Variation	0.0236

Mann-Kendall Statistics

M-K Test Value (S)	-53
Tabulated p-value	0
Standard Deviation of S	16.28
Standardized Value of S	-3.194
Approximate p-value	7.0077E-4

Approximate inference for Theil-Sen Trend Test

Number of Slopes	78
Theil-Sen Slope	-0.0055
Theil-Sen Intercept	5.092
M2'	52.39
One-sided 95% upper limit of Slope	-0.00364
95% LCL of Slope (0.025)	-0.00825
95% UCL of Slope (0.975)	-0.00319

Statistically significant evidence of a decreasing trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	5.11	5.092	0.0175
2	5.959	5.05	5.06	-0.00968
3	9.847	5	5.038	-0.0383
4	12.91	4.99	5.021	-0.0315
5	18.9	4.89	4.989	-0.0985
6	22.9	4.95	4.967	-0.0165
7	25.9	5.13	4.95	0.18
8	31.9	4.95	4.917	0.033
9	35.9	4.95	4.895	0.055
10	40.9	4.82	4.867	-0.0475
11	44.76	4.78	4.846	-0.0663
12	48.82	4.81	4.824	-0.0139
13	53.69	4.8	4.797	0.0029

CCR1-sulfate

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	13
Number of Replicates	0
Minimum	1.4
Maximum	66
Mean	47.11
Geometric Mean	37.95
Median	50
Standard Deviation	16.55
Coefficient of Variation	0.351

Mann-Kendall Statistics

M-K Test Value (S)	8
Tabulated p-value	0.338
Standard Deviation of S	16.39
Standardized Value of S	0.427
Approximate p-value	0.335

Approximate inference for Theil-Sen Trend Test

Number of Slopes	78
Theil-Sen Slope	0.128
Theil-Sen Intercept	46.68
M1	22.94
M2	55.06
95% LCL of Slope (0.025)	-0.377
95% UCL of Slope (0.975)	0.564

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	46	46.68	-0.683
2	5.959	50	47.45	2.554
3	9.847	55	47.94	7.056
4	12.91	29	48.34	-19.34
5	18.9	54	49.1	4.897
6	22.9	62	49.62	12.38
7	25.9	1.4	50	-48.6
8	31.9	58	50.77	7.231
9	35.9	52	51.28	0.719
10	40.9	48	51.92	-3.921
11	44.76	42	52.42	-10.42
12	48.82	49	52.94	-3.936
13	53.69	66	53.56	12.44

CCR1-tds

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	13
Number of Replicates	0
Minimum	78
Maximum	210
Mean	149.1
Geometric Mean	145.8
Median	140
Standard Deviation	30.51
Coefficient of Variation	0.205

Mann-Kendall Statistics

M-K Test Value (S)	-23
Tabulated p-value	0.102
Standard Deviation of S	15.84
Standardized Value of S	-1.389
Approximate p-value	0.0825

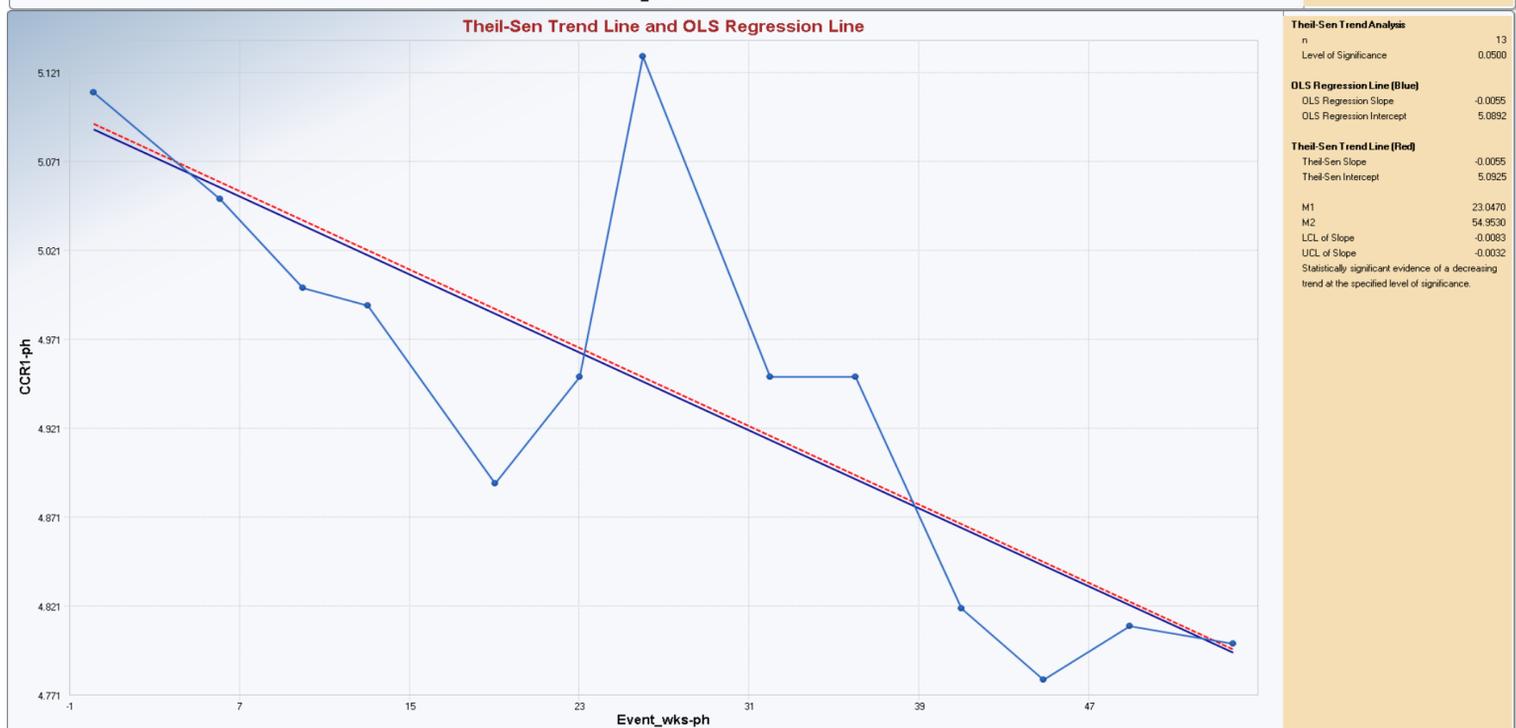
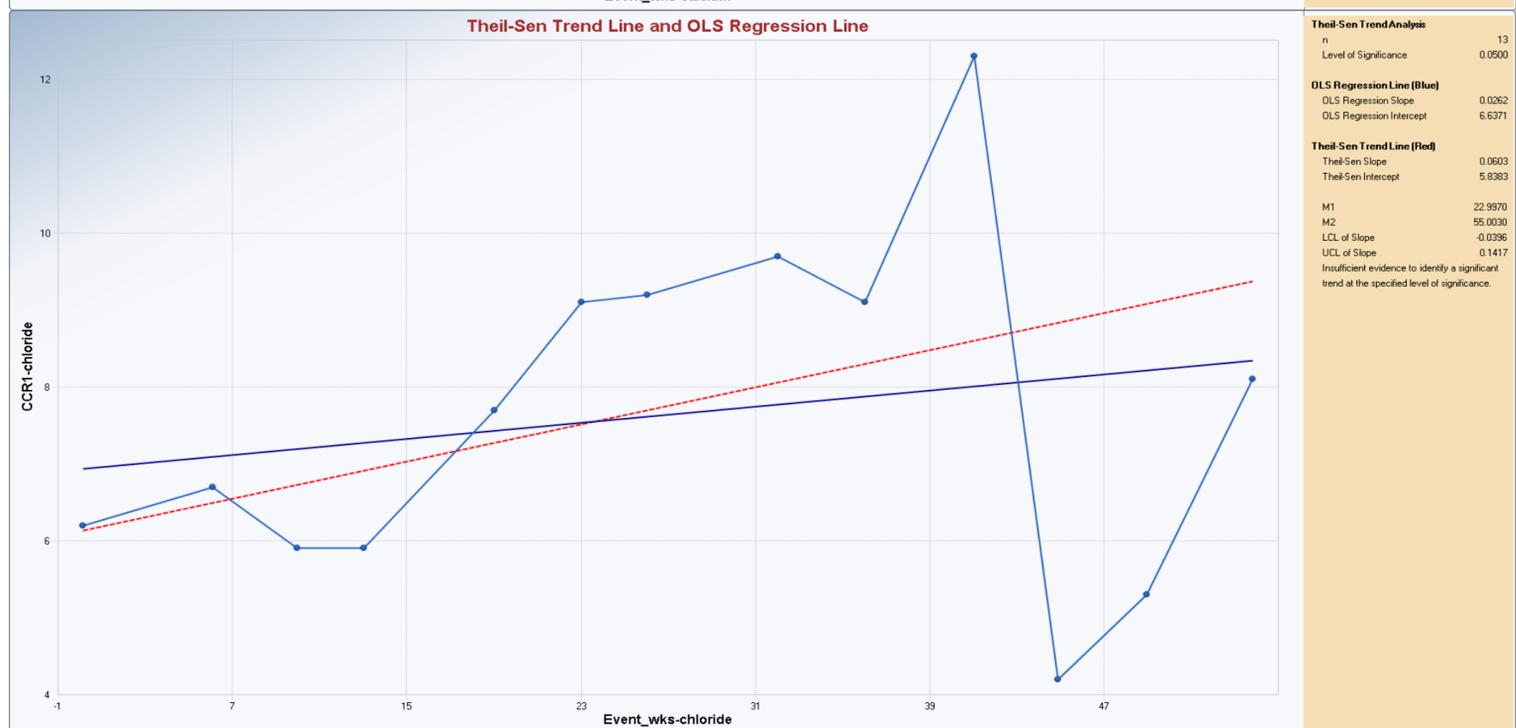
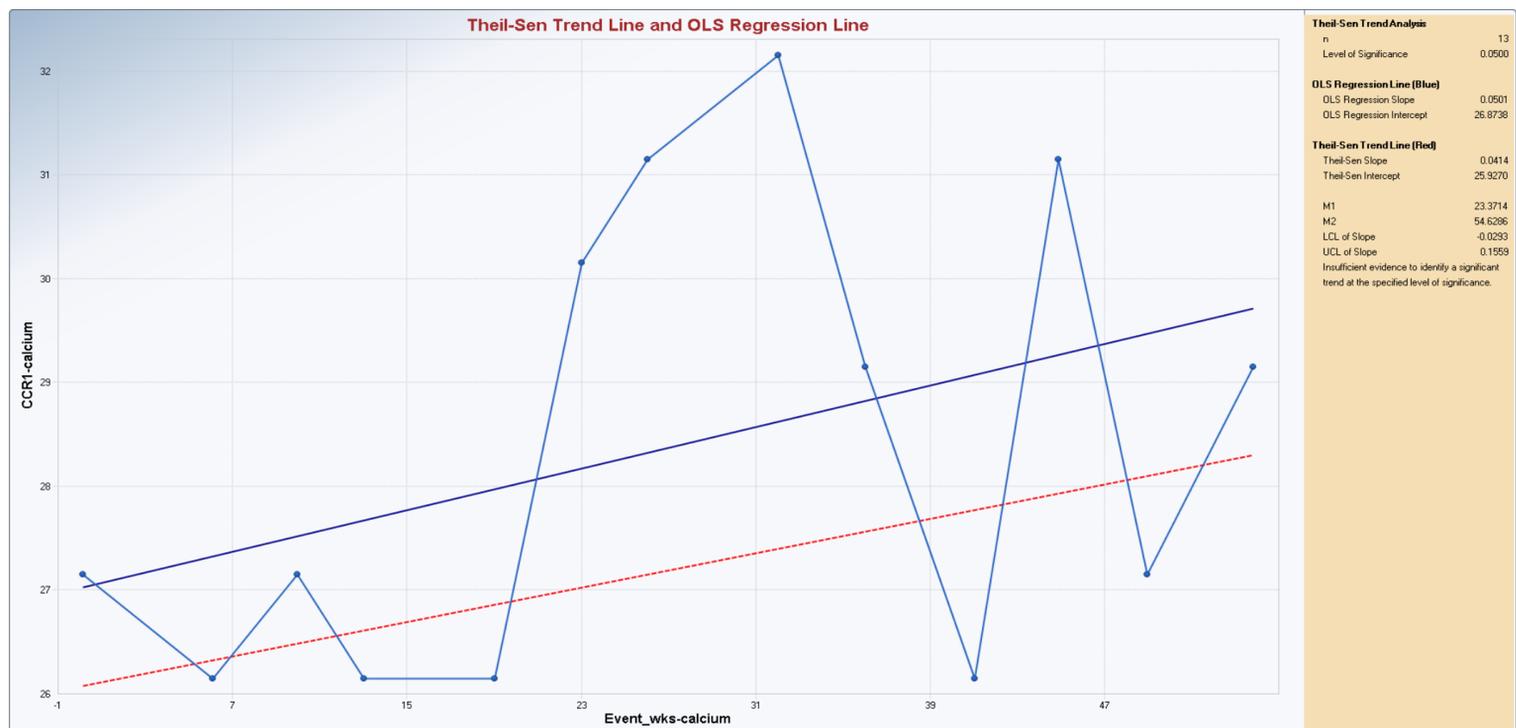
Approximate inference for Theil-Sen Trend Test

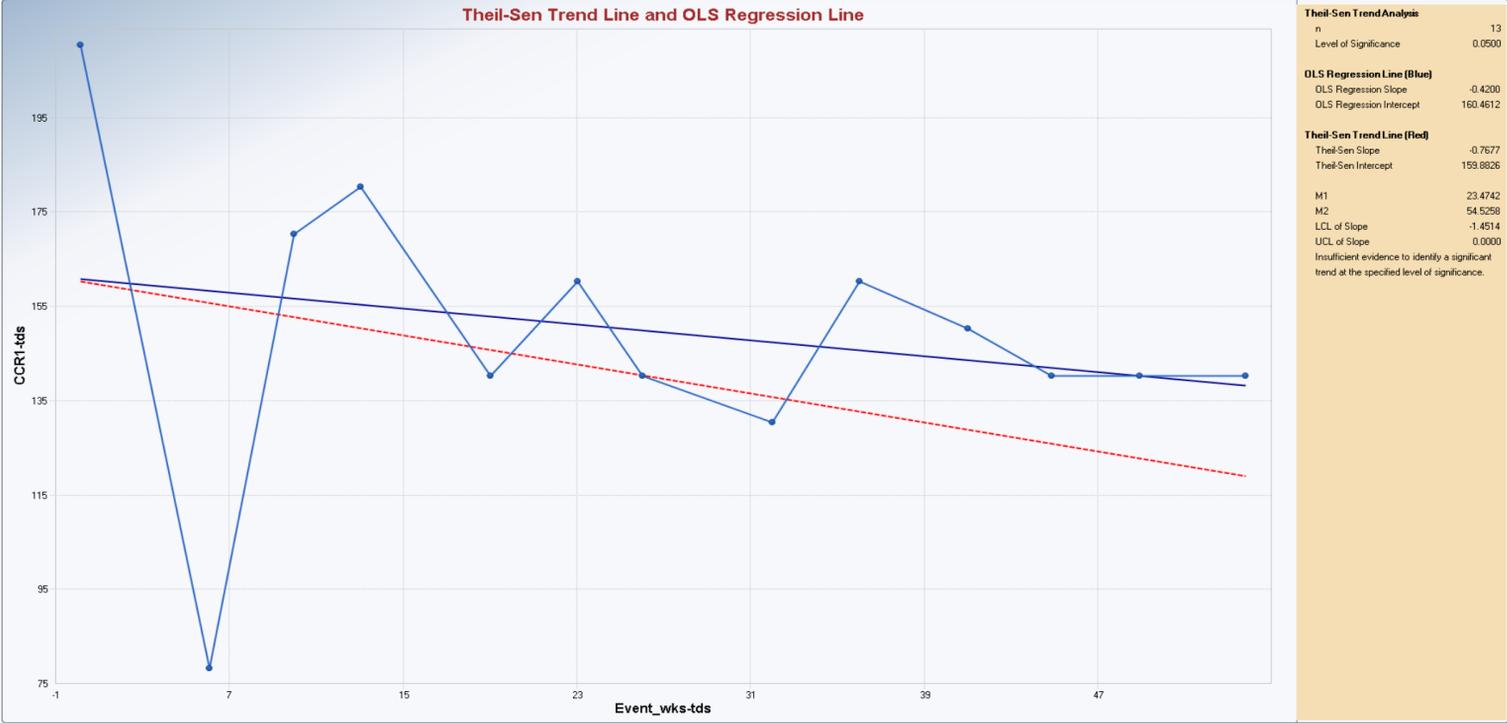
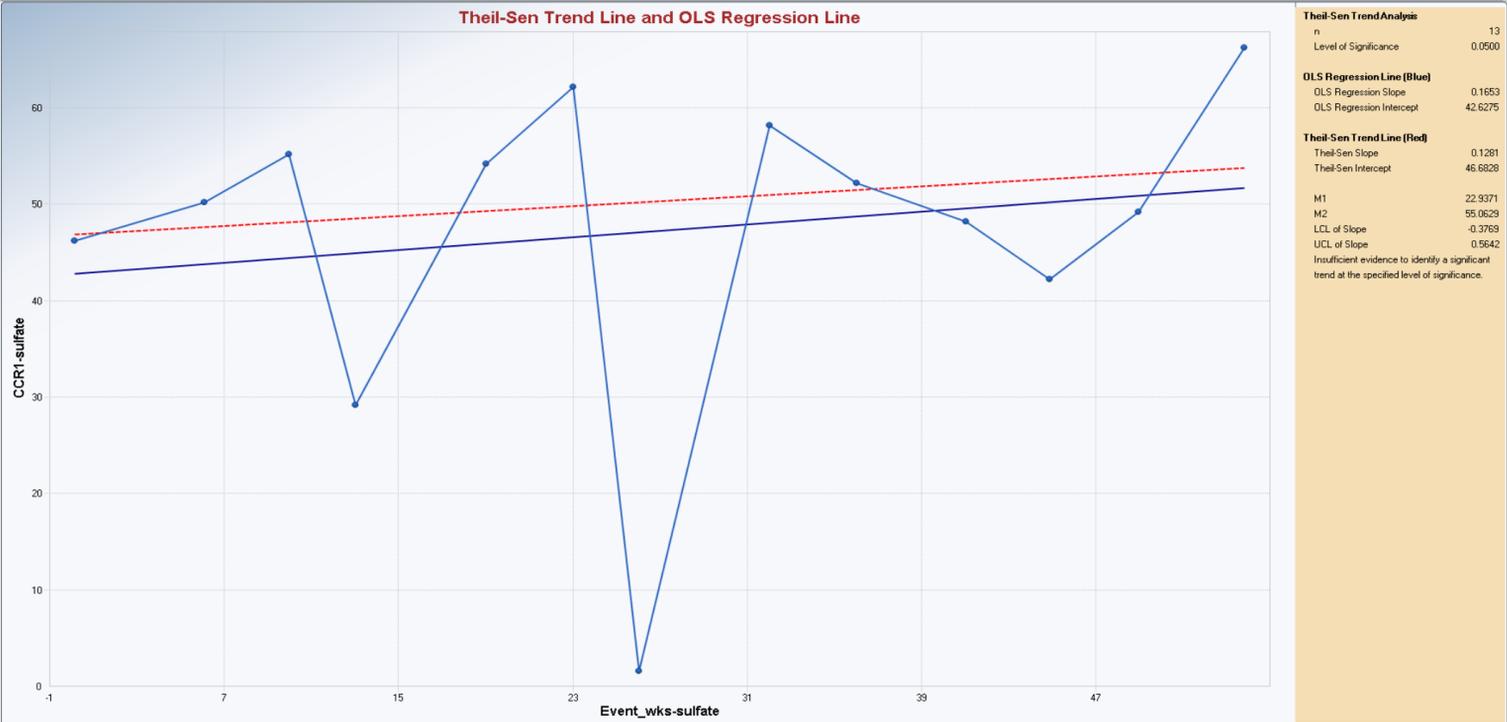
Number of Slopes	78
Theil-Sen Slope	-0.768
Theil-Sen Intercept	159.9
M1	23.47
M2	54.53
95% LCL of Slope (0.025)	-1.451
95% UCL of Slope (0.975)	0

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	210	159.9	50.12
2	5.959	78	155.3	-77.31
3	9.847	170	152.3	17.68
4	12.91	180	150	30.03
5	18.9	140	145.4	-5.374
6	22.9	160	142.3	17.7
7	25.9	140	140	0
8	31.9	130	135.4	-5.394
9	35.9	160	132.3	27.68
10	40.9	150	128.5	21.52
11	44.76	140	125.5	14.48
12	48.82	140	122.4	17.6
13	53.69	140	118.7	21.34





Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

Date/Time of Computation ProUCL 5.111/9/2017 2:41:04 PM
 From File LE_AppIII_Background_grp.xls
 Full Precision OFF
 Confidence Coefficient 0.95

Result (boron)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	26	0	26	24	2	7.69%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	2	0.021	0.021	0.021	0.021	0
Statistics (Non-Detects Only)	24	0.022	0.056	0.0365	0.0355	0.0101
Statistics (All: NDs treated as DL value)	26	0.021	0.056	0.0353	0.035	0.0105
Statistics (All: NDs treated as DL/2 value)	26	0.0105	0.056	0.0345	0.035	0.012
Statistics (Normal ROS Imputed Data)	26	0.0105	0.056	0.0347	0.035	0.0117
Statistics (Gamma ROS Imputed Data)	26	0.0149	0.056	0.0349	0.035	0.0111
Statistics (Lognormal ROS Imputed Data)	26	0.0172	0.056	0.0351	0.035	0.0109
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	13.8	12.1	0.00265	-3.347	0.278	-0.083
Statistics (NDs = DL)	11.75	10.42	0.00301	-3.387	0.301	-0.0889
Statistics (NDs = DL/2)	6.979	6.2	0.00494	-3.44	0.423	-0.123
Statistics (Gamma ROS Estimates)	9.615	8.531	0.00363	-3.407	0.341	-0.1
Statistics (Lognormal ROS Estimates)	--	--	--	-3.398	0.322	-0.0947

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.982	0.979	0.99	0.993
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)	
Shapiro-Wilk (Detects Only)	0.951	0.916	Data Appear Normal	
Shapiro-Wilk (NDs = DL)	0.943	0.92	Data Appear Normal	
Shapiro-Wilk (NDs = DL/2)	0.972	0.92	Data Appear Normal	
Shapiro-Wilk (Normal ROS Estimates)	0.98	0.92	Data Appear Normal	
Lilliefors (Detects Only)	0.11	0.177	Data Appear Normal	
Lilliefors (NDs = DL)	0.102	0.17	Data Appear Normal	
Lilliefors (NDs = DL/2)	0.0843	0.17	Data Appear Normal	
Lilliefors (Normal ROS Estimates)	0.0856	0.17	Data Appear Normal	

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

Date/Time of Computation ProUCL 5.111/9/2017 2:18:21 PM
From File LE_AppIII_Background2.xls
Full Precision OFF
Confidence Coefficient 0.95

CCR1 (calcium)

Raw Statistics

Number of Valid Observations	13
Number of Distinct Observations	6
Minimum	26
Maximum	32
Mean of Raw Data	28.23
Standard Deviation of Raw Data	2.204
Khat	180.9
Theta hat	0.156
Kstar	139.2
Theta star	0.203
Mean of Log Transformed Data	3.338
Standard Deviation of Log Transformed Data	0.0771

Normal GOF Test Results

Correlation Coefficient R	0.941
Shapiro Wilk Test Statistic	0.863
Shapiro Wilk Critical (0.05) Value	0.866
Approximate Shapiro Wilk P Value	0.0612
Lilliefors Test Statistic	0.25
Lilliefors Critical (0.05) Value	0.234

Data not Normal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Signifi

CCR1 (chloride)

Raw Statistics

Number of Valid Observations	13
Number of Distinct Observations	11
Minimum	3.9
Maximum	12
Mean of Raw Data	7.346
Standard Deviation of Raw Data	2.221
Khat	11.76
Theta hat	0.624
Kstar	9.101
Theta star	0.807
Mean of Log Transformed Data	1.951
Standard Deviation of Log Transformed Data	0.309

Normal GOF Test Results

Correlation Coefficient R	0.979
Shapiro Wilk Test Statistic	0.96
Shapiro Wilk Critical (0.05) Value	0.866
Approximate Shapiro Wilk P Value	0.705
Lilliefors Test Statistic	0.128
Lilliefors Critical (0.05) Value	0.234

Data appear Normal at (0.05) Significance Level

CCR1 (ph)

Raw Statistics

Number of Valid Observations	13
Number of Distinct Observations	11
Minimum	4.78
Maximum	5.13
Mean of Raw Data	4.941
Standard Deviation of Raw Data	0.116
Khat	1956
Theta hat	0.00253
Kstar	1504
Theta star	0.00328
Mean of Log Transformed Data	1.597
Standard Deviation of Log Transformed Data	0.0235

Normal GOF Test Results

Correlation Coefficient R	0.977
Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical (0.05) Value	0.866
Approximate Shapiro Wilk P Value	0.521
Lilliefors Test Statistic	0.158
Lilliefors Critical (0.05) Value	0.234

Data appear Normal at (0.05) Significance Level

CCR1 (sulfate)

Raw Statistics

Number of Valid Observations	12
Number of Missing Observations	1
Number of Distinct Observations	12
Minimum	29
Maximum	66
Mean of Raw Data	50.92
Standard Deviation of Raw Data	9.653
Khat	26.38
Theta hat	1.93
Kstar	19.84
Theta star	2.566
Mean of Log Transformed Data	3.911
Standard Deviation of Log Transformed Data	0.213

Normal GOF Test Results

Correlation Coefficient R	0.972
Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical (0.05) Value	0.859
Approximate Shapiro Wilk P Value	0.613
Lilliefors Test Statistic	0.139
Lilliefors Critical (0.05) Value	0.243

Data appear Normal at (0.05) Significance Level

CCR1 (tds)

Raw Statistics

Number of Valid Observations	13
Number of Distinct Observations	8
Minimum	78
Maximum	210
Mean of Raw Data	149.1
Standard Deviation of Raw Data	30.51
Khat	22.68
Theta hat	6.573
Kstar	17.5
Theta star	8.52
Mean of Log Transformed Data	4.982
Standard Deviation of Log Transformed Data	0.229

Normal GOF Test Results

Correlation Coefficient R	0.937
Shapiro Wilk Test Statistic	0.909
Shapiro Wilk Critical (0.05) Value	0.866
Approximate Shapiro Wilk P Value	0.106
Lilliefors Test Statistic	0.229
Lilliefors Critical (0.05) Value	0.234

Data appear Normal at (0.05) Significance Level