



REPORT

2021 First Semiannual Groundwater Monitoring Report

Class 2 Landfill North CAMU - 1st and 2nd Quarter Events

Frisco Community Development Corporation Site

7471 Old 5th Street, Frisco, Texas

TCEQ SWR No. 30516

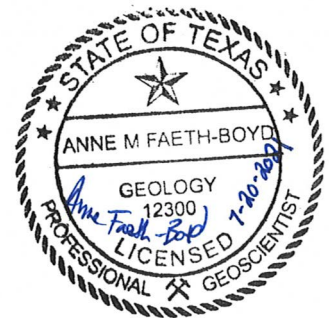
Submitted to:

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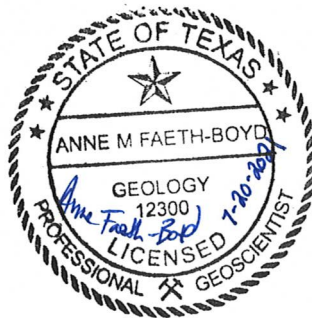
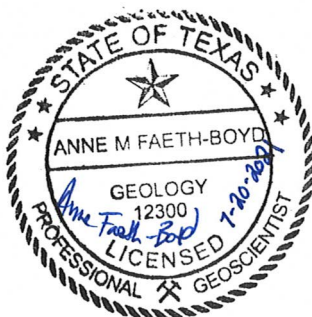


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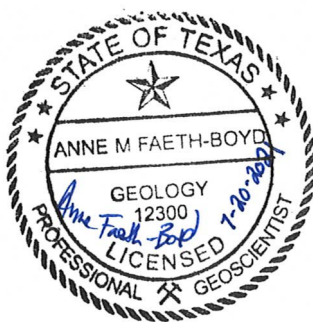
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FIGURES

Figure 1	Site Location Map
Figure 2	Monitoring Well Location Map
Figure 3	Potentiometric Surface Map – First Quarter 2021
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APPENDICES

Appendix A	Monitoring Well Inspection Forms
Appendix B	Groundwater Sampling Forms
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1.0 INTRODUCTION

Golder Associates Inc. (Golder) is pleased to submit this report summarizing first and second quarter 2021 groundwater monitoring activities for the Class 2 Landfill North Corrective Action Management Unit (hereafter, the Landfill or North CAMU) located at the Frisco Community Development Corporation (Frisco CDC) Site located at 7471 Old 5th Street, Frisco, Collin County, Texas (Site). This report summarizes groundwater sampling methods, laboratory analyses and results for groundwater monitoring which was conducted in general accordance with the Revised Class 2 Landfill Groundwater Monitoring Plan (Monitoring Plan), by Pastor, Behling & Wheeler, dated July 31, 2013 [1], the Texas Commission on Environmental Quality (TCEQ) Approval with Modifications, dated April 4, 2014 [2] and subsequent correspondence with the TCEQ.

1.1 Site Description

A location map of the Landfill is provided as Figure 1. The locations of the groundwater monitoring wells in the Landfill vicinity are shown on Figure 2. Initial notification for construction of an on-site Class 2 industrial landfill, including engineering plans and a landfill operations plan, was provided to the Texas Natural Resource Conservation Commission (TNRCC) by GNB Technologies, Inc. in August 1995. TNRCC acknowledgement of receipt and review of the notification was provided in a September 14, 1995, letter. Landfill construction commenced thereafter and Site records indicate that the Landfill operations began in 1996. The Landfill currently consists of fifteen cells, nine of which (cells 1 through 9) have been closed and capped. The closed cells of the Landfill consist of treated slag monofills [1]. The active cells of the Landfill currently contain treated slag, but also contain Class 2 wastes generated during the demolition and remediation activities at the Site [1] and remediation activities at the Undeveloped Buffer Property (UBP) initiated in early 2017. In June 2018, a temporary cover was installed at the Landfill following completion of remediation activities at the UBP.

1.2 Uppermost Groundwater-Bearing Unit

The uppermost groundwater bearing unit (GWBU) in the vicinity of the Landfill consists of clay-rich alluvial soils of Quaternary age situated unconformably above the Eagle Ford Formation [1]. As indicated in boring logs for the groundwater monitoring wells surrounding the Landfill, the Eagle Ford Formation occurs at depths ranging from approximately 14 to 24 feet below ground surface (bgs). Groundwater within the upper GWBU generally occurs under unconfined conditions at depths between approximately 10 and 25 feet bgs. Monitoring well locations are shown on Figure 2.

1.3 Monitoring Well System

The current monitoring well network for the Landfill consists of eleven monitoring wells. Based on the groundwater potentiometric surfaces shown on Figure 3 and Figure 4 and the projected groundwater flow paths near the Landfill, the Landfill groundwater monitoring network can be classified as follows:

- Up-gradient monitoring wells: PMW-19R and MW-45
- Cross-gradient monitoring wells: LMW-8 and LMW-9R
- Down-gradient monitoring wells: LMW-5, LMW-17, PMW-20R, LMW-21, LMW-22, MW-41, and MW-47

Well construction information for these wells is summarized in Table 1 and Table 2.

2.0 FIELD SAMPLING ACTIVITIES

2.1 Groundwater Sampling

Eleven monitoring wells included in the Landfill monitoring well network, MW-45, PMW-19R, LMW-9R, LMW-8, LMW-17, LMW-22, LMW-5, LMW-21, PMW-20R, MW-41 and MW-47 were sampled during the first and second quarter sampling events.

Prior to sampling, monitoring wells were inspected and the condition of the protective covers, concrete pads, riser pipes and well caps were recorded on monitoring well inspection forms, which are included in Appendix A. Next, monitoring well depths to water and total well depths were noted on field forms which are summarized on Table 1 for the first quarter event and Table 2 for the second quarter event. The electronic water level probe was decontaminated with Alconox® solution and a distilled water rinse prior to use and between sampling at each monitoring well.

The monitoring wells were then purged until stabilization parameters (temperature, pH and specific conductivity) were within 10% on three consecutive readings or three well volumes had been removed from the monitoring well. Monitoring wells were purged using a peristaltic pump and new polyethylene tubing at each sample location. A flow rate of less than 0.4 liters per minute was sustained during purging.

After purging was completed, groundwater samples were collected using a peristaltic pump with new polyethylene tubing. Groundwater sampled for dissolved metals analysis was field filtered using disposable (one-time use) 0.45-micron filters and transferred into laboratory-supplied containers pre-preserved with nitric acid. Groundwater sampled for total metals analysis was collected into laboratory-supplied containers pre-preserved with nitric acid directly from the pump discharge tubing. One duplicate sample and one matrix spike/matrix spike duplicate (MS/MSD) sample was collected for Quality Assurance/Quality Control (QA/QC) during the sampling events.

After collection in the field, groundwater and QA/QC samples were labeled with the sample identification number, requested analysis, collection date and sampler's initials and placed on ice in a cooler and shipped by Golder under chain-of-custody protocol via FedEx overnight transport to the ALS Environmental Laboratory (ALS) in Houston, Texas for analysis of dissolved and total metals by USEPA SW-846 Method 6020A and USEPA SW-846 Method 7470A. Antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc were reported for the first quarter sampling event. Arsenic, cadmium, lead, and selenium were reported for the second quarter sampling event.

Purged groundwater and decontamination water were containerized in 55-gallon steel drums and staged as directed by City of Frisco personnel. Approximately 13.4 and 11.3 gallons of purged groundwater were containerized during the first and second quarter events, respectively. The monitoring wells were locked prior to demobilization from the Site.

2.2 Well Inspection and Purging Summary

2.2.1 First Quarter Event (March 2021)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either March 4th or March 5th as described in Section 2.1. Each monitoring well was found locked upon arrival. At the time of sampling, the weather was sunny and daytime temperatures in the sixties degrees Fahrenheit. During the March sampling event, monitoring wells PMW-19R, LMW-17, LMW-5, LMW-21, and MW-41 stabilized within four parameter

readings and monitoring wells MW-45, PMW-20R, MW-47, LMW-9R, LMW-8, and LMW-22 stabilized within five parameter readings.

2.2.2 Second Quarter Event (May 2021)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either June 1st or June 2nd as described in Section 2.1. Each monitoring well was found locked upon arrival. At the time of sampling, the weather was sunny with daytime high temperatures in the sixties and seventies degrees Fahrenheit. During the June sampling event, monitoring wells MW-41, LMW-21, LMW-5, LMW-17, and PMW-19R stabilized within four parameter readings and monitoring wells LMW-22, LMW-9R, MW-47, PMW-20R, LMW-8, and MW-45 stabilized within five parameter readings. All wells and well pads appeared to be in good condition at the time of sampling.

3.0 RESULTS

3.1 Groundwater Flow

Monitoring well water level data for the first and second quarter events are summarized in Table 1 and Table 2, respectively. In the Landfill area, the potentiometric surfaces shown on Figures 3 and 4 generally slope toward the southwest at a gradient of approximately 0.03 to 0.04 feet per foot (ft/ft). The groundwater levels and gradients measured during the first and second quarter sampling events are generally consistent with past groundwater monitoring events.

3.2 Analytical Results

Analytical results are summarized in Table 3 (first quarter event) and Table 4 (second quarter event) and laboratory reports are included in Appendix C. The laboratory analytical results for dissolved metals and total metals were below the applicable Residential Assessment Levels (RALs) or Protective Concentration Levels (PCLs).

3.3 QA/QC Samples

The laboratory analytical results for the duplicates are presented in Table 3 and Table 4 for the first and second quarter events, respectively.

3.4 Data Validation

Golder completed a review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in the data usability summary (DUS) which is included as Appendix D. No results required rejection of data.

4.0 CLOSING

Golder appreciates the opportunity to serve as your consultant on this project. If you have any questions concerning this report or need additional information, please contact the undersigned at 314-984-8800.

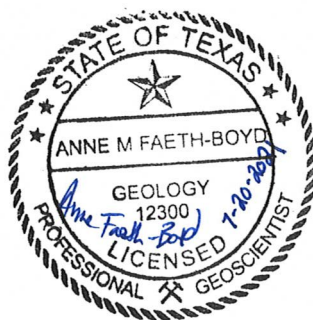
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EPF/AMF

5.0 REFERENCES

- [1] Pastor, Behling & Wheeler, LLC. (July 31, 2013). *Revised Class 2 Landfill Groundwater Monitoring Plan*.
- [2] Texas Commission on Environmental Quality (April 4, 2014). *Approval with Modifications, Class 2 Landfill Groundwater Monitoring Plan, dated July 31, 2013*.

Tables

TABLE 1
FIRST QUARTER 2021
SUMMARY OF MONITORING WELL DATA
 NORTH CAMU
 FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
 FRISCO, TEXAS

Well ID	Date Drilled	Ground Surface Elevation ¹ (feet AMSL)	Top of Casing Elevation ¹ (feet AMSL)	Depth to Water (feet BTOC)	Groundwater Elevation ² (feet AMSL)	Depth of Well (feet BTOC)	Screened Interval (feet BGS)	Well Diameter (inches)	Water Column Length (feet)	Well Casing Volume ³ (gallons)	Actual Volume Purged (gallons)
MW-45	1/14/2014	657.90	660.86	12.58	648.28	22.57	10 - 20	2	9.99	1.6	1.25
PMW-19R	2/26/2013	678.45	681.79	13.51	668.28	22.70	4 - 19	2	9.19	1.5	0.8
LMW-9R	3/1/2016	661.39	664.31	5.04	659.27	32.91	15 - 30	2	27.87	4.5	1.25
LMW-8	2/4/1995	645.57	648.72	13.92	634.80	24.05	7 - 21.5	2	10.13	1.7	1.00
LMW-22	2/27/2013	643.32	646.99	13.74	633.25	23.15	5 - 20	2	9.41	1.5	1.25
LMW-17	7/24/1995	646.34	648.70	15.33	633.37	25.44	10 - 20	4	10.11	6.6	1.20
LMW-5	2/3/1995	643.27	646.07	13.06	633.01	25.25	7 - 21.5	2	12.19	2.0	1.20
LMW-21	2/27/2013	645.12	648.28	15.11	633.17	28.08	10 - 25	2	12.97	2.1	1.20
PMW-20R	2/26/2013	645.20	648.09	14.71	633.38	28.25	10 - 25	2	13.54	2.2	1.50
MW-41	1/14/2014	639.17	642.17	10.09	632.08	19.15	6 - 16	2	9.06	1.5	1.20
MW-47	5/2/2017	635.65	638.28	4.83	633.45	17.93	7.5 - 15	2	13.10	2.1	1.50
MW-42	1/14/2014	638.71	642.24	6.88	635.36	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	10.22	637.02	NS	10-20	2	NS	NS	NS

Notes

¹ - Ground surface elevations and top of casing elevations were surveyed in 2013 & 2014 by Sparr Surveys of McKinney, Texas.

Ground surface elevation and top of casing elevation for LMW-9R was surveyed on March 7, 2016 by Brittain & Crawford, LLC of Fort Worth, Texas.

Ground surface elevations and top of casing elevations for MW-47 and MW-41 were surveyed on June 13, 2017 by Brittain & Crawford, LLC of Fort Worth, Texas.

² - Groundwater elevation obtained by subtracting the depth to water from the top of casing elevation.

³ - Well casing volume = $\frac{\pi D^2}{4} * 7.5 * \text{Water Column Height}$, where 7.5 is a factor conversion from cubic feet to gallons, and D is the diameter of the casing.

Groundwater levels measured on March 4, 2021.

AMSL - above mean sea level

BTOC - below top of casing

BGS - below ground surface

NS - not sampled

CAMU - Corrective Action Management Unit

Prepared by: SNR 03/19/2021

Checked by: EPF 03/25/2021

Reviewed by: AMF 07/13/2021

TABLE 2
SECOND QUARTER 2021
SUMMARY OF MONITORING WELL DATA
 NORTH CAMU
 FRISCO COMMUNITY DEVELOPMENT SITE
 FRISCO, TEXAS

Well ID	Date Drilled	Ground Surface Elevation ¹ (feet AMSL)	Top of Casing Elevation ¹ (feet AMSL)	Depth to Water (feet BTOC)	Groundwater Elevation ² (feet AMSL)	Depth of Well (feet BTOC)	Screened Interval (feet BGS)	Well Diameter (inches)	Water Column Length (feet)	Well Casing Volume ³ (gallons)	Actual Volume Purged (gallons)
MW-45	1/14/2014	657.90	660.86	11.03	649.83	22.58	10 - 20	2	11.55	1.9	1.25
PMW-19R	2/26/2013	678.45	681.79	5.76	676.03	22.70	4 - 19	2	16.94	2.8	0.8
LMW-9R	3/1/2016	661.39	664.31	4.09	660.22	32.90	15 - 30	2	28.81	4.7	1.0
LMW-8	2/4/1995	645.57	648.72	11.29	637.43	24.05	7 - 21.5	2	12.76	2.1	1.0
LMW-22	2/27/2013	643.32	646.99	10.71	636.28	32.15	5 - 20	2	21.44	3.5	2.0
LMW-17	7/24/1995	646.34	648.70	12.61	636.09	25.45	10 - 20	4	12.84	8.4	0.8
LMW-5	2/3/1995	643.27	646.07	9.61	636.46	25.25	7 - 21.5	2	15.64	2.6	0.8
LMW-21	2/27/2013	645.12	648.28	11.41	636.87	28.09	10 - 25	2	16.68	2.7	0.8
PMW-20R	2/26/2013	645.20	648.09	10.82	637.27	28.25	10 - 25	2	17.43	2.8	1.0
MW-41	1/14/2014	639.17	642.17	7.92	634.25	19.15	6 - 16	2	11.23	1.8	0.8
MW-47	5/2/2017	635.65	638.28	3.16	635.12	17.93	7.5 - 15	2	14.77	2.4	1.0
MW-42	1/14/2014	638.71	642.24	5.97	636.27	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	8.02	639.22	NS	10-20	2	NS	NS	NS

Notes

¹ - Ground surface elevations and top of casing elevations were surveyed in 2013 & 2014 by Sparr Surveys of McKinney, Texas.

Ground surface elevation and top of casing elevation for LMW-9R was surveyed on March 7, 2016 by Brittain & Crawford, LLC of Fort Worth, Texas.

Ground surface elevations and top of casing elevations for MW-47 and MW-41 were surveyed on June 13, 2017 by Brittain & Crawford, LLC of Fort Worth, Texas.

² - Groundwater elevation obtained by subtracting the depth to water from the top of casing elevation.

³ - Well casing volume = $\frac{\pi D^2}{4} * 7.5 * \text{Water Column Height}$, where 7.5 is a factor conversion from cubic feet to gallons, and D is the diameter of the casing.

Groundwater levels measured on June 1, 2021.

AMSL - above mean sea level

BGS - below ground surface

BTOC - below top of casing

CAMU - Corrective Action Management Unit

NS - not sampled

Prepared by: RSP 06/17/2021

Checked by: EPF 06/22/2021

Reviewed by: AMF 07/13/2021

TABLE 3
FIRST QUARTER 2021
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CLASS 2 LANDFILL NORTH CAMU
FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
FRISCO, TEXAS

Monitoring Well				PMW-20R	SDL	LMW-5	SDL	LMW-21	SDL	MW-45	SDL	MW-41	SDL	PMW-19R	SDL
Lab Sample ID				HS21030422-07		HS21030422-05		HS21030422-06		HS21030422-01		HS21030422-08		HS21030422-02	
Date Sampled				3/4/2021		3/4/2021		3/4/2021		3/4/2021		3/4/2021		3/4/2021	
Time Sampled				15:35		12:00		14:50		9:35		16:10		10:10	
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Antimony	7440-36-0	0.006	0.006	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U	0.000400
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400	0.000492	J	0.000400	0.000441	J	0.000400	0.000451	J	0.000400
Barium	7440-39-3	2	2	0.0534		0.00190	0.0630		0.00190	0.0308		0.00190	0.0422		0.00190
Cadmium	7440-43-9	0.005	0.005	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200
Chromium	7440-47-3	0.1	0.1	0.000400	U	0.000400	0.000526	J	0.000400	0.000508	J	0.000400	0.000400	U	0.000400
Copper	7440-50-8	1.3	1.3	0.00100	U	0.00100	0.00244	J	0.00100	0.00100	U	0.00100	0.00153	J	0.00100
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600	0.00164	J	0.000600	0.000600	U	0.000600	0.00150	J	0.000600
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	0.00110	U	0.00110	0.00374		0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200
Zinc	7440-66-6	7.3	22	0.00246	J	0.00200	0.00397	J	0.00200	0.00200	U	0.00200	0.00202	J	0.00200
Metals (USEPA Method 6020A) Dissolved															
Date Prepared				3/11/2021		3/11/2021		3/11/2021		3/11/2021		3/11/2021		3/11/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Antimony	7440-36-0	0.006	0.006	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U	0.000400	0.000464	U	0.000400
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400	0.000436	J	0.000400	0.000536	J	0.000400	0.000490	J	0.000400
Barium	7440-39-3	2	2	0.0538		0.00190	0.0688		0.00190	0.0332		0.00190	0.0444		0.00190
Cadmium	7440-43-9	0.005	0.005	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200
Chromium	7440-47-3	0.1	0.1	0.000400	U	0.000400	0.000400	U	0.000400	0.000441	J	0.000400	0.000400	U	0.000400
Copper	7440-50-8	1.3	1.3	0.00122	J	0.00100	0.00266	J	0.00100	0.00217		0.00100	0.00179	J	0.00100
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	0.00110	U	0.00110	0.00383		0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200
Zinc	7440-66-6	7.3	22	0.00224	J	0.00200	0.00343	J	0.00200	0.00405		0.00200	0.00200	U	0.00200
Mercury (USEPA Method 7470A)															
Date Prepared				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	0.0000300	U	0.0000300	0.0000300	U	0.0000300	0.0000300	U	0.0000300	0.0000300	U	0.0000300
Mercury (USEPA Method 7470A) Dissolved															
Date Prepared				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	0.0000860	J	0.0000300	0.0000960	J	0.0000300	0.0000920	J	0.0000300	0.0000980	J	0.0000300

Notes
Results in **bold italics** denote detections.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
mg/L - Milligrams per liter.
CAMU - Corrective Action Management Unit.
¹ - The Groundwater Residential Assessment Level (GW RAL) is the TRRP Tier 1 Residential^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.
² - The Groundwater Critical PCL is the TRRP Tier 1 Commercial/Industrial^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.

Flags and Qualifiers
U - Analyte was not detected at or above the Sample Detection Limit (SDL).
J - Result is an estimated value.

Prepared by: SNR 03/19/2021
Checked by: EPF 03/25/2021 SNR 03/26/2021
Reviewed by: AMF 04/02/2021

TABLE 3
FIRST QUARTER 2021
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CLASS 2 LANDFILL NORTH CAMU
FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
FRISCO, TEXAS

Monitoring Well				LMW-9R	SDL	LMW-8	SDL	LMW-17	SDL	LMW-22	SDL	MW-47	SDL	DUP-01	SDL
Lab Sample ID				HS21030422-10		HS21030422-03		HS21030422-04		HS21030422-11		HS21030422-09		HS21030422-12	
Date Sampled				3/5/2021		3/4/2021		3/4/2021		3/5/2021		3/5/2021		3/5/2021	
Time Sampled				8:50		10:50		11:25		9:35		8:10		12:00	
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Antimony	7440-36-0	0.006	0.006	0.004000	U	0.000400	0.000400	0.000400	U	0.000400	0.000700	U	0.000400	0.000400	U
Arsenic	7440-38-2	0.01	0.01	0.00126	J	0.000400	0.000400	0.000430	J	0.000400	0.00312		0.000400	0.000400	U
Barium	7440-39-3	2	2	0.0257		0.00190	0.0624	0.0779		0.00190	0.0628		0.00190	0.0487	
Cadmium	7440-43-9	0.005	0.005	0.000200	U	0.000200	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U
Chromium	7440-47-3	0.1	0.1	0.000510	J	0.000400	0.000400	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U
Copper	7440-50-8	1.3	1.3	0.00393		0.00100	0.00100	0.00150	J	0.00100	0.00145	J	0.00100	0.00100	U
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	0.00136	J	0.00110	0.00110	0.00110	U	0.00110	0.00110	U
Silver	7440-22-4	0.12	0.37	0.000200	U	0.000200	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U
Zinc	7440-66-6	7.3	22	0.00282	J	0.00200	0.00200	0.00200	U	0.00200	0.00216	J	0.00200	0.00200	U
Metals (USEPA Method 6020A) Dissolved															
Date Prepared				3/11/2021		3/11/2021		3/11/2021		3/11/2021		3/11/2021		3/11/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Antimony	7440-36-0	0.006	0.006	0.000400	U	0.000400	0.000400	0.000400	U	0.000400	0.000654	J	0.000400	0.000400	U
Arsenic	7440-38-2	0.01	0.01	0.00152	J	0.000400	0.000434	J	0.000400	0.000448	J	0.000400	0.000400	0.000445	J
Barium	7440-39-3	2	2	0.0307		0.00190	0.0649	0.0846		0.00190	0.0539		0.00190	0.0684	
Cadmium	7440-43-9	0.005	0.005	0.000200	U	0.000200	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U
Chromium	7440-47-3	0.1	0.1	0.000506	J	0.000400	0.000400	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U
Copper	7440-50-8	1.3	1.3	0.00498		0.00100	0.00127	J	0.00100	0.00119	J	0.00100	0.00205		0.00100
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	0.00207		0.00110	0.00110	0.00110	U	0.00110	0.00110	U
Silver	7440-22-4	0.12	0.37	0.000200	U	0.000200	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U
Zinc	7440-66-6	7.3	22	0.00254	J	0.00200	0.00219	J	0.00200	0.00249	J	0.00200	0.00227	J	0.00200
Mercury (USEPA Method 7470A)															
Date Prepared				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	0.0000300	U	0.0000300	0.0000300	0.0000300	U	0.0000300	0.0000300	U	0.0000300	0.0000300	U
Mercury (USEPA Method 7470A) Dissolved															
Date Prepared				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Date Analyzed				3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	0.0000850	J	0.0000300	0.0000970	J	0.0000300	0.0000870	J	0.0000300	0.0000890	J	0.0000300

Notes
Results in ***bold italics*** denote detections.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
mg/L - Milligrams per liter.
CAMU - Corrective Action Management Unit.
¹ - The Groundwater Residential Assessment Level (GW RAL) is the TRRP Tier 1 Residential ^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.
² - The Groundwater Critical PCL is the TRRP Tier 1 Commercial/Industrial ^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.

Flags and Qualifiers
U - Analyte was not detected at or above the Sample Detection Limit (SDL).
J - Result is an estimated value.

Prepared by: SNR 03/19/2021
Checked by: EPF 03/25/2021 SNR 03/26/2021
Reviewed by: AMF 04/02/2021

TABLE 4
SECOND QUARTER 2021
CLASS 2 LANDFILL NORTH CAMU
FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
FRISCO, TEXAS

Monitoring Well				PMW-20R		SDL		LMW-5		SDL		LMW-21		SDL		MW-45		SDL		MW-41		SDL		PMW-19R		SDL	
Lab Sample ID				HS21060194-07				HS21060194-05				HS21060194-06				HS21060194-01				HS21060194-08				HS21060194-02			
Date Sampled				6/1/2021				6/1/2021				6/1/2021				6/1/2021				6/1/2021				6/1/2021			
Time Sampled				14:25				12:45				13:45				9:50				15:00				10:10			
Metals (USEPA Method 6020A) Total Recoverable																											
Date Prepared				6/8/2021				6/8/2021				6/8/2021				6/8/2021				6/8/2021				6/8/2021			
Date Analyzed				6/8/2021				6/8/2021				6/8/2021				6/8/2021				6/8/2021				6/8/2021			
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)			
Antimony	7440-36-0	0.006	0.006	NS				NS				NS				NS				NS				NS			
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400		0.000400	U	0.000400	0.000550	J	0.000400	0.000485	J	0.000400	0.000764	J	0.000400	0.00103	J		0.000400	0.00103	J		0.000400
Barium	7440-39-3	2	2	NS				NS				NS				NS				NS				NS			
Cadmium	7440-43-9	0.005	0.005	0.000200	U	0.000200		0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U
Chromium	7440-47-3	0.1	0.1	NS				NS				NS				NS				NS				NS			
Copper	7440-50-8	1.3	1.3	NS				NS				NS				NS				NS				NS			
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600		0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U
Selenium	7782-49-2	0.05	0.05	0.00157	J	0.00110		0.00110	U	0.00110	0.00526		0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U
Silver	7440-22-4	0.12	0.37	NS				NS				NS				NS				NS				NS			
Zinc	7440-66-6	7.3	22	NS				NS				NS				NS				NS				NS			
Metals (USEPA Method 6020A) Dissolved																											
Date Prepared				6/7/2021				6/7/2021				6/7/2021				6/7/2021				6/7/2021				6/7/2021			
Date Analyzed				6/8/2021				6/8/2021				6/8/2021				6/8/2021				6/8/2021				6/8/2021			
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)			
Antimony	7440-36-0	0.006	0.006	NS				NS				NS				NS				NS				NS			
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400		0.000400	U	0.000400	0.000521	J	0.000400	0.000449	J	0.000400	0.000801	J	0.000400	0.000669	J		0.000400	0.000669	J		0.000400
Barium	7440-39-3	2	2	NS				NS				NS				NS				NS				NS			
Cadmium	7440-43-9	0.005	0.005	0.000200	U	0.000200		0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U	0.000200	0.000200	U
Chromium	7440-47-3	0.1	0.1	NS				NS				NS				NS				NS				NS			
Copper	7440-50-8	1.3	1.3	NS				NS				NS				NS				NS				NS			
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600		0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000600	U
Selenium	7782-49-2	0.05	0.05	0.00161	J	0.00110		0.00110	U	0.00110	0.00525		0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U
Silver	7440-22-4	0.12	0.37	NS				NS				NS				NS				NS				NS			
Zinc	7440-66-6	7.3	22	NS				NS				NS				NS				NS				NS			
Mercury (USEPA Method 7470A)																											
Date Prepared				N/A				N/A				N/A				N/A				N/A				N/A			
Date Analyzed				N/A				N/A				N/A				N/A				N/A				N/A			
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)			
Mercury	7439-97-6	0.002	0.002	NS				NS				NS				NS				NS				NS			
Mercury (USEPA Method 7470A) Dissolved																											
Date Prepared				N/A				N/A				N/A				N/A				N/A				N/A			
Date Analyzed				N/A				N/A				N/A				N/A				N/A				N/A			
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)				(mg/L)			
Mercury	7439-97-6	0.002	0.002	NS				NS				NS				NS				NS				NS			

Notes
Results in ***bold italics*** denote detections.
CAMU - Corrective Action Management Unit.
mg/L - Milligrams per liter.
N/A - Not Applicable.
NS - Not Sampled.
PCL - Protective Concentration Level.
RAL - Residential Assessment Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
USEPA - United States Environmental Protection Agency.
¹ - The Groundwater Residential Assessment Level (GW RAL) is the TRRP Tier 1 Residential^{GW}GW_{Ing} PCL applicable for Class 2 groundwater ingestion.
² - The Groundwater Critical PCL is the TRRP Tier 1 Commercial/Industrial^{GW}GW_{Ing} PCL applicable for Class 2 groundwater ingestion.

Flags and Qualifiers
J - Result is an estimated value.
U - Analyte was not detected at or above the Method Detection Limit (SDL).

Prepared by: RSP 06/15/2021
Checked by: EPF 06/17/2021
Reviewed by: AMF 07/13/2021

TABLE 4
SECOND QUARTER 2021
CLASS 2 LANDFILL NORTH CAMU
FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
FRISCO, TEXAS

Monitoring Well				LMW-9R	SDL	LMW-8	SDL	LMW-17	SDL	LMW-22	SDL	MW-47	SDL	DUP-01	SDL
Lab Sample ID				HS21060194-10		HS21060194-03		HS21060194-04		HS21060194-11		HS21060194-09		HS21060194-12	
Date Sampled				6/2/2021		6/1/2021		6/1/2021		6/2/2021		6/1/2021		6/1/2021	
Time Sampled				7:50		10:55		11:45		9:00		16:15		12:45	
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				6/8/2021		6/8/2021		6/8/2021		6/8/2021		6/8/2021		6/8/2021	
Date Analyzed				6/8/2021		6/8/2021		6/8/2021		6/8/2021		6/8/2021		6/8/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Antimony	7440-36-0	0.006	0.006	NS		NS		NS		NS		NS		NS	
Arsenic	7440-38-2	0.01	0.01	0.000945 J		0.000400		0.000400		0.000400		0.000400		0.000400	
Barium	7440-39-3	2	2	NS		NS		NS		NS		NS		NS	
Cadmium	7440-43-9	0.005	0.005	0.000200 U		0.000200		0.000200		0.000200		0.000200		0.000200	
Chromium	7440-47-3	0.1	0.1	NS		NS		NS		NS		NS		NS	
Copper	7440-50-8	1.3	1.3	NS		NS		NS		NS		NS		NS	
Lead	7439-92-1	0.015	0.015	0.000600 U		0.000600		0.000600		0.000600		0.000600		0.000600	
Selenium	7782-49-2	0.05	0.05	0.00110 U		0.00110		0.00110		0.00110		0.00110		0.00110	
Silver	7440-22-4	0.12	0.37	NS		NS		NS		NS		NS		NS	
Zinc	7440-66-6	7.3	22	NS		NS		NS		NS		NS		NS	
Metals (USEPA Method 6020A) Dissolved															
Date Prepared				6/7/2021		6/7/2021		6/7/2021		6/7/2021		6/7/2021		6/7/2021	
Date Analyzed				6/8/2021		6/8/2021		6/8/2021		6/8/2021		6/8/2021		6/8/2021	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Antimony	7440-36-0	0.006	0.006	NS		NS		NS		NS		NS		NS	
Arsenic	7440-38-2	0.01	0.01	0.000853 J		0.000400		0.000400		0.000400		0.000400		0.000400	
Barium	7440-39-3	2	2	NS		NS		NS		NS		NS		NS	
Cadmium	7440-43-9	0.005	0.005	0.000200 U		0.000200		0.000200		0.000200		0.000200		0.000200	
Chromium	7440-47-3	0.1	0.1	NS		NS		NS		NS		NS		NS	
Copper	7440-50-8	1.3	1.3	NS		NS		NS		NS		NS		NS	
Lead	7439-92-1	0.015	0.015	0.000600 U		0.000600		0.000600		0.000600		0.000600		0.000600	
Selenium	7782-49-2	0.05	0.05	0.00110 U		0.00110		0.00110		0.00110		0.00110		0.00110	
Silver	7440-22-4	0.12	0.37	NS		NS		NS		NS		NS		NS	
Zinc	7440-66-6	7.3	22	NS		NS		NS		NS		NS		NS	
Mercury (USEPA Method 7470A)															
Date Prepared				N/A		N/A		N/A		N/A		N/A		N/A	
Date Analyzed				N/A		N/A		N/A		N/A		N/A		N/A	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	NS		NS		NS		NS		NS		NS	
Mercury (USEPA Method 7470A) Dissolved															
Date Prepared				N/A		N/A		N/A		N/A		N/A		N/A	
Date Analyzed				N/A		N/A		N/A		N/A		N/A		N/A	
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	NS		NS		NS		NS		NS		NS	

Notes
Results in ***bold italics*** denote detections.
CAMU - Corrective Action Management Unit.
mg/L - Milligrams per liter.
N/A - Not Applicable.
NS - Not Sampled.
PCL - Protective Concentration Level.
RAL - Residential Assessment Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
USEPA - United States Environmental Protection Agency.

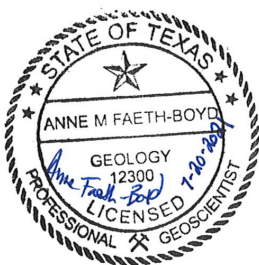
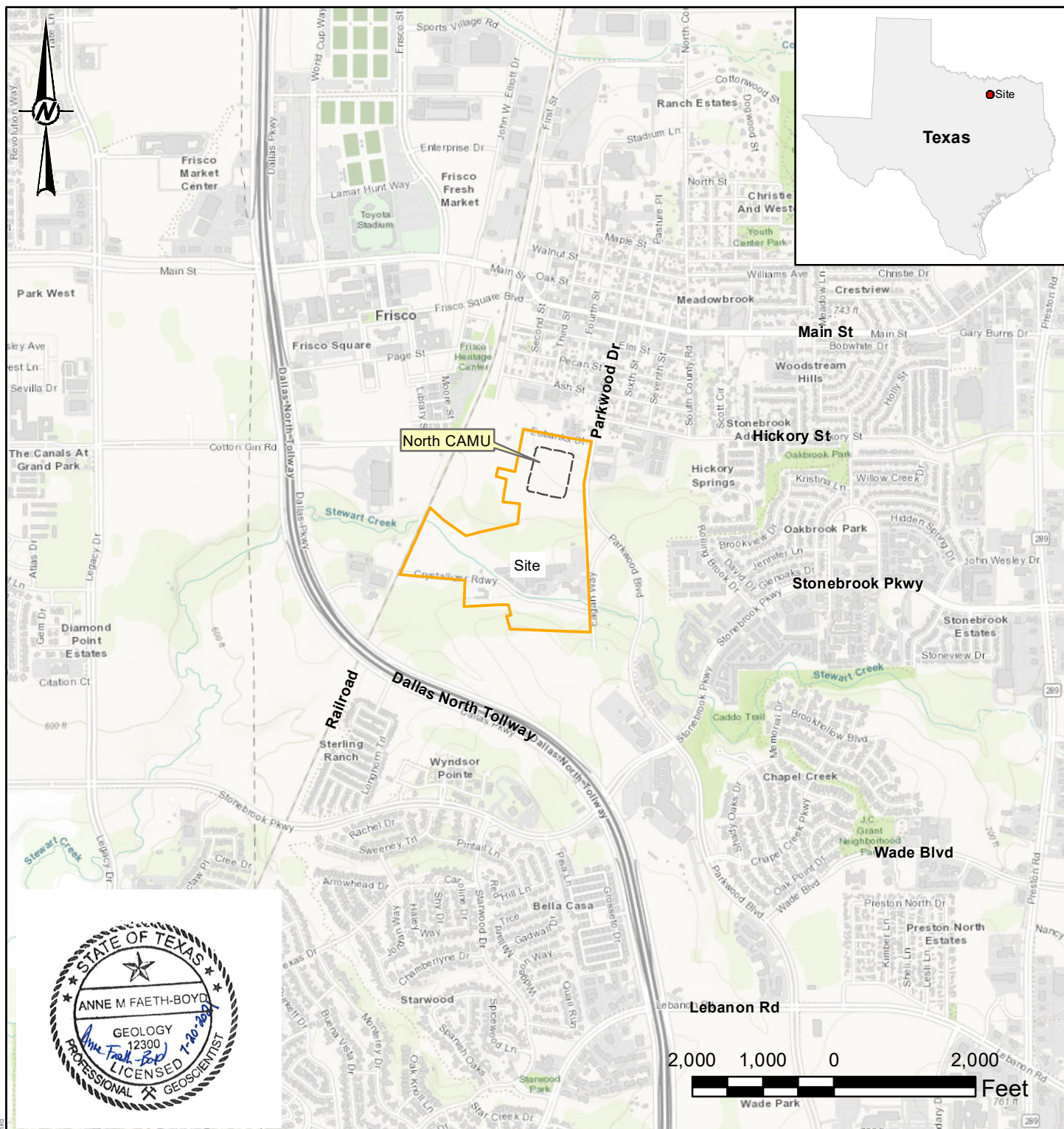
¹ - The Groundwater Residential Assessment Level (GW RAL) is the TRRP Tier 1 Residential^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.

² - The Groundwater Critical PCL is the TRRP Tier 1 Commercial/Industrial^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.

Flags and Qualifiers
J - Result is an estimated value.
U - Analyte was not detected at or above the Method Detection Limit (SDL).

Prepared by: RSP 06/15/2021
Checked by: EPF 06/17/2021
Reviewed by: AMF 07/13/2021

Figures



LEGEND

Former Operating Plant Property Boundary

NOTES:

1. CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

REFERENCE

1. BASE MAP - SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDINANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT

FRISCO COMMUNITY DEVELOPMENT CORPORATION
FRISCO, TX

PROJECT

NORTH CAMU GROUNDWATER MONITORING

TITLE

SITE LOCATION MAP

CONSULTANT



GOLDER

YYYY-MM-DD 04/19/2021

PREPARED SJRS

DESIGN SJRS

REVIEW EPF

APPROVED AMF

PROJECT No.
20409062

CONTROL
20409062A003.mxd

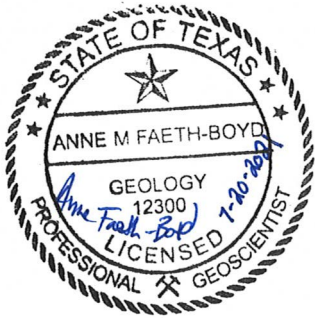
Rev.
0

FIGURE
1



LEGEND

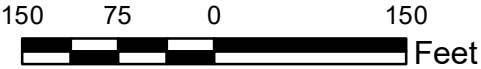
- Monitoring Well Location
- Approximate Extent of Disposal Area
- Former Operating Plant Property Boundary



- NOTES**
- LMW-9 COLLAPSED AND WAS REPLACED WITH LMW-9R IN MARCH 2016 AND LMW-9 WAS SUBSEQUENTLY ABANDONED IN MAY 2017.
 - MW-47 WAS INSTALLED ON MAY 2, 2017.
 - CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

REFERENCE

1. AERIAL IMAGERY - SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY SITE AERIAL IMAGERY - PROVIDED BY DALLAS AERIAL SURVEY, DATED APRIL, 2017.



CLIENT
FRISCO COMMUNITY DEVELOPMENT CORPORATION
FRISCO, TX

PROJECT
NORTH CAMU GROUNDWATER MONITORING

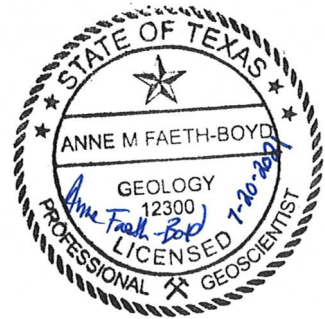
TITLE
MONITORING WELL LOCATION MAP

	CONSULTANT	YYYY-MM-DD	04/19/2021
	PREPARED	SJRS	
	DESIGN	SJRS	
	REVIEW	EPF	
	APPROVED	AMF	



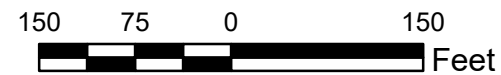
LEGEND

- Monitoring Well Location and Groundwater Elevation (In Feet above MSL)
- Approximate Extent of Disposal Area
- Site Property Boundary
- Groundwater Potentiometric Surface Contour



- NOTES**
- GROUNDWATER ELEVATIONS MEASURED MARCH 4, 2021.
 - MSL = MEAN SEA LEVEL
 - CONTOUR INTERVAL = 5 FEET
 - LMW-9 COLLAPSED AND WAS REPLACED WITH LMW-9R IN MARCH 2016 AND LMW-9 WAS SUBSEQUENTLY ABANDONED IN MAY 2017.
 - CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

- REFERENCE**
- AERIAL IMAGERY - SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY.
 - SITE AERIAL IMAGERY - PROVIDED BY DALLAS AERIAL SURVEY, DATED APRIL, 2017.



CLIENT FRISCO COMMUNITY DEVELOPMENT CORPORATION FRISCO, TX			
PROJECT NORTH CAMU GROUNDWATER MONITORING			
TITLE POTENTIOMETRIC SURFACE MAP - FIRST QUARTER 2021			
CONSULTANT 	YYYY-MM-DD	07/15/2021	
	PREPARED	SJRS	
	DESIGN	SJRS	
	REVIEW	EPF	
	APPROVED	AMF	
PROJECT No. 2040906201	CONTROL 20409062A005.mxd	Rev. 0	FIGURE 3



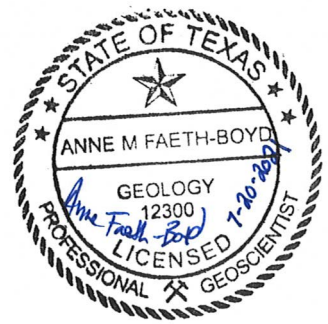
LEGEND

Monitoring Well Location and Groundwater Elevation (In Feet above MSL)

Approximate Extent of Disposal Area

Site Property Boundary

Groundwater Potentiometric Surface Contour



NOTES

1. GROUNDWATER ELEVATIONS MEASURED JUNE 1, 2021.

2. MSL = MEAN SEA LEVEL

3. CONTOUR INTERVAL = 5 FEET

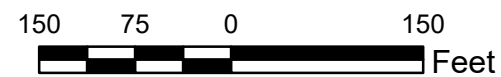
4. LMW-9 COLLAPSED AND WAS REPLACED WITH LMW-9R IN MARCH 2016 AND LMW-9 WAS SUBSEQUENTLY ABANDONED IN MAY 2017.

5. CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

REFERENCE

1. AERIAL IMAGERY - SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY.

2. SITE AERIAL IMAGERY - PROVIDED BY DALLAS AERIAL SURVEY, DATED APRIL, 2017.



CLIENT			
FRISCO COMMUNITY DEVELOPMENT CORPORATION			
FRISCO, TX			
PROJECT			
NORTH CAMU GROUNDWATER MONITORING			
TITLE			
POTENTIOMETRIC SURFACE MAP - SECOND QUARTER 2021			
CONSULTANT		YYYY-MM-DD	07/15/2021
		PREPARED	SJRS
		DESIGN	SJRS
		REVIEW	EPF
		APPROVED	AMF
PROJECT No.	CONTROL	Rev.	FIGURE
2040906201	20409062A008.mxd	0	4

APPENDIX A

Monitoring Well Inspection Forms



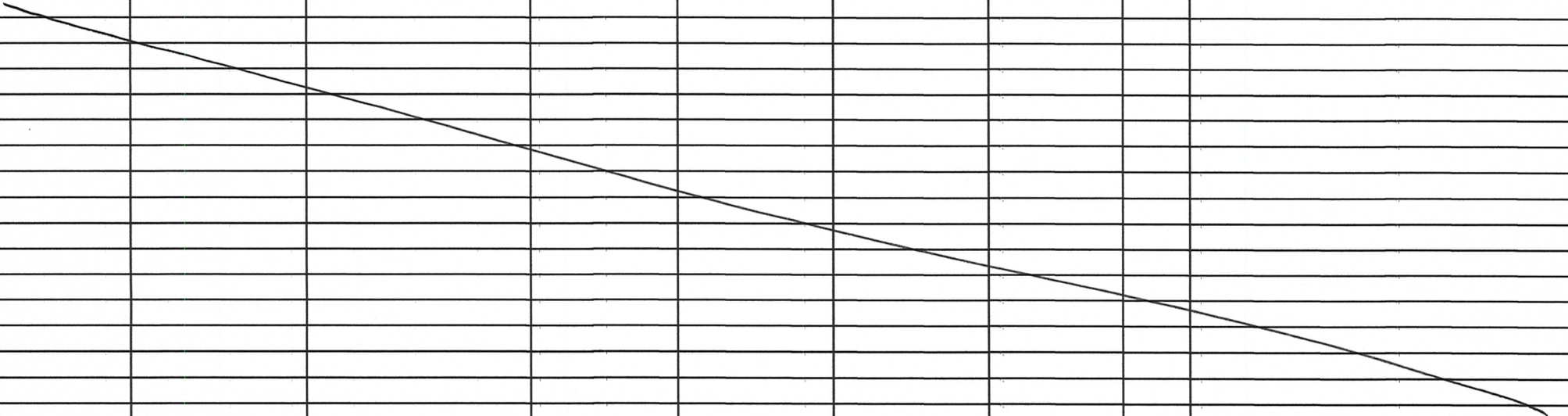
GOLDER

Monitoring Well Inspection Form

Project Name: North CAMU GW Monitoring

Location: Frisco, TX

Project No.: 20409062

Well No.	Date of Inspection	Is Well Easily Identified (name written on casing) Y /N	Is Surface Completion in Good Condition Y /N	Is Well Outer Casing In Good Condition Y /N	Is Well Inner Casing In Good Condition Y /N	Is Well Secured, ie Locked Y /N	By	Action Required
MW-45	3-4-21	Y	Y	Y	Y	Y	JTB	N/A
PMW-19R		Y	Y	Y	Y	Y		
LMW-8		Y	Y	Y	Y	Y		
LMW-17		Y	Y	Y	Y	Y		
LMW-5		Y	Y	Y	Y	Y		
LMW-21		Y	Y	Y	Y	Y		
PMW-20R		Y	Y	Y	Y	Y		
MW-47		Y	Y	Y	Y	Y		
MW-41		Y	Y	Y	Y	Y		
LMW-9R		Y	Y	Y	Y	Y		
LMW-22		Y	Y	Y	Y	Y		
								

APPENDIX B

Groundwater Sampling Forms

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 55°Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-8Sample No. LMW-8Sample Date 3-4-21Time 1050Sample By JBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

1025Water Level Before Purging: 13.92

FT BTOC

TD: 24.05

FT BTOC

@ 200

mL/min

Well Volume: 10.13 FT x 0.163 gal/FT = 1.65 gallonsVolume Water Removed Before Sampling: 1.0 gallonsWater Level Before Sampling: 14.86 FT BTOCWater Level After Sampling: 14.90 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1030</u>	<u>1035</u>	<u>1040</u>	<u>1045</u>	<u>1050</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>
pH	Standard	<u>6.77</u>	<u>6.71</u>	<u>6.56</u>	<u>6.58</u>	<u>6.61</u>
Spec. Cond.	mS/CM	<u>0.712</u>	<u>0.721</u>	<u>0.726</u>	<u>0.725</u>	<u>0.723</u>
Turbidity	NTU	<u>7.79</u>	<u>7.46</u>	<u>7.39</u>	<u>7.39</u>	<u>7.42</u>
Temperature	°C	<u>19.71</u>	<u>19.71</u>	<u>19.79</u>	<u>19.77</u>	<u>19.76</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>14.56</u>	<u>14.71</u>	<u>14.81</u>	<u>14.86</u>	<u>14.90</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS:

N/A

NA = Not applicable

SAMPLING METHODS:Bailer: PVC/PE
Stainless Steel
Teflon☒ Peristaltic Pump
☐ Submersible Pump
☐ Hand Pump☐ Air-Lift Pump
Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 55° Weather SUNNY**SAMPLE INFORMATION**Sample Location PMW-19RSample No. PMW-19RSample Date 3-4-21 Time 1010Sample By JBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 0950 Water Level Before Purging: 13.51 FT BTOC TD: 22.69 FT BTOC@ 200 mL/min Well Volume: 9.18 FT x 0.163 gal/FT = 1.49 gallonsVolume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 13.86 FT BTOCWater Level After Sampling: 13.89 FT BTOCAppearance of Sample: Clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0955</u>	<u>1000</u>	<u>1005</u>		<u>1010</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.74</u>	<u>6.71</u>	<u>6.72</u>		<u>6.71</u>
Spec. Cond.	mS/CM	<u>1.591</u>	<u>1.571</u>	<u>1.573</u>		<u>1.574</u>
Turbidity	NTU	<u>5.26</u>	<u>5.21</u>	<u>5.71</u>		<u>5.79</u>
Temperature	°C	<u>19.46</u>	<u>19.57</u>	<u>19.56</u>		<u>19.52</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>13.74</u>	<u>13.76</u>	<u>13.86</u>		<u>13.89</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: N/A

NA = Not applicable

SAMPLING METHODS:Bailer: PVC/PE
Stainless Steel
TeflonPeristaltic Pump
Submersible Pump
Hand PumpAir-Lift Pump
Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60°Weather SUNNY**SAMPLE INFORMATION**Sample Location MW-45Sample No. MW-45/MS-01/MSD-01Sample Date 3-4-21Time 0935Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 0910 Water Level Before Purging: 12.58 FT BTOC TD: 22.57 FT BTOCWell Volume: 9.99 FT x 0.163 gal/FT = 1.62 gallons@ 250 mL/min Volume Water Removed Before Sampling: 1.25 gallonsWater Level Before Sampling: 13.61 FT BTOCWater Level After Sampling: 13.62 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0915</u>	<u>0920</u>	<u>0925</u>	<u>0930</u>	<u>0935</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.0</u>	<u>1.25</u>
pH	Standard	<u>7.11</u>	<u>7.14</u>	<u>7.29</u>	<u>7.26</u>	<u>7.25</u>
Spec. Cond.	mS/CM	<u>0.692</u>	<u>0.703</u>	<u>0.709</u>	<u>0.701</u>	<u>0.702</u>
Turbidity	NTU	<u>5.29</u>	<u>5.39</u>	<u>5.31</u>	<u>5.32</u>	<u>5.36</u>
Temperature	°C	<u>19.17</u>	<u>19.29</u>	<u>19.31</u>	<u>19.26</u>	<u>19.27</u>
Pump Rate	mL/min	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>
Water Level	FT BTOC	<u>13.36</u>	<u>13.47</u>	<u>13.59</u>	<u>13.61</u>	<u>13.62</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: MS-01/MSD-01 collected.

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60°Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-21Sample No. LMW-21Sample Date 3-4-21Time 1450Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 15.11

FT BTOC

TD: 28.07

FT BTOC

1430Well Volume: 12.96 FT x 0.163 gal/FT = 2.11 gallons@ 300

mL/min

Volume Water Removed Before Sampling: 1.2 gallonsWater Level Before Sampling: 15.52

FT BTOC

Water Level After Sampling: 15.53

FT BTOC

Appearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1435</u>	<u>1440</u>	<u>1445</u>		<u>1450</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>6.77</u>	<u>6.74</u>	<u>6.79</u>		<u>6.79</u>
Spec. Cond.	mS/CM	<u>1.539</u>	<u>1.561</u>	<u>1.563</u>		<u>1.561</u>
Turbidity	NTU	<u>6.31</u>	<u>6.47</u>	<u>6.51</u>		<u>6.50</u>
Temperature	°C	<u>19.86</u>	<u>19.81</u>	<u>19.87</u>		<u>19.86</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>15.42</u>	<u>15.49</u>	<u>15.52</u>		<u>15.53</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3	 	 	 	
4	 	 	 	
5	 	 	 	
6	 	 	 	
7	 	 	 	
8	 	 	 	

REMARKS: N/A

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

Peristaltic Pump

Submersible Pump

Hand Pump

Air-Lift Pump

Other

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60°Weather SUNNY**SAMPLE INFORMATION**Sample Location PMW-20RSample No. PMW-20RSample Date 3-4-21Time 1535Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 1510 Water Level Before Purging: 14.71 FT BTOC TD: 28.26 FT BTOC@ 300 mL/min Well Volume: 13.55 FT x 0.163 gal/FT = 2.2 gallonsVolume Water Removed Before Sampling: 1.5 gallonsWater Level Before Sampling: 15.17 FT BTOCWater Level After Sampling: 15.9 FT BTOCAppearance of Sample: Clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1515</u>	<u>1520</u>	<u>1525</u>	<u>1530</u>	<u>1535</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>	<u>1.2</u>	<u>1.5</u>
pH	Standard	<u>6.64</u>	<u>6.67</u>	<u>6.84</u>	<u>6.86</u>	<u>6.87</u>
Spec. Cond.	mS/CM	<u>1.121</u>	<u>1.139</u>	<u>1.146</u>	<u>1.141</u>	<u>1.142</u>
Turbidity	NTU	<u>6.21</u>	<u>6.07</u>	<u>6.09</u>	<u>6.31</u>	<u>6.33</u>
Temperature	°C	<u>19.47</u>	<u>19.57</u>	<u>19.56</u>	<u>19.52</u>	<u>19.53</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
Water Level	FT BTOC	<u>14.89</u>	<u>15.06</u>	<u>15.12</u>	<u>15.17</u>	<u>15.19</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: N/A

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60° Weather SUNNY**SAMPLE INFORMATION**Sample Location MW-47 Sample No. MW-47Sample Date 3-5-21 Time 0810 Sample By JTBSample Method Peristaltic Pump Sample Type GrabBegin Purge @ 0745 Water Level Before Purging: 4.83 FT BTOC TD: 17.95 FT BTOC@ 250 mL/min Well Volume: 13.12 FT x 0.163 gal/FT = 2.13 gallonsVolume Water Removed Before Sampling: 1.5 gallonsWater Level Before Sampling: 5.54 FT BTOCWater Level After Sampling: 5.53 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0750</u>	<u>0755</u>	<u>0800</u>	<u>0805</u>	<u>0810</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>	<u>1.2</u>	<u>1.5</u>
pH	Standard	<u>6.73</u>	<u>6.86</u>	<u>6.99</u>	<u>7.01</u>	<u>6.99</u>
Spec. Cond.	mS/CM	<u>1.574</u>	<u>1.586</u>	<u>1.584</u>	<u>1.591</u>	<u>1.591</u>
Turbidity	NTU	<u>4.71</u>	<u>4.79</u>	<u>5.29</u>	<u>4.86</u>	<u>4.81</u>
Temperature	°C	<u>19.17</u>	<u>19.22</u>	<u>19.21</u>	<u>19.26</u>	<u>19.27</u>
Pump Rate	mL/min	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>
Water Level	FT BTOC	<u>5.36</u>	<u>5.47</u>	<u>5.51</u>	<u>5.54</u>	<u>5.53</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: N/A

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift PumpOther

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60°Weather SUNNY**SAMPLE INFORMATION**Sample Location MW-41Sample No. MW-41Sample Date 3-4-21Time 1610Sample By STBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 1550 Water Level Before Purging: 10.09 FT BTOC TD: 19.15 FT BTOC@ 300 mL/min Well Volume: 9.06 FT x 0.163 gal/FT = 1.47 gallonsVolume Water Removed Before Sampling: 1.2 gallonsWater Level Before Sampling: 10.82 FT BTOCWater Level After Sampling: 10.81 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1555</u>	<u>1600</u>	<u>1605</u>		<u>1610</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>6.76</u>	<u>6.71</u>	<u>6.72</u>		<u>6.73</u>
Spec. Cond.	mS/CM	<u>1.061</u>	<u>1.081</u>	<u>1.076</u>		<u>1.077</u>
Turbidity	NTU	<u>6.26</u>	<u>6.41</u>	<u>6.46</u>		<u>6.42</u>
Temperature	°C	<u>19.46</u>	<u>19.52</u>	<u>19.56</u>		<u>19.53</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>10.71</u>	<u>10.79</u>	<u>10.82</u>		<u>10.81</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: N/A

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

Peristaltic Pump

Submersible Pump

Hand Pump

Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60° Weather SUNNY**SAMPLE INFORMATION**

Sample Location LMW-22 Sample No. LMW-22
Sample Date 3-5-21 Time 0935 Sample By JTB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 0910 Water Level Before Purging: 13.74 FT BTOC TD: 23.15 FT BTOC
@ 200 mL/min Well Volume: 9.41 FT x 0.163 gal/FT = 1.53 gallons
Volume Water Removed Before Sampling: 1.25 gallons
Water Level Before Sampling: 14.13 FT BTOC
Water Level After Sampling: 14.13 FT BTOC
Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0915</u>	<u>0920</u>	<u>0925</u>	<u>0930</u>	<u>0935</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.0</u>	<u>1.25</u>
pH	Standard	<u>6.77</u>	<u>6.71</u>	<u>6.56</u>	<u>6.59</u>	<u>6.61</u>
Spec. Cond.	mS/CM	<u>1.267</u>	<u>1.241</u>	<u>1.247</u>	<u>1.246</u>	<u>1.244</u>
Turbidity	NTU	<u>5.17</u>	<u>5.29</u>	<u>5.06</u>	<u>5.12</u>	<u>5.14</u>
Temperature	°C	<u>19.29</u>	<u>19.19</u>	<u>19.26</u>	<u>19.27</u>	<u>19.31</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>13.97</u>	<u>14.09</u>	<u>14.12</u>	<u>14.13</u>	<u>14.13</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: N/A

NA = Not applicable

SAMPLING METHODS:Bailer: PVC/PEStainless SteelTeflonPeristaltic PumpSubmersible PumpHand PumpAir-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 55°Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-17Sample No. LMW-17Sample Date 3-4-21Time 1125Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 15.33 FT BTOC TD: 25.44 FT BTOC1105Well Volume: 10.11 FT x 0.653 gal/FT = 16.6 gallons@300

mL/min

Volume Water Removed Before Sampling: 1.2 gallonsWater Level Before Sampling: 15.57 FT BTOCWater Level After Sampling: 15.59 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1110</u>	<u>1115</u>	<u>1120</u>		<u>1125</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>7.16</u>	<u>7.12</u>	<u>7.11</u>		<u>7.11</u>
Spec. Cond.	mS/CM	<u>752</u>	<u>759</u>	<u>756</u>		<u>756</u>
Turbidity	NTU	<u>4.71</u>	<u>5.26</u>	<u>5.34</u>		<u>5.26</u>
Temperature	°C	<u>19.26</u>	<u>19.39</u>	<u>19.37</u>		<u>19.34</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>15.52</u>	<u>15.56</u>	<u>15.57</u>		<u>15.59</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS:

NONE

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60°Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-5Sample No. LMW-5/DUP-01Sample Date 3-4-21Time 1200Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 1140 Water Level Before Purging: 13.06 FT BTOC TD: 25.26 FT BTOC@ 300 mL/min Well Volume: 12.20 FT x 0.163 gal/FT = 1.99 gallonsVolume Water Removed Before Sampling: 1.2 gallonsWater Level Before Sampling: 13.52 FT BTOCWater Level After Sampling: 13.53 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1145</u>	<u>1150</u>	<u>1155</u>		<u>1200</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>6.91</u>	<u>6.82</u>	<u>6.84</u>		<u>6.85</u>
Spec. Cond.	mS/CM	<u>871</u>	<u>856</u>	<u>859</u>		<u>856</u>
Turbidity	NTU	<u>6.29</u>	<u>6.71</u>	<u>6.67</u>		<u>6.74</u>
Temperature	°C	<u>19.26</u>	<u>19.36</u>	<u>19.37</u>		<u>19.34</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>13.47</u>	<u>13.51</u>	<u>13.52</u>		<u>13.53</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	2 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	2 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: DUP-01 collected

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift PumpOther

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 60°Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-9RSample No. LMW-9RSample Date 3-5-21Time 0850Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 5.04

FT BTOC

TD: 32.92

FT BTOC

0825Well Volume: 27.88 FT x 0.163 gal/FT = 4.54 gallons@ 200

mL/min

Volume Water Removed Before Sampling: 1.25 gallonsWater Level Before Sampling: 5.71

FT BTOC

Water Level After Sampling: 5.72

FT BTOC

Appearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0830</u>	<u>0835</u>	<u>0840</u>	<u>0845</u>	<u>0850</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.00</u>	<u>1.25</u>
pH	Standard	<u>6.39</u>	<u>6.41</u>	<u>6.42</u>	<u>6.44</u>	<u>6.41</u>
Spec. Cond.	mS/CM	<u>2.429</u>	<u>2.439</u>	<u>2.442</u>	<u>2.441</u>	<u>2.447</u>
Turbidity	NTU	<u>5.26</u>	<u>4.96</u>	<u>4.91</u>	<u>4.94</u>	<u>4.96</u>
Temperature	°C	<u>19.21</u>	<u>19.31</u>	<u>19.34</u>	<u>19.32</u>	<u>19.31</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>5.29</u>	<u>5.47</u>	<u>5.69</u>	<u>5.71</u>	<u>5.72</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: _____

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

Peristaltic Pump

Submersible Pump

Hand Pump

Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 65°Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-22Sample No. LMW-22Sample Date 6-2-21 Time 0900Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 0835 Water Level Before Purging: 10.71 FT BTOC TD: 23.15 FT BTOCWell Volume: 12.44 FT x 0.163 gal/FT = gallons@ 200 mL/min Volume Water Removed Before Sampling: 2.0 gallonsWater Level Before Sampling: 11.16 FT BTOCWater Level After Sampling: 11.19 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0840</u>	<u>0845</u>	<u>0850</u>	<u>0855</u>	<u>0900</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>
pH	Standard	<u>6.86</u>	<u>6.84</u>	<u>6.71</u>	<u>6.74</u>	<u>6.76</u>
Spec. Cond.	mS/CM	<u>1.219</u>	<u>1.234</u>	<u>1.239</u>	<u>1.247</u>	<u>1.249</u>
Turbidity	NTU	<u>6.39</u>	<u>7.12</u>	<u>7.29</u>	<u>7.17</u>	<u>7.26</u>
Temperature	°C	<u>19.96</u>	<u>19.71</u>	<u>19.76</u>	<u>19.79</u>	<u>19.77</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>10.96</u>	<u>11.07</u>	<u>11.12</u>	<u>11.16</u>	<u>11.19</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift PumpOther

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 65° Weather SUNNY**SAMPLE INFORMATION**Sample Location LMW-9RSample No. LMW-9RSample Date 6-2-21Time 0750Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 0725 Water Level Before Purging: 4.09 FT BTOC TD: 32.90 FT BTOCWell Volume: 28.81 FT x 0.163 gal/FT = 4.69 gallons@ 200 mL/min Volume Water Removed Before Sampling: 1.0 gallonsWater Level Before Sampling: 4.43 FT BTOCWater Level After Sampling: 4.44 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0730</u>	<u>0735</u>	<u>0740</u>	<u>0745</u>	<u>0750</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>
pH	Standard	<u>6.49</u>	<u>6.41</u>	<u>6.31</u>	<u>6.34</u>	<u>6.55</u>
Spec. Cond.	mS/CM	<u>2.319</u>	<u>2.334</u>	<u>2.341</u>	<u>2.346</u>	<u>2.349</u>
Turbidity	NTU	<u>14.29</u>	<u>13.71</u>	<u>13.77</u>	<u>13.81</u>	<u>13.86</u>
Temperature	°C	<u>19.26</u>	<u>19.41</u>	<u>19.46</u>	<u>19.49</u>	<u>19.46</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>4.26</u>	<u>4.39</u>	<u>4.41</u>	<u>4.43</u>	<u>4.44</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**

Temperature

75°

Weather

cloudy**SAMPLE INFORMATION**Sample Location MW-47Sample No. MW-47Sample Date 6-1-21Time 1615Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 1550 Water Level Before Purging: 3.16 FT BTOC TD: 17.93 FT BTOCWell Volume: 14.77 FT x 0.163 gal/FT = 2.40 gallons@ 200 mL/min Volume Water Removed Before Sampling: 1.0 gallonsWater Level Before Sampling: 3.51 FT BTOCWater Level After Sampling: 3.52 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1555</u>	<u>1600</u>	<u>1605</u>	<u>1610</u>	<u>1615</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>
pH	Standard	<u>6.63</u>	<u>6.67</u>	<u>6.79</u>	<u>6.77</u>	<u>6.76</u>
Spec. Cond.	mS/CM	<u>1.319</u>	<u>1.327</u>	<u>1.331</u>	<u>1.326</u>	<u>1.321</u>
Turbidity	NTU	<u>6.19</u>	<u>6.29</u>	<u>6.26</u>	<u>6.25</u>	<u>6.27</u>
Temperature	°C	<u>19.71</u>	<u>19.49</u>	<u>19.46</u>	<u>19.51</u>	<u>19.52</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>3.39</u>	<u>3.46</u>	<u>3.49</u>	<u>3.51</u>	<u>3.52</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS:

NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 70° Weather cloudy**SAMPLE INFORMATION**Sample Location MW-41 Sample No. MW-41Sample Date 6-1-21 Time 1500 Sample By JTBSample Method Peristaltic Pump Sample Type GrabBegin Purge @ 1440 Water Level Before Purging: 7.92 FT BTOC TD: 19.15 FT BTOCWell Volume: 11.23 FT x 0.163 gal/FT = 1.83 gallons@ 200 mL/min Volume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 8.34 FT BTOCWater Level After Sampling: 8.36 FT BTOCAppearance of Sample: clear, no color**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1445</u>	<u>1450</u>	<u>1455</u>		<u>1500</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.86</u>	<u>6.91</u>	<u>6.92</u>		<u>6.90</u>
Spec. Cond.	mS/CM	<u>1.131</u>	<u>1.156</u>	<u>1.162</u>		<u>1.164</u>
Turbidity	NTU	<u>9.26</u>	<u>8.76</u>	<u>8.82</u>		<u>8.86</u>
Temperature	°C	<u>19.17</u>	<u>19.29</u>	<u>19.31</u>		<u>19.30</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>8.21</u>	<u>8.31</u>	<u>8.34</u>		<u>8.36</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 70°Weather cloudy**SAMPLE INFORMATION**Sample Location PMW-20RSample No. PMW-20RSample Date 6-1-21Time 1425Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 1400 Water Level Before Purging: 10.82 FT BTOC TD: 28.25 FT BTOCWell Volume: 17.43 FT x 0.163 gal/FT = 2.84 gallons@ 200 mL/min Volume Water Removed Before Sampling: 1.0 gallonsWater Level Before Sampling: 11.20 FT BTOCWater Level After Sampling: 11.22 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1405</u>	<u>1410</u>	<u>1415</u>	<u>1420</u>	<u>1425</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>
pH	Standard	<u>6.81</u>	<u>6.86</u>	<u>6.96</u>	<u>6.94</u>	<u>6.93</u>
Spec. Cond.	mS/CM	<u>1.139</u>	<u>1.061</u>	<u>1.072</u>	<u>1.079</u>	<u>1.076</u>
Turbidity	NTU	<u>5.17</u>	<u>5.29</u>	<u>5.29</u>	<u>5.31</u>	<u>5.39</u>
Temperature	°C	<u>19.96</u>	<u>19.99</u>	<u>19.95</u>	<u>19.94</u>	<u>19.96</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>11.06</u>	<u>11.11</u>	<u>11.13</u>	<u>11.20</u>	<u>11.22</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**

Temperature

70°

Weather

cloudy**SAMPLE INFORMATION**Sample Location LMW-21Sample No. LMW-21Sample Date 6-1-21Time 1345Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 11.41

FT BTOC

TD: 28.09

FT BTOC

1325Well Volume: 16.68 FT x 0.163 gal/FT = 2.71 gallons@ 200

mL/min

Volume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 11.77

FT BTOC

Water Level After Sampling: 11.79

FT BTOC

Appearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1330</u>	<u>1335</u>	<u>1340</u>		<u>1345</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.74</u>	<u>6.77</u>	<u>6.79</u>		<u>6.76</u>
Spec. Cond.	mS/CM	<u>1.216</u>	<u>1.341</u>	<u>1.347</u>		<u>1.341</u>
Turbidity	NTU	<u>6.71</u>	<u>6.77</u>	<u>6.46</u>		<u>6.43</u>
Temperature	°C	<u>20.17</u>	<u>20.21</u>	<u>20.16</u>		<u>20.12</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>11.69</u>	<u>11.74</u>	<u>11.77</u>		<u>11.79</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS:

NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**

Temperature

70°

Weather

SUNNY**SAMPLE INFORMATION**Sample Location LMW-5Sample No. LMW-5/DUP-01Sample Date 6-1-21Time 1245Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

9.61

FT BTOC

TD: 25.25

FT BTOC

1225Well Volume: 15.64 FT x 0.163 gal/FT = 2.54 gallons@ 200 mL/minVolume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 9.88 FT BTOCWater Level After Sampling: 9.87 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1230</u>	<u>1235</u>	<u>1240</u>		<u>1245</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>7.01</u>	<u>7.06</u>	<u>7.08</u>		<u>7.09</u>
Spec. Cond.	mS/CM	<u>0.712</u>	<u>0.729</u>	<u>0.726</u>		<u>0.729</u>
Turbidity	NTU	<u>6.39</u>	<u>6.46</u>	<u>6.43</u>		<u>6.46</u>
Temperature	°C	<u>19.19</u>	<u>19.27</u>	<u>19.31</u>		<u>19.27</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>9.82</u>	<u>9.87</u>	<u>9.88</u>		<u>9.87</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	2 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	2 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: DUP-01 collected

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 68° Weather cloudy**SAMPLE INFORMATION**

Sample Location LMW-17 Sample No. LMW-17
Sample Date 6-1-21 Time 1145 Sample By JTB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1125 Water Level Before Purging: 12.61 FT BTOC TD: 25.45 FT BTOC
@ 200 mL/min Well Volume: 12.84 FT x 0.653 gal/FT = 2.09 gallons
Volume Water Removed Before Sampling: 0.8 gallons
Water Level Before Sampling: 12.93 FT BTOC
Water Level After Sampling: 12.94 FT BTOC
Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1130</u>	<u>1135</u>	<u>1140</u>		<u>1145</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>7.17</u>	<u>7.22</u>	<u>7.16</u>		<u>7.17</u>
Spec. Cond.	mS/CM	<u>0.819</u>	<u>0.829</u>	<u>0.827</u>		<u>0.829</u>
Turbidity	NTU	<u>4.07</u>	<u>4.21</u>	<u>4.26</u>		<u>4.29</u>
Temperature	°C	<u>19.26</u>	<u>19.39</u>	<u>19.49</u>		<u>19.46</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>12.89</u>	<u>12.91</u>	<u>12.93</u>		<u>12.94</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: NA

NA = Not applicable

SAMPLING METHODS:Bailer: PVC/PE
Stainless Steel
Teflon☒ Peristaltic Pump
☐ Submersible Pump
☐ Hand Pump☐ Air-Lift Pump
Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**

Temperature

65°

Weather

cloudy**SAMPLE INFORMATION**Sample Location LMW-8Sample No. LMW-8Sample Date 6-1-21Time 1055Sample By JOBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

11.29

FT BTOC

TD:

24.05

FT BTOC

1030Well Volume: 12.76 FT x 0.163 gal/FT = 2.07 gallons@ 200

mL/min

Volume Water Removed Before Sampling: 1.00 gallons

Water Level Before Sampling:

FT BTOC NM

Water Level After Sampling:

FT BTOC NM

Appearance of Sample:

clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1035</u>	<u>1040</u>	<u>1045</u>	<u>1050</u>	<u>1055</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.00</u>
pH	Standard	<u>6.74</u>	<u>6.72</u>	<u>6.71</u>	<u>6.71</u>	<u>6.73</u>
Spec. Cond.	mS/CM	<u>0.639</u>	<u>0.667</u>	<u>0.79</u>	<u>0.81</u>	<u>0.80</u>
Turbidity	NTU	<u>7.61</u>	<u>7.79</u>	<u>7.82</u>	<u>7.67</u>	<u>7.71</u>
Temperature	°C	<u>19.42</u>	<u>19.47</u>	<u>19.52</u>	<u>19.46</u>	<u>19.44</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>11.56</u>	<u>11.67</u>	<u>11.77</u>	<u>11.81</u>	<u>11.84</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS:

NA; NM - Not Measured

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**

Temperature

65°

Weather

cloudy**SAMPLE INFORMATION**Sample Location PMW-19RSample No. PMW-19RSample Date 6-1-21Time 1010Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 5.76

FT BTOC

TD: 22.70

FT BTOC

0950Well Volume: 16.94 FT x 0.163 gal/FT = 2.76 gallons@ 200 mL/minVolume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 5.97 FT BTOCWater Level After Sampling: 5.98 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0955</u>	<u>1000</u>	<u>1005</u>		<u>1010</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.71</u>	<u>6.69</u>	<u>6.68</u>		<u>6.68</u>
Spec. Cond.	mS/CM	<u>1.361</u>	<u>1.371</u>	<u>1.372</u>		<u>1.374</u>
Turbidity	NTU	<u>5.71</u>	<u>5.96</u>	<u>5.94</u>		<u>5.96</u>
Temperature	°C	<u>19.39</u>	<u>19.47</u>	<u>19.43</u>		<u>19.44</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>5.92</u>	<u>5.96</u>	<u>5.97</u>		<u>5.98</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS:

NA

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump☐ Submersible Pump☐ Hand Pump☐ Air-Lift Pump

Other _____

**GOLDER****GROUNDWATER SAMPLE COLLECTION FORM**Project Ref: North CAMU Groundwater MonitoringProject No. : 20409062**WEATHER CONDITIONS**Temperature 65°Weather cloudy**SAMPLE INFORMATION**Sample Location MW-45Sample No. MW-45/MS-01/MSD-01Sample Date 6-1-21Time 0950Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 11.03 FT BTOC TD: 22.58 FT BTOC0925Well Volume: 11.54 FT x 0.163 gal/FT = 1.88 gallons@ 250

mL/min

Volume Water Removed Before Sampling: 1.25 gallonsWater Level Before Sampling: 11.51 FT BTOCWater Level After Sampling: 11.51 FT BTOCAppearance of Sample: clear, no odor**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0930</u>	<u>0935</u>	<u>0940</u>	<u>0945</u>	<u>0950</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.0</u>	<u>1.25</u>
pH	Standard	<u>7.04</u>	<u>7.09</u>	<u>7.09</u>	<u>7.11</u>	<u>7.12</u>
Spec. Cond.	mS/CM	<u>0.712</u>	<u>0.737</u>	<u>0.729</u>	<u>0.741</u>	<u>0.736</u>
Turbidity	NTU	<u>4.12</u>	<u>3.61</u>	<u>4.09</u>	<u>3.97</u>	<u>3.96</u>
Temperature	°C	<u>19.79</u>	<u>19.86</u>	<u>19.84</u>	<u>19.89</u>	<u>19.91</u>
Pump Rate	mL/min	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>
Water Level	FT BTOC	<u>11.39</u>	<u>11.47</u>	<u>11.49</u>	<u>11.51</u>	<u>11.51</u>

LABORATORY CONTAINERS

Sub-Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	Total Metals	1 x 120 mL Poly	<u>NO</u>	HNO ₃
2	Dissolved Metals	1 x 120 mL Poly	Yes (0.45 µm)	HNO ₃
3				
4				
5				
6				
7				
8				

REMARKS: MS-01/MSD-01 collected.

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel
Teflon☒ Peristaltic PumpSubmersible Pump
Hand Pump

Air-Lift Pump

Other _____

APPENDIX C

Groundwater Laboratory Analytical
Results



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 15, 2021

Emily Forthaus
Golder Associates
13515 Barrett Parkway Drive, Suite 260
Ballwin, MO 63021

Work Order: **HS21030422**

Laboratory Results for: **Exide North CAMU Groundwater Annual**

Dear Emily Forthaus,

ALS Environmental received 12 sample(s) on Mar 06, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

Dane J. Wacasey

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [] TCEQ or [] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 03/15//2021			
Project Name: Exide North CAMU Groundwater Annual				Laboratory Job Number: HS21030422			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 163384,163392,163422,163424			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 03/15/2021			
Project Name: Exide North CAMU Groundwater Annual				Laboratory Job Number: HS21030422			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 163384,163392,163422,163424			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			1
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports	
Laboratory Name: ALS Laboratory Group	LRC Date: 03/15/2021
Project Name: Exide North CAMU Groundwater Annual	Laboratory Job Number: HS21030422
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 163384,163392,163422,163424
ER#⁵	Description
1	See Run Log and CCB Exceptions Report.
Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable); NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	

FORM 13 - ANALYSIS RUN LOG

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422
Start Date: 12-Mar-2021 **End Date:** 13-Mar-2021

Run ID: ICPMS06_379555
Instrument: ICPMS06
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	12-Mar-2021 10:13	018_ICV.d	AG AS BA CD CR CU PB SB SE ZN
ICB	1	12-Mar-2021 10:15	019_ICB.d	AG AS BA CD CR CU PB SB SE ZN
LLICV2	1	12-Mar-2021 10:17	020LCV2.d	AG AS BA CD CR CU PB SB SE ZN
LLICV5	1	12-Mar-2021 10:19	021LCV5.d	AG AS BA CD CR CU PB SB SE ZN
ICSA	1	12-Mar-2021 10:29	023ICSA.d	AG AS BA CD CR CU PB SB SE ZN
ICSAB	1	12-Mar-2021 10:31	024ICSB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 1	1	12-Mar-2021 11:16	038_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 1	1	12-Mar-2021 11:18	039_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCB 2	1	12-Mar-2021 11:52	051_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 2	1	12-Mar-2021 11:55	052_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCV 3	1	12-Mar-2021 12:26	063_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 3	1	12-Mar-2021 12:28	064_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 4	1	12-Mar-2021 12:53	075_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 4	1	12-Mar-2021 12:55	076_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 5	1	12-Mar-2021 13:16	087_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 5	1	12-Mar-2021 13:18	088_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCB 6	1	12-Mar-2021 13:42	100_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 6	1	12-Mar-2021 13:45	101_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCV 7	1	12-Mar-2021 14:08	112_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 7	1	12-Mar-2021 14:10	113_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 8	1	12-Mar-2021 14:33	124_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 8	1	12-Mar-2021 14:35	125_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCB 9	1	12-Mar-2021 15:08	137_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 9	1	12-Mar-2021 15:15	139_CCV.d	AG AS BA CD CR CU PB SB SE ZN
MBLK-163392	1	12-Mar-2021 15:19	140SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LCS-163392	1	12-Mar-2021 15:21	141SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45SD	5	12-Mar-2021 15:23	142SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45	1	12-Mar-2021 15:25	143SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45MS	1	12-Mar-2021 15:27	144SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45MSD	1	12-Mar-2021 15:29	145SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45PDS	1	12-Mar-2021 15:31	146SMPL.d	AG AS BA CD CR CU PB SB SE ZN
CCV 10	1	12-Mar-2021 15:35	148_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 10	1	12-Mar-2021 15:37	149_CCB.d	AG AS BA CD CR CU PB SB SE ZN
PMW-19R	1	12-Mar-2021 15:45	150SMPL.d	AG AS BA CD CR CU SB SE ZN
LMW-8	1	12-Mar-2021 15:47	151SMPL.d	AG AS BA CD CR CU SB SE ZN
LMW-17	1	12-Mar-2021 15:49	152SMPL.d	AG AS BA CD CR CU SB SE ZN
LMW-5	1	12-Mar-2021 15:51	153SMPL.d	AG AS BA CD CR CU SB SE ZN
LMW-21	1	12-Mar-2021 15:53	154SMPL.d	AG AS BA CD CR CU SB SE ZN
PMW-20R	1	12-Mar-2021 15:57	156SMPL.d	AG AS BA CD CR CU SB SE ZN
MW-41	1	12-Mar-2021 15:59	157SMPL.d	AG AS BA CD CR CU SB SE ZN
MW-47	1	12-Mar-2021 16:01	158SMPL.d	AG AS BA CD CR CU SB SE ZN
CCB 11	1	12-Mar-2021 16:09	161_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 11	1	12-Mar-2021 16:16	163_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCV 12	1	12-Mar-2021 21:02	167_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 12	1	12-Mar-2021 21:03	168_CCB.d	AG AS BA CD CR CU PB SB SE ZN
LMW-9R	1	12-Mar-2021 21:05	169SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LMW-22	1	12-Mar-2021 21:07	170SMPL.d	AG AS BA CD CR CU PB SB SE ZN
DUP-01	1	12-Mar-2021 21:09	171SMPL.d	AG AS BA CD CR CU PB SB SE ZN
CCV 13	1	12-Mar-2021 21:15	174_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 13	1	12-Mar-2021 21:17	175_CCB.d	AG AS BA CD CR CU PB SB SE ZN
MBLK-163384	1	12-Mar-2021 21:19	176SMPL.d	AG AS BA CD CR CU PB SB SE ZN

FORM 13 - ANALYSIS RUN LOG

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422
Start Date: 12-Mar-2021 **End Date:** 13-Mar-2021

Run ID: ICPMS06_379555
Instrument: ICPMS06
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
LCS-163384	1	12-Mar-2021 21:21	177SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45	1	12-Mar-2021 21:23	178SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45SD	5	12-Mar-2021 21:25	179SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45MS	1	12-Mar-2021 21:27	180SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45MSD	1	12-Mar-2021 21:29	181SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-45PDS	1	12-Mar-2021 21:31	182SMPL.d	AG AS BA CD CR CU PB SB SE ZN
CCV 14	1	12-Mar-2021 21:33	183_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 14	1	12-Mar-2021 21:35	184_CCB.d	AG AS BA CD CR CU PB SB SE ZN
PMW-19R	1	12-Mar-2021 21:45	189SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LMW-8	1	12-Mar-2021 21:47	190SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LMW-17	1	12-Mar-2021 21:49	191SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LMW-5	1	12-Mar-2021 21:51	192SMPL.d	AG AS BA CD CR CU PB SB SE ZN
CCV 15	1	12-Mar-2021 21:53	193_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 15	1	12-Mar-2021 21:55	194_CCB.d	AG AS BA CD CR CU PB SB SE ZN
LMW-21	1	12-Mar-2021 21:57	195SMPL.d	AG AS BA CD CR CU PB SB SE ZN
PMW-20R	1	12-Mar-2021 21:59	196SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-41	1	12-Mar-2021 22:01	197SMPL.d	AG AS BA CD CR CU PB SB SE ZN
MW-47	1	12-Mar-2021 22:03	198SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LMW-9R	1	12-Mar-2021 22:05	199SMPL.d	AG AS BA CD CR CU PB SB SE ZN
LMW-22	1	12-Mar-2021 22:07	200SMPL.d	AG AS BA CD CR CU PB SB SE ZN
DUP-01	1	12-Mar-2021 22:09	201SMPL.d	AG AS BA CD CR CU PB SB SE ZN
CCV 16	1	12-Mar-2021 22:11	202_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 16	1	12-Mar-2021 22:13	203_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCB 17	1	12-Mar-2021 22:33	213_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 17	1	12-Mar-2021 22:42	215_CCV.d	AG AS BA CD CR CU PB SB SE ZN
ICCV 18	1	12-Mar-2021 23:07	228_ICV.d	AG AS BA CD CR CU PB SB SE ZN
LLICCV2	1	12-Mar-2021 23:09	229LCV2.d	AG AS BA CD CR CU PB SB SE ZN
LLICCV5	1	12-Mar-2021 23:11	230LCV5.d	AG AS BA CD CR CU PB SB SE ZN
ICCB 18	1	12-Mar-2021 23:13	231_ICB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 19	1	12-Mar-2021 23:29	239_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 19	1	12-Mar-2021 23:31	240_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 20	1	12-Mar-2021 23:48	248_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 20	1	12-Mar-2021 23:49	249_CCB.d	AG AS BA CD CR CU PB SB SE ZN
CCV 21	1	13-Mar-2021 00:08	258_CCV.d	AG AS BA CD CR CU PB SB SE ZN
CCB 21	1	13-Mar-2021 00:10	259_CCB.d	AG AS BA CD CR CU PB SB SE ZN
LLCCV2	1	13-Mar-2021 00:14	261LCV2.d	AG AS BA CD CR CU PB SB SE ZN
LLCCV5	1	13-Mar-2021 00:16	262LCV5.d	AG AS BA CD CR CU PB SB SE ZN
ICSA	1	13-Mar-2021 00:22	265ICSA.d	AG AS BA CD CR CU PB SB SE ZN
ICSAB	1	13-Mar-2021 00:24	266ICSB.d	AG AS BA CD CR CU PB SB SE ZN

CCB EXCEPTIONS REPORT

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

Run ID:ICPMS06_379555
Instrument:ICPMS06
Method:SW6020

CCB 1	Date: 12-Mar-2021 11:18	Seq: 5992486	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.922	0.4	2	
CCB 2	Date: 12-Mar-2021 11:52	Seq: 5992497	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.551	0.4	2	
CCB 10	Date: 12-Mar-2021 15:37	Seq: 5993610	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.584	0.4	2	
Selenium	-1.123	1.1	2	
CCB 11	Date: 12-Mar-2021 16:09	Seq: 5993622	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.483	0.4	2	
CCB 12	Date: 12-Mar-2021 21:03	Seq: 5993627	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.449	0.4	2	
CCB 13	Date: 12-Mar-2021 21:17	Seq: 5993634	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.416	0.4	2	
CCB 14	Date: 12-Mar-2021 21:35	Seq: 5993650	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.717	0.4	2	
CCB 17	Date: 12-Mar-2021 22:33	Seq: 5993699	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.453	0.4	2	

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
Work Order: HS21030422

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21030422-01	MW-45	Groundwater		04-Mar-2021 09:35	06-Mar-2021 11:20	☐
HS21030422-02	PMW-19R	Groundwater		04-Mar-2021 10:10	06-Mar-2021 11:20	☐
HS21030422-03	LMW-8	Groundwater		04-Mar-2021 10:50	06-Mar-2021 11:20	☐
HS21030422-04	LMW-17	Groundwater		04-Mar-2021 11:25	06-Mar-2021 11:20	☐
HS21030422-05	LMW-5	Groundwater		04-Mar-2021 12:00	06-Mar-2021 11:20	☐
HS21030422-06	LMW-21	Groundwater		04-Mar-2021 14:50	06-Mar-2021 11:20	☐
HS21030422-07	PMW-20R	Groundwater		04-Mar-2021 15:35	06-Mar-2021 11:20	☐
HS21030422-08	MW-41	Groundwater		04-Mar-2021 16:10	06-Mar-2021 11:20	☐
HS21030422-09	MW-47	Groundwater		05-Mar-2021 08:10	06-Mar-2021 11:20	☐
HS21030422-10	LMW-9R	Groundwater		05-Mar-2021 08:50	06-Mar-2021 11:20	☐
HS21030422-11	LMW-22	Groundwater		05-Mar-2021 09:35	06-Mar-2021 11:20	☐
HS21030422-12	DUP-01	Groundwater		05-Mar-2021 12:00	06-Mar-2021 11:20	☐

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: MW-45
 Collection Date: 04-Mar-2021 09:35

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 12-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:25
Arsenic	0.000451	J	0.000400	0.00200	mg/L	1	12-Mar-2021 15:25
Barium	0.0422		0.00190	0.00400	mg/L	1	12-Mar-2021 15:25
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:25
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 15:25
Copper	0.00153	J	0.00100	0.00200	mg/L	1	12-Mar-2021 15:25
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 15:25
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 15:25
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:25
Zinc	0.00202	J	0.00200	0.00400	mg/L	1	12-Mar-2021 15:25
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)		Prep:SW3010A / 11-Mar-2021		Analyst: JHD	
Antimony	0.000464	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:23
Arsenic	0.000490	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:23
Barium	0.0444		0.00190	0.00400	mg/L	1	12-Mar-2021 21:23
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:23
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:23
Copper	0.00179	J	0.00100	0.00200	mg/L	1	12-Mar-2021 21:23
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:23
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:23
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:23
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 21:23
MERCURY BY SW7470A		Method:SW7470A		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:30
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	0.0000980	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: PMW-19R
 Collection Date: 04-Mar-2021 10:10

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:45
Arsenic	0.000537	J	0.000400	0.00200	mg/L	1	12-Mar-2021 15:45
Barium	0.0178		0.00190	0.00400	mg/L	1	12-Mar-2021 15:45
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:45
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 15:45
Copper	0.00298		0.00100	0.00200	mg/L	1	12-Mar-2021 15:45
Lead	U		0.000600	0.00200	mg/L	1	13-Mar-2021 13:19
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 15:45
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:45
Zinc	0.00278	J	0.00200	0.00400	mg/L	1	12-Mar-2021 15:45
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:45
Arsenic	0.000659	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:45
Barium	0.0192		0.00190	0.00400	mg/L	1	12-Mar-2021 21:45
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:45
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:45
Copper	0.00322		0.00100	0.00200	mg/L	1	12-Mar-2021 21:45
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:45
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:45
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:45
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 21:45
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:37
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000870	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: LMW-8
 Collection Date: 04-Mar-2021 10:50

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:47
Arsenic	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:47
Barium	0.0624		0.00190	0.00400	mg/L	1	12-Mar-2021 15:47
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:47
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 15:47
Copper	U		0.00100	0.00200	mg/L	1	12-Mar-2021 15:47
Lead	U		0.000600	0.00200	mg/L	1	13-Mar-2021 13:21
Selenium	0.00136	J	0.00110	0.00200	mg/L	1	12-Mar-2021 15:47
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:47
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 15:47
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:47
Arsenic	0.000434	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:47
Barium	0.0649		0.00190	0.00400	mg/L	1	12-Mar-2021 21:47
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:47
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:47
Copper	0.00127	J	0.00100	0.00200	mg/L	1	12-Mar-2021 21:47
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:47
Selenium	0.00207		0.00110	0.00200	mg/L	1	12-Mar-2021 21:47
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:47
Zinc	0.00219	J	0.00200	0.00400	mg/L	1	12-Mar-2021 21:47
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:38
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000970	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: LMW-17
 Collection Date: 04-Mar-2021 11:25

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 12-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:49
Arsenic	0.000430	J	0.000400	0.00200	mg/L	1	12-Mar-2021 15:49
Barium	0.0779		0.00190	0.00400	mg/L	1	12-Mar-2021 15:49
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:49
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 15:49
Copper	0.00150	J	0.00100	0.00200	mg/L	1	12-Mar-2021 15:49
Lead	U		0.000600	0.00200	mg/L	1	13-Mar-2021 13:23
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 15:49
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:49
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 15:49
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)		Prep:SW3010A / 11-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:49
Arsenic	0.000448	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:49
Barium	0.0846		0.00190	0.00400	mg/L	1	12-Mar-2021 21:49
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:49
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:49
Copper	0.00119	J	0.00100	0.00200	mg/L	1	12-Mar-2021 21:49
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:49
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:49
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:49
Zinc	0.00249	J	0.00200	0.00400	mg/L	1	12-Mar-2021 21:49
MERCURY BY SW7470A		Method:SW7470A		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:47
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	0.0000870	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: LMW-5
 Collection Date: 04-Mar-2021 12:00

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:51
Arsenic	0.000492	J	0.000400	0.00200	mg/L	1	12-Mar-2021 15:51
Barium	0.0630		0.00190	0.00400	mg/L	1	12-Mar-2021 15:51
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:51
Chromium	0.000526	J	0.000400	0.00400	mg/L	1	12-Mar-2021 15:51
Copper	0.00244		0.00100	0.00200	mg/L	1	12-Mar-2021 15:51
Lead	0.00164	J	0.000600	0.00200	mg/L	1	13-Mar-2021 13:25
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 15:51
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:51
Zinc	0.00397	J	0.00200	0.00400	mg/L	1	12-Mar-2021 15:51
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:51
Arsenic	0.000436	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:51
Barium	0.0688		0.00190	0.00400	mg/L	1	12-Mar-2021 21:51
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:51
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:51
Copper	0.00266		0.00100	0.00200	mg/L	1	12-Mar-2021 21:51
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:51
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:51
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:51
Zinc	0.00343	J	0.00200	0.00400	mg/L	1	12-Mar-2021 21:51
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:49
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000960	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: LMW-21
 Collection Date: 04-Mar-2021 14:50

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 12-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:53
Arsenic	0.000441	J	0.000400	0.00200	mg/L	1	12-Mar-2021 15:53
Barium	0.0308		0.00190	0.00400	mg/L	1	12-Mar-2021 15:53
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:53
Chromium	0.000508	J	0.000400	0.00400	mg/L	1	12-Mar-2021 15:53
Copper	U		0.00100	0.00200	mg/L	1	12-Mar-2021 15:53
Lead	U		0.000600	0.00200	mg/L	1	13-Mar-2021 13:27
Selenium	0.00374		0.00110	0.00200	mg/L	1	12-Mar-2021 15:53
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:53
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 15:53
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)		Prep:SW3010A / 11-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:57
Arsenic	0.000536	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:57
Barium	0.0332		0.00190	0.00400	mg/L	1	12-Mar-2021 21:57
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:57
Chromium	0.000441	J	0.000400	0.00400	mg/L	1	12-Mar-2021 21:57
Copper	0.00217		0.00100	0.00200	mg/L	1	12-Mar-2021 21:57
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:57
Selenium	0.00383		0.00110	0.00200	mg/L	1	12-Mar-2021 21:57
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:57
Zinc	0.00405		0.00200	0.00400	mg/L	1	12-Mar-2021 21:57
MERCURY BY SW7470A		Method:SW7470A		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:51
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	0.0000920	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: PMW-20R
 Collection Date: 04-Mar-2021 15:35

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:57
Arsenic	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:57
Barium	0.0534		0.00190	0.00400	mg/L	1	12-Mar-2021 15:57
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:57
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 15:57
Copper	U		0.00100	0.00200	mg/L	1	12-Mar-2021 15:57
Lead	U		0.000600	0.00200	mg/L	1	13-Mar-2021 13:29
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 15:57
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:57
Zinc	0.00246	J	0.00200	0.00400	mg/L	1	12-Mar-2021 15:57
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:59
Arsenic	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:59
Barium	0.0538		0.00190	0.00400	mg/L	1	12-Mar-2021 21:59
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:59
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:59
Copper	0.00122	J	0.00100	0.00200	mg/L	1	12-Mar-2021 21:59
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:59
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:59
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:59
Zinc	0.00224	J	0.00200	0.00400	mg/L	1	12-Mar-2021 21:59
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:52
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000860	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: MW-41
 Collection Date: 04-Mar-2021 16:10

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 15:59
Arsenic	0.00712		0.000400	0.00200	mg/L	1	12-Mar-2021 15:59
Barium	0.0741		0.00190	0.00400	mg/L	1	12-Mar-2021 15:59
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:59
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 15:59
Copper	U		0.00100	0.00200	mg/L	1	12-Mar-2021 15:59
Lead	0.00150	J	0.000600	0.00200	mg/L	1	13-Mar-2021 13:31
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 15:59
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 15:59
Zinc	0.00331	J	0.00200	0.00400	mg/L	1	12-Mar-2021 15:59
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 22:01
Arsenic	0.000430	J	0.000400	0.00200	mg/L	1	12-Mar-2021 22:01
Barium	0.0718		0.00190	0.00400	mg/L	1	12-Mar-2021 22:01
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:01
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 22:01
Copper	U		0.00100	0.00200	mg/L	1	12-Mar-2021 22:01
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 22:01
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 22:01
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:01
Zinc	0.00241	J	0.00200	0.00400	mg/L	1	12-Mar-2021 22:01
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:54
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000910	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: MW-47
 Collection Date: 05-Mar-2021 08:10

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 16:01
Arsenic	U		0.000400	0.00200	mg/L	1	12-Mar-2021 16:01
Barium	0.0487		0.00190	0.00400	mg/L	1	12-Mar-2021 16:01
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 16:01
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 16:01
Copper	U		0.00100	0.00200	mg/L	1	12-Mar-2021 16:01
Lead	U		0.000600	0.00200	mg/L	1	13-Mar-2021 13:33
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 16:01
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 16:01
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 16:01
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 22:03
Arsenic	U		0.000400	0.00200	mg/L	1	12-Mar-2021 22:03
Barium	0.0539		0.00190	0.00400	mg/L	1	12-Mar-2021 22:03
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:03
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 22:03
Copper	0.00205		0.00100	0.00200	mg/L	1	12-Mar-2021 22:03
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 22:03
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 22:03
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:03
Zinc	0.00269	J	0.00200	0.00400	mg/L	1	12-Mar-2021 22:03
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:56
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000910	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: LMW-9R
 Collection Date: 05-Mar-2021 08:50

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 12-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:05
Arsenic	0.00126	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:05
Barium	0.0257		0.00190	0.00400	mg/L	1	12-Mar-2021 21:05
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:05
Chromium	0.000510	J	0.000400	0.00400	mg/L	1	12-Mar-2021 21:05
Copper	0.00393		0.00100	0.00200	mg/L	1	12-Mar-2021 21:05
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:05
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:05
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:05
Zinc	0.00282	J	0.00200	0.00400	mg/L	1	12-Mar-2021 21:05
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)		Prep:SW3010A / 11-Mar-2021		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 22:05
Arsenic	0.00152	J	0.000400	0.00200	mg/L	1	12-Mar-2021 22:05
Barium	0.0307		0.00190	0.00400	mg/L	1	12-Mar-2021 22:05
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:05
Chromium	0.000506	J	0.000400	0.00400	mg/L	1	12-Mar-2021 22:05
Copper	0.00498		0.00100	0.00200	mg/L	1	12-Mar-2021 22:05
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 22:05
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 22:05
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:05
Zinc	0.00254	J	0.00200	0.00400	mg/L	1	12-Mar-2021 22:05
MERCURY BY SW7470A		Method:SW7470A		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:58
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)		Prep:SW7470A / 12-Mar-2021		Analyst: MSC	
Mercury	0.0000850	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: LMW-22
 Collection Date: 05-Mar-2021 09:35

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	0.000700	J	0.000400	0.00200	mg/L	1	12-Mar-2021 21:07
Arsenic	0.00312		0.000400	0.00200	mg/L	1	12-Mar-2021 21:07
Barium	0.0628		0.00190	0.00400	mg/L	1	12-Mar-2021 21:07
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:07
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:07
Copper	0.00145	J	0.00100	0.00200	mg/L	1	12-Mar-2021 21:07
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 21:07
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:07
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:07
Zinc	0.00216	J	0.00200	0.00400	mg/L	1	12-Mar-2021 21:07
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	0.000654	J	0.000400	0.00200	mg/L	1	12-Mar-2021 22:07
Arsenic	0.00180	J	0.000400	0.00200	mg/L	1	12-Mar-2021 22:07
Barium	0.0675		0.00190	0.00400	mg/L	1	12-Mar-2021 22:07
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:07
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 22:07
Copper	0.00204		0.00100	0.00200	mg/L	1	12-Mar-2021 22:07
Lead	U		0.000600	0.00200	mg/L	1	12-Mar-2021 22:07
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 22:07
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:07
Zinc	0.00227	J	0.00200	0.00400	mg/L	1	12-Mar-2021 22:07
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	U		0.0000300	0.000200	mg/L	1	12-Mar-2021 20:59
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000890	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Exide North CAMU Groundwater Annual
 Sample ID: DUP-01
 Collection Date: 05-Mar-2021 12:00

ANALYTICAL REPORT

WorkOrder:HS21030422
 Lab ID:HS21030422-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 12-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:09
Arsenic	U		0.000400	0.00200	mg/L	1	12-Mar-2021 21:09
Barium	0.0590		0.00190	0.00400	mg/L	1	12-Mar-2021 21:09
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:09
Chromium	U		0.000400	0.00400	mg/L	1	12-Mar-2021 21:09
Copper	0.00190	J	0.00100	0.00200	mg/L	1	12-Mar-2021 21:09
Lead	0.000753	J	0.000600	0.00200	mg/L	1	12-Mar-2021 21:09
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 21:09
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 21:09
Zinc	U		0.00200	0.00400	mg/L	1	12-Mar-2021 21:09
DISSOLVED METALS BY SW6020A		Method:SW6020 (dissolved)			Prep:SW3010A / 11-Mar-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	12-Mar-2021 22:09
Arsenic	0.000445	J	0.000400	0.00200	mg/L	1	12-Mar-2021 22:09
Barium	0.0684		0.00190	0.00400	mg/L	1	12-Mar-2021 22:09
Cadmium	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:09
Chromium	0.000435	J	0.000400	0.00400	mg/L	1	12-Mar-2021 22:09
Copper	0.0192		0.00100	0.00200	mg/L	1	12-Mar-2021 22:09
Lead	0.00119	J	0.000600	0.00200	mg/L	1	12-Mar-2021 22:09
Selenium	U		0.00110	0.00200	mg/L	1	12-Mar-2021 22:09
Silver	U		0.000200	0.00200	mg/L	1	12-Mar-2021 22:09
Zinc	0.0177		0.00200	0.00400	mg/L	1	12-Mar-2021 22:09
MERCURY BY SW7470A		Method:SW7470A			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.000160	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 21:01
DISSOLVED MERCURY BY SW7470A		Method:SW7470A (dissolved)			Prep:SW7470A / 12-Mar-2021		Analyst: MSC
Mercury	0.0000940	J	0.0000300	0.000200	mg/L	1	12-Mar-2021 18:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

Batch ID: 163384 **Start Date:** 11 Mar 2021 13:00 **End Date:** 11 Mar 2021 17:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21030422-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 163392 **Start Date:** 12 Mar 2021 08:22 **End Date:** 12 Mar 2021 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21030422-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 163422 **Start Date:** 12 Mar 2021 15:00 **End Date:** 12 Mar 2021 17:00
Method: MERCURY PREP BY 7470A - DISSOLVED **Prep Code:** HG_W_DISSPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21030422-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Weight / Prep Log

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

Batch ID: 163424 **Start Date:** 12 Mar 2021 15:00 **End Date:** 12 Mar 2021 17:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21030422-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21030422-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 163384 (0)		Test Name : DISSOLVED METALS BY SW6020A			Matrix: Groundwater	
HS21030422-01	MW-45	04 Mar 2021 09:35		11 Mar 2021 17:00	12 Mar 2021 21:23	1
HS21030422-02	PMW-19R	04 Mar 2021 10:10		11 Mar 2021 17:00	12 Mar 2021 21:45	1
HS21030422-03	LMW-8	04 Mar 2021 10:50		11 Mar 2021 17:00	12 Mar 2021 21:47	1
HS21030422-04	LMW-17	04 Mar 2021 11:25		11 Mar 2021 17:00	12 Mar 2021 21:49	1
HS21030422-05	LMW-5	04 Mar 2021 12:00		11 Mar 2021 17:00	12 Mar 2021 21:51	1
HS21030422-06	LMW-21	04 Mar 2021 14:50		11 Mar 2021 17:00	12 Mar 2021 21:57	1
HS21030422-07	PMW-20R	04 Mar 2021 15:35		11 Mar 2021 17:00	12 Mar 2021 21:59	1
HS21030422-08	MW-41	04 Mar 2021 16:10		11 Mar 2021 17:00	12 Mar 2021 22:01	1
HS21030422-09	MW-47	05 Mar 2021 08:10		11 Mar 2021 17:00	12 Mar 2021 22:03	1
HS21030422-10	LMW-9R	05 Mar 2021 08:50		11 Mar 2021 17:00	12 Mar 2021 22:05	1
HS21030422-11	LMW-22	05 Mar 2021 09:35		11 Mar 2021 17:00	12 Mar 2021 22:07	1
HS21030422-12	DUP-01	05 Mar 2021 12:00		11 Mar 2021 17:00	12 Mar 2021 22:09	1
Batch ID: 163392 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS21030422-01	MW-45	04 Mar 2021 09:35		12 Mar 2021 12:00	12 Mar 2021 15:25	1
HS21030422-02	PMW-19R	04 Mar 2021 10:10		12 Mar 2021 12:00	13 Mar 2021 13:19	1
HS21030422-02	PMW-19R	04 Mar 2021 10:10		12 Mar 2021 12:00	12 Mar 2021 15:45	1
HS21030422-03	LMW-8	04 Mar 2021 10:50		12 Mar 2021 12:00	13 Mar 2021 13:21	1
HS21030422-03	LMW-8	04 Mar 2021 10:50		12 Mar 2021 12:00	12 Mar 2021 15:47	1
HS21030422-04	LMW-17	04 Mar 2021 11:25		12 Mar 2021 12:00	13 Mar 2021 13:23	1
HS21030422-04	LMW-17	04 Mar 2021 11:25		12 Mar 2021 12:00	12 Mar 2021 15:49	1
HS21030422-05	LMW-5	04 Mar 2021 12:00		12 Mar 2021 12:00	13 Mar 2021 13:25	1
HS21030422-05	LMW-5	04 Mar 2021 12:00		12 Mar 2021 12:00	12 Mar 2021 15:51	1
HS21030422-06	LMW-21	04 Mar 2021 14:50		12 Mar 2021 12:00	13 Mar 2021 13:27	1
HS21030422-06	LMW-21	04 Mar 2021 14:50		12 Mar 2021 12:00	12 Mar 2021 15:53	1
HS21030422-07	PMW-20R	04 Mar 2021 15:35		12 Mar 2021 12:00	13 Mar 2021 13:29	1
HS21030422-07	PMW-20R	04 Mar 2021 15:35		12 Mar 2021 12:00	12 Mar 2021 15:57	1
HS21030422-08	MW-41	04 Mar 2021 16:10		12 Mar 2021 12:00	13 Mar 2021 13:31	1
HS21030422-08	MW-41	04 Mar 2021 16:10		12 Mar 2021 12:00	12 Mar 2021 15:59	1
HS21030422-09	MW-47	05 Mar 2021 08:10		12 Mar 2021 12:00	13 Mar 2021 13:33	1
HS21030422-09	MW-47	05 Mar 2021 08:10		12 Mar 2021 12:00	12 Mar 2021 16:01	1
HS21030422-10	LMW-9R	05 Mar 2021 08:50		12 Mar 2021 12:00	12 Mar 2021 21:05	1
HS21030422-11	LMW-22	05 Mar 2021 09:35		12 Mar 2021 12:00	12 Mar 2021 21:07	1
HS21030422-12	DUP-01	05 Mar 2021 12:00		12 Mar 2021 12:00	12 Mar 2021 21:09	1

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 163422 (0)		Test Name : DISSOLVED MERCURY BY SW7470A			Matrix: Groundwater	
HS21030422-01	MW-45	04 Mar 2021 09:35		12 Mar 2021 15:00	12 Mar 2021 18:03	1
HS21030422-02	PMW-19R	04 Mar 2021 10:10		12 Mar 2021 15:00	12 Mar 2021 18:25	1
HS21030422-03	LMW-8	04 Mar 2021 10:50		12 Mar 2021 15:00	12 Mar 2021 18:27	1
HS21030422-04	LMW-17	04 Mar 2021 11:25		12 Mar 2021 15:00	12 Mar 2021 18:28	1
HS21030422-05	LMW-5	04 Mar 2021 12:00		12 Mar 2021 15:00	12 Mar 2021 18:30	1
HS21030422-06	LMW-21	04 Mar 2021 14:50		12 Mar 2021 15:00	12 Mar 2021 18:32	1
HS21030422-07	PMW-20R	04 Mar 2021 15:35		12 Mar 2021 15:00	12 Mar 2021 18:33	1
HS21030422-08	MW-41	04 Mar 2021 16:10		12 Mar 2021 15:00	12 Mar 2021 18:35	1
HS21030422-09	MW-47	05 Mar 2021 08:10		12 Mar 2021 15:00	12 Mar 2021 18:37	1
HS21030422-10	LMW-9R	05 Mar 2021 08:50		12 Mar 2021 15:00	12 Mar 2021 18:39	1
HS21030422-11	LMW-22	05 Mar 2021 09:35		12 Mar 2021 15:00	12 Mar 2021 18:40	1
HS21030422-12	DUP-01	05 Mar 2021 12:00		12 Mar 2021 15:00	12 Mar 2021 18:48	1
Batch ID: 163424 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS21030422-01	MW-45	04 Mar 2021 09:35		12 Mar 2021 15:00	12 Mar 2021 20:30	1
HS21030422-02	PMW-19R	04 Mar 2021 10:10		12 Mar 2021 15:00	12 Mar 2021 20:37	1
HS21030422-03	LMW-8	04 Mar 2021 10:50		12 Mar 2021 15:00	12 Mar 2021 20:38	1
HS21030422-04	LMW-17	04 Mar 2021 11:25		12 Mar 2021 15:00	12 Mar 2021 20:47	1
HS21030422-05	LMW-5	04 Mar 2021 12:00		12 Mar 2021 15:00	12 Mar 2021 20:49	1
HS21030422-06	LMW-21	04 Mar 2021 14:50		12 Mar 2021 15:00	12 Mar 2021 20:51	1
HS21030422-07	PMW-20R	04 Mar 2021 15:35		12 Mar 2021 15:00	12 Mar 2021 20:52	1
HS21030422-08	MW-41	04 Mar 2021 16:10		12 Mar 2021 15:00	12 Mar 2021 20:54	1
HS21030422-09	MW-47	05 Mar 2021 08:10		12 Mar 2021 15:00	12 Mar 2021 20:56	1
HS21030422-10	LMW-9R	05 Mar 2021 08:50		12 Mar 2021 15:00	12 Mar 2021 20:58	1
HS21030422-11	LMW-22	05 Mar 2021 09:35		12 Mar 2021 15:00	12 Mar 2021 20:59	1
HS21030422-12	DUP-01	05 Mar 2021 12:00		12 Mar 2021 15:00	12 Mar 2021 21:01	1

WorkOrder: HS21030422

InstrumentID: HG03

Test Code: HG_Diss

Test Number: SW7470A (dissolved)

Test Name: Dissolved Mercury by SW7470A

Matrix: Aqueous**METHOD DETECTION /
REPORTING LIMITS****Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Mercury	7439-97-6	0.000100	0.0000840	0.0000300	0.000200

WorkOrder: HS21030422

InstrumentID: HG03

Test Code: HG_W

Test Number: SW7470A

Test Name: Mercury by SW7470A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Mercury	7439-97-6	0.000100	0.0000840	0.0000300	0.000200

WorkOrder: HS21030422

InstrumentID: ICPMS06

Test Code: ICP_DISS

Test Number: SW6020 (dissolved)

Test Name: Dissolved Metals by SW6020A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Antimony	7440-36-0	0.00100	0.000674	0.000400	0.00200
A	Arsenic	7440-38-2	0.00100	0.000980	0.000400	0.00200
A	Barium	7440-39-3	0.00250	0.00234	0.00190	0.00400
A	Cadmium	7440-43-9	0.000500	0.000454	0.000200	0.00200
A	Chromium	7440-47-3	0.00100	0.00153	0.000400	0.00400
A	Copper	7440-50-8	0.00250	0.00321	0.00100	0.00200
A	Lead	7439-92-1	0.00100	0.000540	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00233	0.00110	0.00200
A	Silver	7440-22-4	0.000500	0.000515	0.000200	0.00200
A	Zinc	7440-66-6	0.00250	0.00305	0.00200	0.00400

WorkOrder: HS21030422

InstrumentID: ICPMS06

Test Code: ICP_TW

Test Number: SW6020

Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Antimony	7440-36-0	0.00100	0.000674	0.000400	0.00200
A	Arsenic	7440-38-2	0.00100	0.000980	0.000400	0.00200
A	Barium	7440-39-3	0.00250	0.00234	0.00190	0.00400
A	Cadmium	7440-43-9	0.000500	0.000454	0.000200	0.00200
A	Chromium	7440-47-3	0.00100	0.00153	0.000400	0.00400
A	Copper	7440-50-8	0.00250	0.00321	0.00100	0.00200
A	Lead	7439-92-1	0.00100	0.000540	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00233	0.00110	0.00200
A	Silver	7440-22-4	0.000500	0.000515	0.000200	0.00200
A	Zinc	7440-66-6	0.00250	0.00305	0.00200	0.00400

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163384 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MBLK	Sample ID: MBLK-163384	Units: mg/L		Analysis Date: 12-Mar-2021 21:19					
Client ID:	Run ID: ICPMS06_379555	SeqNo: 5993642		PrepDate: 11-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	U	0.00200							
Arsenic	U	0.00200							
Barium	U	0.00400							
Cadmium	U	0.00200							
Chromium	U	0.00400							
Copper	U	0.00200							
Lead	U	0.00200							
Selenium	U	0.00200							
Silver	U	0.00200							
Zinc	U	0.00400							

LCS	Sample ID: LCS-163384	Units: mg/L		Analysis Date: 12-Mar-2021 21:21					
Client ID:	Run ID: ICPMS06_379555	SeqNo: 5993643		PrepDate: 11-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.05291	0.00200	0.05	0	106	80 - 120			
Arsenic	0.04872	0.00200	0.05	0	97.4	80 - 120			
Barium	0.05308	0.00400	0.05	0	106	80 - 120			
Cadmium	0.05299	0.00200	0.05	0	106	80 - 120			
Chromium	0.04995	0.00400	0.05	0	99.9	80 - 120			
Copper	0.05138	0.00200	0.05	0	103	80 - 120			
Lead	0.05216	0.00200	0.05	0	104	80 - 120			
Selenium	0.05202	0.00200	0.05	0	104	80 - 120			
Silver	0.05657	0.00200	0.05	0	113	80 - 120			
Zinc	0.05496	0.00400	0.05	0	110	80 - 120			

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163384 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MS		Sample ID: HS21030422-01MS		Units: mg/L		Analysis Date: 12-Mar-2021 21:27			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993646		PrepDate: 11-Mar-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Antimony	0.05047	0.00200	0.05	0.000464	100	75 - 125			
Arsenic	0.0471	0.00200	0.05	0.00049	93.2	75 - 125			
Barium	0.09471	0.00400	0.05	0.04436	101	75 - 125			
Cadmium	0.05029	0.00200	0.05	0.000011	101	75 - 125			
Chromium	0.0475	0.00400	0.05	-0.000045	95.1	75 - 125			
Copper	0.04875	0.00200	0.05	0.001789	93.9	75 - 125			
Lead	0.04977	0.00200	0.05	0.000002	99.5	75 - 125			
Selenium	0.04913	0.00200	0.05	0.00024	97.8	75 - 125			
Silver	0.05292	0.00200	0.05	0.000001	106	75 - 125			
Zinc	0.05146	0.00400	0.05	0.001996	98.9	75 - 125			

MSD		Sample ID: HS21030422-01MSD		Units: mg/L		Analysis Date: 12-Mar-2021 21:29			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993647		PrepDate: 11-Mar-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Antimony	0.05493	0.00200	0.05	0.000464	109	75 - 125	0.05047	8.47	20
Arsenic	0.05154	0.00200	0.05	0.00049	102	75 - 125	0.0471	9.01	20
Barium	0.1017	0.00400	0.05	0.04436	115	75 - 125	0.09471	7.14	20
Cadmium	0.0538	0.00200	0.05	0.000011	108	75 - 125	0.05029	6.74	20
Chromium	0.05166	0.00400	0.05	-0.000045	103	75 - 125	0.0475	8.4	20
Copper	0.05271	0.00200	0.05	0.001789	102	75 - 125	0.04875	7.82	20
Lead	0.05239	0.00200	0.05	0.000002	105	75 - 125	0.04977	5.13	20
Selenium	0.05244	0.00200	0.05	0.00024	104	75 - 125	0.04913	6.53	20
Silver	0.05683	0.00200	0.05	0.000001	114	75 - 125	0.05292	7.12	20
Zinc	0.05485	0.00400	0.05	0.001996	106	75 - 125	0.05146	6.37	20

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163384 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
PDS		Sample ID: HS21030422-01PDS		Units: mg/L		Analysis Date: 12-Mar-2021 21:31			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993648		PrepDate: 11-Mar-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.1037	0.00200	0.1	0.000464	103	75 - 125			
Arsenic	0.1017	0.00200	0.1	0.00049	101	75 - 125			
Barium	0.1543	0.00400	0.1	0.04436	110	75 - 125			
Cadmium	0.1068	0.00200	0.1	0.000011	107	75 - 125			
Chromium	0.1021	0.00400	0.1	-0.000045	102	75 - 125			
Copper	0.1051	0.00200	0.1	0.001789	103	75 - 125			
Lead	0.1074	0.00200	0.1	0.000002	107	75 - 125			
Selenium	0.1055	0.00200	0.1	0.00024	105	75 - 125			
Silver	0.1007	0.00200	0.1	0.000001	101	75 - 125			
Zinc	0.1101	0.00400	0.1	0.001996	108	75 - 125			

SD		Sample ID: HS21030422-01SD		Units: mg/L		Analysis Date: 12-Mar-2021 21:25			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993645		PrepDate: 11-Mar-2021		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Antimony	U	0.0100					0.000464	0	10
Arsenic	U	0.0100					0.00049	0	10
Barium	0.04466	0.0200					0.04436	0.683	10
Cadmium	U	0.0100					0.000011	0	10
Chromium	U	0.0200					-0.000045	0	10
Copper	U	0.0100					0.001789	0	10
Lead	U	0.0100					0.000002	0	10
Selenium	U	0.0100					0.00024	0	10
Silver	U	0.0100					0.000001	0	10
Zinc	U	0.0200					0.001996	0	10

The following samples were analyzed in this batch:				HS21030422-01	HS21030422-02	HS21030422-03	HS21030422-04
				HS21030422-05	HS21030422-06	HS21030422-07	HS21030422-08
				HS21030422-09	HS21030422-10	HS21030422-11	HS21030422-12

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163392 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-163392	Units: mg/L		Analysis Date: 12-Mar-2021 15:19					
Client ID:	Run ID: ICPMS06_379555	SeqNo: 5993601		PrepDate: 12-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	U	0.00200							
Arsenic	U	0.00200							
Barium	U	0.00400							
Cadmium	U	0.00200							
Chromium	U	0.00400							
Copper	U	0.00200							
Lead	U	0.00200							
Selenium	U	0.00200							
Silver	U	0.00200							
Zinc	U	0.00400							

LCS	Sample ID: LCS-163392	Units: mg/L		Analysis Date: 12-Mar-2021 15:21					
Client ID:	Run ID: ICPMS06_379555	SeqNo: 5993602		PrepDate: 12-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.04803	0.00200	0.05	0	96.1	80 - 120			
Arsenic	0.04505	0.00200	0.05	0	90.1	80 - 120			
Barium	0.04978	0.00400	0.05	0	99.6	80 - 120			
Cadmium	0.05006	0.00200	0.05	0	100	80 - 120			
Chromium	0.04651	0.00400	0.05	0	93.0	80 - 120			
Copper	0.04815	0.00200	0.05	0	96.3	80 - 120			
Lead	0.04803	0.00200	0.05	0	96.1	80 - 120			
Selenium	0.0479	0.00200	0.05	0	95.8	80 - 120			
Silver	0.05072	0.00200	0.05	0	101	80 - 120			
Zinc	0.05237	0.00400	0.05	0	105	80 - 120			

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163392 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
MS		Sample ID: HS21030422-01MS		Units: mg/L		Analysis Date: 12-Mar-2021 15:27			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993605		PrepDate: 12-Mar-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Antimony	0.04472	0.00200	0.05	0.0003	88.8	80 - 120			
Arsenic	0.04127	0.00200	0.05	0.000451	81.6	80 - 120			
Barium	0.08492	0.00400	0.05	0.04217	85.5	80 - 120			
Cadmium	0.0448	0.00200	0.05	0.000008	89.6	80 - 120			
Chromium	0.04257	0.00400	0.05	0.000024	85.1	80 - 120			
Copper	0.04416	0.00200	0.05	0.001534	85.3	80 - 120			
Lead	0.04438	0.00200	0.05	0.000009	88.7	80 - 120			
Selenium	0.04451	0.00200	0.05	-0.000389	89.8	80 - 120			
Silver	0.04576	0.00200	0.05	-0.000007	91.5	80 - 120			
Zinc	0.04707	0.00400	0.05	0.002025	90.1	80 - 120			

MSD		Sample ID: HS21030422-01MSD		Units: mg/L		Analysis Date: 12-Mar-2021 15:29			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993606		PrepDate: 12-Mar-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Antimony	0.04641	0.00200	0.05	0.0003	92.2	80 - 120	0.04472	3.71	20
Arsenic	0.04246	0.00200	0.05	0.000451	84.0	80 - 120	0.04127	2.83	20
Barium	0.08583	0.00400	0.05	0.04217	87.3	80 - 120	0.08492	1.08	20
Cadmium	0.04514	0.00200	0.05	0.000008	90.3	80 - 120	0.0448	0.745	20
Chromium	0.04355	0.00400	0.05	0.000024	87.1	80 - 120	0.04257	2.29	20
Copper	0.04553	0.00200	0.05	0.001534	88.0	80 - 120	0.04416	3.06	20
Lead	0.04562	0.00200	0.05	0.000009	91.2	80 - 120	0.04438	2.76	20
Selenium	0.04496	0.00200	0.05	-0.000389	90.7	80 - 120	0.04451	1	20
Silver	0.04723	0.00200	0.05	-0.000007	94.5	80 - 120	0.04576	3.15	20
Zinc	0.04715	0.00400	0.05	0.002025	90.3	80 - 120	0.04707	0.172	20

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163392 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
PDS		Sample ID: HS21030422-01PDS		Units: mg/L		Analysis Date: 12-Mar-2021 15:31			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993607		PrepDate: 12-Mar-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.09964	0.00200	0.1	0.0003	99.3	75 - 125			
Arsenic	0.09711	0.00200	0.1	0.000451	96.7	75 - 125			
Barium	0.1435	0.00400	0.1	0.04217	101	75 - 125			
Cadmium	0.1025	0.00200	0.1	0.000008	102	75 - 125			
Chromium	0.1008	0.00400	0.1	0.000024	101	75 - 125			
Copper	0.1023	0.00200	0.1	0.001534	101	75 - 125			
Lead	0.1042	0.00200	0.1	0.000009	104	75 - 125			
Selenium	0.104	0.00200	0.1	-0.000389	104	75 - 125			
Silver	0.09603	0.00200	0.1	-0.000007	96.0	75 - 125			
Zinc	0.105	0.00400	0.1	0.002025	103	75 - 125			

SD		Sample ID: HS21030422-01SD		Units: mg/L		Analysis Date: 12-Mar-2021 15:23			
Client ID: MW-45		Run ID: ICPMS06_379555		SeqNo: 5993603		PrepDate: 12-Mar-2021		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Antimony	0.002136	0.0100					0.0003	0 10	J
Arsenic	U	0.0100					0.000451	0 10	
Barium	0.0426	0.0200					0.04217	1.03 10	
Cadmium	U	0.0100					0.000008	0 10	
Chromium	U	0.0200					0.000024	0 10	
Copper	U	0.0100					0.001534	0 10	
Lead	U	0.0100					0.000009	0 10	
Selenium	U	0.0100					-0.000389	0 10	
Silver	U	0.0100					-0.000007	0 10	
Zinc	U	0.0200					0.002025	0 10	

The following samples were analyzed in this batch:				HS21030422-01	HS21030422-02	HS21030422-03	HS21030422-04
				HS21030422-05	HS21030422-06	HS21030422-07	HS21030422-08
				HS21030422-09	HS21030422-10	HS21030422-11	HS21030422-12

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163422 (0)		Instrument: HG03		Method: DISSOLVED MERCURY BY SW7470A (DISSOLVED)					
MBLK	Sample ID: MBLK-163422	Units: mg/L		Analysis Date: 12-Mar-2021 18:00					
Client ID:	Run ID: HG03_379584		SeqNo: 5993253		PrepDate: 12-Mar-2021		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	U	0.000200							
LCS	Sample ID: LCS-163422	Units: mg/L		Analysis Date: 12-Mar-2021 18:12					
Client ID:	Run ID: HG03_379584		SeqNo: 5993258		PrepDate: 12-Mar-2021		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	0.00539	0.000200	0.005	0	108	80 - 120			
MS	Sample ID: HS21030422-01MS	Units: mg/L		Analysis Date: 12-Mar-2021 18:14					
Client ID: MW-45	Run ID: HG03_379584		SeqNo: 5993259		PrepDate: 12-Mar-2021		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	0.00489	0.000200	0.005	0.000098	95.8	80 - 120			
MSD	Sample ID: HS21030422-01MSD	Units: mg/L		Analysis Date: 12-Mar-2021 18:16					
Client ID: MW-45	Run ID: HG03_379584		SeqNo: 5993280		PrepDate: 12-Mar-2021		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	0.0049	0.000200	0.005	0.000098	96.0	80 - 120	0.00489	0.204	20
The following samples were analyzed in this batch:									
HS21030422-01		HS21030422-02		HS21030422-03		HS21030422-04			
HS21030422-05		HS21030422-06		HS21030422-07		HS21030422-08			
HS21030422-09		HS21030422-10		HS21030422-11		HS21030422-12			

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

QC BATCH REPORT

Batch ID: 163424 (0)		Instrument: HG03		Method: MERCURY BY SW7470A						
MBLK	Sample ID: MBLK-163424	Units: mg/L		Analysis Date: 12-Mar-2021 20:25						
Client ID:	Run ID: HG03_379584		SeqNo: 5993313		PrepDate: 12-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00009	0.000200								J
LCS	Sample ID: LCS-163424	Units: mg/L		Analysis Date: 12-Mar-2021 20:32						
Client ID:	Run ID: HG03_379584		SeqNo: 5993315		PrepDate: 12-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00477	0.000200	0.005	0	95.4	80 - 120				
MS	Sample ID: HS21030422-01MS	Units: mg/L		Analysis Date: 12-Mar-2021 20:33						
Client ID: MW-45	Run ID: HG03_379584		SeqNo: 5993316		PrepDate: 12-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00477	0.000200	0.005	0.000016	95.1	75 - 125				
MSD	Sample ID: HS21030422-01MSD	Units: mg/L		Analysis Date: 12-Mar-2021 20:35						
Client ID: MW-45	Run ID: HG03_379584		SeqNo: 5993317		PrepDate: 12-Mar-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00473	0.000200	0.005	0.000016	94.3	75 - 125	0.00477	0.842	20	
The following samples were analyzed in this batch:										
HS21030422-01		HS21030422-02		HS21030422-03		HS21030422-04				
HS21030422-05		HS21030422-06		HS21030422-07		HS21030422-08				
HS21030422-09		HS21030422-10		HS21030422-11		HS21030422-12				

Client: Golder Associates
Project: Exide North CAMU Groundwater Annual
WorkOrder: HS21030422

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

Sample Receipt Checklist

Work Order ID: HS21030422

Date/Time Received: 06-Mar-2021 11:20

Client Name: Golder St Louis

Received by: Jared R. Makan

Completed By: /S/ Jared R. Makan	09-Mar-2021 00:56	Reviewed by: /S/ Dane J. Wacasey	15-Mar-2021 10:06
eSignature	Date/Time	eSignature	Date/Time

Matrices: WaterCarrier name: FedEx Priority Overnight

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	COC IDs:234245, 234244
Samplers name present on COC?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	1.5°C UC/C IR31		
Cooler(s)/Kit(s):	Blue		
Date/Time sample(s) sent to storage:	03/09/2021 08:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



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Chain of Custody Form

Page 1 of 2

COC ID: 234245

HS21030422

Golder Associates
Exide North CAMU Groundwater



ALS Project Manager:

Customer Information		Project Information	
Purchase Order	20409062-01	Project Name	20409062 Exide North CAMU GW Annual
Work Order		Project Number	20409062
Company Name	Golder Associates	Bill To Company	Golder Associates
Send Report To	Emily White	Invoice Attn	Tammy Kurzmack Exide A/P
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021
Phone	(314) 984-8800	Phone	(314) 984-8800
Fax		Fax	
e-Mail Address	Emily_White@golder.com	e-Mail Address	Tammy_Kurzmack@golder.com

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MMW-45	3-4-21	0935	Groundwa	2.8	6	X	X	X								
2	PMW-19R	3-4-21	1010	Groundwa	2.8	2	X	X									
3	LMW-48	3-4-21	1050	Groundwa	2.8	2	X	X									
4	LMW-17	3-4-21	1125	Groundwa	2.8	2	X	X									
5	LMW-5	3-4-21	1200	Groundwa	2.8	2	X	X									
6	LMW-21	3-4-21	1450	Groundwa	2.8	2	X	X									
7	PMW-20R	3-4-21	1535	Groundwa	2.8	2	X	X									
8	MMW-41	3-4-21	1610	Groundwa	2.8	2	X	X									
9	MMW-47	3-5-21	0810	Groundwa	2.8	2	X	X									
10	LMW-9R	3-5-21	0850	Groundwa	2.8	2	X	X									

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)		Results Due Date:	
JOHN BRAYTON <i>John Br</i>		FEDEX		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour			
Relinquished by:	Date: 3-5-21	Time: 1700	Received by:	Notes:			
Relinquished by:	Date: 3/6/21	Time: 11:20	Received by (Laboratory): J. MURPHY	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	136	1.5°C	☐ Level II Std QC	☒ TRRP Checklist
						☐ Level III Std QC/Raw Data	☐ TRRP Level IV
						☐ Level IV SW846/CLP	
						☐ Other	

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

- Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

Page 2 of 2

COC ID: 234244

HS21030422

Golder Associates
Exide North CAMU Groundwater



ALS Project Manager:

Customer Information		Project Information	
Purchase Order	20409062-01	Project Name	20409062 Exide North CAMU GW Annua
Work Order		Project Number	20409062
Company Name	Golder Associates	Bill To Company	Golder Associates
Send Report To	Emily White	Invoice Attn	Tammy Kurzmack Exide A/P
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021
Phone	(314) 984-8800	Phone	(314) 984-8800
Fax		Fax	
e-Mail Address	Emily_White@golder.com	e-Mail Address	Tammy_Kurzmack@golder.com

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-22	3-5-21	0935	Groundwa	2.8	2	X	X									
2	DUP-01	3-5-21	1200	Groundwa	2.8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method FEDEX		Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour		Results Due Date:	
Relinquished by:	Date: 3-5-21	Time: 1700	Received by:	Notes:			
Relinquished by:	Date: 3/6/21	Time: 11:20	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			☐ Level II Std QC ☒ TRRP Check/Mist ☐ Level III Std QC/Raw Data ☐ TRRP Level IV ☐ Level IV SIM/46/CLP ☐ Other	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							

- Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:
	Date: <u>3-5-21</u>	Time: <u>1700</u>	<u>JM</u>
	Name: <u>JOHN BRAYTON</u>		Date:
	Company: <u>GOLDER</u>		<u>03106121</u>

Blue MAR 06 2021



Must Deliver Next Business Day
Time and Temperature Sensitive!

Blue

ORIGIN ID:SGRA (314) 304-1326
JOHN BRAYTON /EMILY WHITE
GOLDER ASSOCIATES
7471 5TH STREET

FRISCO, TX 75034
UNITED STATES

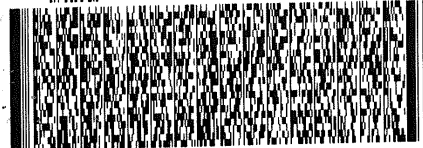
SHIP DATE: 01MAR21
ACTWGT: 1.00 LB MAX
CAD: 0221247/CAFE3408
DIMS: 14x11x10 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
104 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099

(281) 530-6866

REF: EXIDE NORTH CAMU - BO 76911 - DW

RMA: ||| ||| |||



FedEx
Express



FedEx

TRK# 9473 0840 6034
0221

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO SGRA

77099

TX-US IAH



#2640044 03/05 56DJ3/HC39/FE4R



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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June 09, 2021

Emily Forthaus
Golder Associates
13515 Barrett Parkway Drive, Suite 260
Ballwin, MO 63021

Work Order: **HS21060194**

Laboratory Results for: **Frisco CDC North CAMU GW**

Dear Emily Forthaus,

ALS Environmental received 12 sample(s) on Jun 03, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

Dane J. Wacasey

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☒ [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 06/09/2021			
Project Name: Frisco CDC North CAMU GW				Laboratory Job Number: HS21060194			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 166591,166641			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 06/09/2021			
Project Name: Frisco CDC North CAMU GW				Laboratory Job Number: HS21060194			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 166591,166641			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports	
Laboratory Name: ALS Laboratory Group	LRC Date: 06/09/2021
Project Name: Frisco CDC North CAMU GW	Laboratory Job Number: HS21060194
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 166591,166641
ER#⁵	Description
	No Exceptions
Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable); NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	

Client: Golder Associates
Project: Frisco CDC North CAMU GW
Work Order: HS21060194

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21060194-01	MW-45	Groundwater		01-Jun-2021 09:50	03-Jun-2021 10:30	☐
HS21060194-02	PMW-19R	Groundwater		01-Jun-2021 10:10	03-Jun-2021 10:30	☐
HS21060194-03	LMW-8	Groundwater		01-Jun-2021 10:55	03-Jun-2021 10:30	☐
HS21060194-04	LMW-17	Groundwater		01-Jun-2021 11:45	03-Jun-2021 10:30	☐
HS21060194-05	LMW-5	Groundwater		01-Jun-2021 12:45	03-Jun-2021 10:30	☐
HS21060194-06	LMW-21	Groundwater		01-Jun-2021 13:45	03-Jun-2021 10:30	☐
HS21060194-07	PMW-20R	Groundwater		01-Jun-2021 14:25	03-Jun-2021 10:30	☐
HS21060194-08	MW-41	Groundwater		01-Jun-2021 15:00	03-Jun-2021 10:30	☐
HS21060194-09	MW-47	Groundwater		01-Jun-2021 16:15	03-Jun-2021 10:30	☐
HS21060194-10	LMW-9R	Groundwater		02-Jun-2021 07:50	03-Jun-2021 10:30	☐
HS21060194-11	LMW-22	Groundwater		02-Jun-2021 09:00	03-Jun-2021 10:30	☐
HS21060194-12	DUP-01	Groundwater		01-Jun-2021 12:45	03-Jun-2021 10:30	☐

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: MW-45
 Collection Date: 01-Jun-2021 09:50

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.000485	J	0.000400	0.00200	mg/L	1	08-Jun-2021 22:32
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 22:32
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 22:32
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 22:32
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.000449	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:11
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:11
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:11
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: PMW-19R
 Collection Date: 01-Jun-2021 10:10

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.00103	J	0.000400	0.00200	mg/L	1	08-Jun-2021 22:52
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 22:52
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 22:52
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 22:52
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.000669	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:25
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:25
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:25
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: LMW-8
 Collection Date: 01-Jun-2021 10:55

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 22:54
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 22:54
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 22:54
Selenium	0.00144	J	0.00110	0.00200	mg/L	1	08-Jun-2021 22:54
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 01:27
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:27
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:27
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: LMW-17
 Collection Date: 01-Jun-2021 11:45

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 22:56
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 22:56
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 22:56
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 22:56
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 01:29
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:29
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:29
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
Project: Frisco CDC North CAMU GW
Sample ID: LMW-5
Collection Date: 01-Jun-2021 12:45

ANALYTICAL REPORT

WorkOrder:HS21060194
Lab ID:HS21060194-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 22:59
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 22:59
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 22:59
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 22:59
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 01:31
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:31
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:31
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: LMW-21
 Collection Date: 01-Jun-2021 13:45

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.000550	J	0.000400	0.00200	mg/L	1	08-Jun-2021 23:01
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:01
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:01
Selenium	0.00526		0.00110	0.00200	mg/L	1	08-Jun-2021 23:01
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.000521	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:33
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:33
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:33
Selenium	0.00525		0.00110	0.00200	mg/L	1	08-Jun-2021 01:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: PMW-20R
 Collection Date: 01-Jun-2021 14:25

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 23:07
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:07
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:07
Selenium	0.00157	J	0.00110	0.00200	mg/L	1	08-Jun-2021 23:07
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 01:35
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:35
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:35
Selenium	0.00161	J	0.00110	0.00200	mg/L	1	08-Jun-2021 01:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: MW-41
 Collection Date: 01-Jun-2021 15:00

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.000764	J	0.000400	0.00200	mg/L	1	08-Jun-2021 23:09
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:09
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:09
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 23:09
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.000801	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:37
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:37
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:37
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: MW-47
 Collection Date: 01-Jun-2021 16:15

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.000720	J	0.000400	0.00200	mg/L	1	08-Jun-2021 23:11
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:11
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:11
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 23:11
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.000658	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:39
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:39
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:39
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: LMW-9R
 Collection Date: 02-Jun-2021 07:50

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.000945	J	0.000400	0.00200	mg/L	1	08-Jun-2021 23:13
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:13
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:13
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 23:13
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.000853	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:41
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:41
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:41
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: LMW-22
 Collection Date: 02-Jun-2021 09:00

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.00147	J	0.000400	0.00200	mg/L	1	08-Jun-2021 23:15
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:15
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:15
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 23:15
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	0.00119	J	0.000400	0.00200	mg/L	1	08-Jun-2021 01:44
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:44
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:44
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: DUP-01
 Collection Date: 01-Jun-2021 12:45

ANALYTICAL REPORT

WorkOrder:HS21060194
 Lab ID:HS21060194-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Jun-2021		Analyst: JHD	
Arsenic	0.000410	J	0.000400	0.00200	mg/L	1	08-Jun-2021 23:17
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 23:17
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 23:17
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 23:17
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 07-Jun-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Jun-2021 01:49
Cadmium	U		0.000200	0.00200	mg/L	1	08-Jun-2021 01:49
Lead	U		0.000600	0.00200	mg/L	1	08-Jun-2021 01:49
Selenium	U		0.00110	0.00200	mg/L	1	08-Jun-2021 01:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

Batch ID: 166591 **Start Date:** 07 Jun 2021 10:00 **End Date:** 07 Jun 2021 14:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21060194-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 166641 **Start Date:** 08 Jun 2021 10:30 **End Date:** 08 Jun 2021 14:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21060194-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060194-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 166591 (0)		Test Name : DISSOLVED METALS BY SW6020A			Matrix: Groundwater	
HS21060194-01	MW-45	01 Jun 2021 09:50		07 Jun 2021 14:00	08 Jun 2021 01:11	1
HS21060194-02	PMW-19R	01 Jun 2021 10:10		07 Jun 2021 14:00	08 Jun 2021 01:25	1
HS21060194-03	LMW-8	01 Jun 2021 10:55		07 Jun 2021 14:00	08 Jun 2021 01:27	1
HS21060194-04	LMW-17	01 Jun 2021 11:45		07 Jun 2021 14:00	08 Jun 2021 01:29	1
HS21060194-05	LMW-5	01 Jun 2021 12:45		07 Jun 2021 14:00	08 Jun 2021 01:31	1
HS21060194-06	LMW-21	01 Jun 2021 13:45		07 Jun 2021 14:00	08 Jun 2021 01:33	1
HS21060194-07	PMW-20R	01 Jun 2021 14:25		07 Jun 2021 14:00	08 Jun 2021 01:35	1
HS21060194-08	MW-41	01 Jun 2021 15:00		07 Jun 2021 14:00	08 Jun 2021 01:37	1
HS21060194-09	MW-47	01 Jun 2021 16:15		07 Jun 2021 14:00	08 Jun 2021 01:39	1
HS21060194-10	LMW-9R	02 Jun 2021 07:50		07 Jun 2021 14:00	08 Jun 2021 01:41	1
HS21060194-11	LMW-22	02 Jun 2021 09:00		07 Jun 2021 14:00	08 Jun 2021 01:44	1
HS21060194-12	DUP-01	01 Jun 2021 12:45		07 Jun 2021 14:00	08 Jun 2021 01:49	1
Batch ID: 166641 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS21060194-01	MW-45	01 Jun 2021 09:50		08 Jun 2021 14:30	08 Jun 2021 22:32	1
HS21060194-02	PMW-19R	01 Jun 2021 10:10		08 Jun 2021 14:30	08 Jun 2021 22:52	1
HS21060194-03	LMW-8	01 Jun 2021 10:55		08 Jun 2021 14:30	08 Jun 2021 22:54	1
HS21060194-04	LMW-17	01 Jun 2021 11:45		08 Jun 2021 14:30	08 Jun 2021 22:56	1
HS21060194-05	LMW-5	01 Jun 2021 12:45		08 Jun 2021 14:30	08 Jun 2021 22:59	1
HS21060194-06	LMW-21	01 Jun 2021 13:45		08 Jun 2021 14:30	08 Jun 2021 23:01	1
HS21060194-07	PMW-20R	01 Jun 2021 14:25		08 Jun 2021 14:30	08 Jun 2021 23:07	1
HS21060194-08	MW-41	01 Jun 2021 15:00		08 Jun 2021 14:30	08 Jun 2021 23:09	1
HS21060194-09	MW-47	01 Jun 2021 16:15		08 Jun 2021 14:30	08 Jun 2021 23:11	1
HS21060194-10	LMW-9R	02 Jun 2021 07:50		08 Jun 2021 14:30	08 Jun 2021 23:13	1
HS21060194-11	LMW-22	02 Jun 2021 09:00		08 Jun 2021 14:30	08 Jun 2021 23:15	1
HS21060194-12	DUP-01	01 Jun 2021 12:45		08 Jun 2021 14:30	08 Jun 2021 23:17	1

WorkOrder: HS21060194

InstrumentID: ICPMS06

Test Code: ICP_DISS

Test Number: SW6020A (dissolved)

Test Name: Dissolved Metals by SW6020A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.00117	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000450	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.000895	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00178	0.00110	0.00200

WorkOrder: HS21060194

InstrumentID: ICPMS06

Test Code: ICP_TW

Test Number: SW6020A

Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.00117	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000450	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.000895	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00178	0.00110	0.00200

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

QC BATCH REPORT

Batch ID: 166591 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MBLK	Sample ID: MBLK-166591	Units: mg/L		Analysis Date: 08-Jun-2021 01:07					
Client ID:	Run ID: ICPMS06_385066	SeqNo: 6126220		PrepDate: 07-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	U	0.00200							
Cadmium	U	0.00200							
Lead	U	0.00200							
Selenium	U	0.00200							

MBLK	Sample ID: MBLK-166591	Units: mg/L		Analysis Date: 08-Jun-2021 01:05					
Client ID:	Run ID: ICPMS06_385066	SeqNo: 6126219		PrepDate: 07-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	U	0.00200							
Cadmium	U	0.00200							
Lead	U	0.00200							
Selenium	U	0.00200							

LCS	Sample ID: LCS-166591	Units: mg/L		Analysis Date: 08-Jun-2021 01:09					
Client ID:	Run ID: ICPMS06_385066	SeqNo: 6126221		PrepDate: 07-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.04525	0.00200	0.05	0	90.5	80 - 120			
Cadmium	0.04794	0.00200	0.05	0	95.9	80 - 120			
Lead	0.04499	0.00200	0.05	0	90.0	80 - 120			
Selenium	0.04763	0.00200	0.05	0	95.3	80 - 120			

MS	Sample ID: HS21060194-01MS	Units: mg/L		Analysis Date: 08-Jun-2021 01:15					
Client ID: MW-45	Run ID: ICPMS06_385066	SeqNo: 6126224		PrepDate: 07-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.04614	0.00200	0.05	0.000449	91.4	75 - 125			
Cadmium	0.0476	0.00200	0.05	0.000018	95.2	75 - 125			
Lead	0.0453	0.00200	0.05	0.000037	90.5	75 - 125			
Selenium	0.04738	0.00200	0.05	0.000345	94.1	75 - 125			

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

QC BATCH REPORT

Batch ID: 166591 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MSD		Sample ID: HS21060194-01MSD		Units: mg/L		Analysis Date: 08-Jun-2021 01:17			
Client ID: MW-45		Run ID: ICPMS06_385066		SeqNo: 6126225		PrepDate: 07-Jun-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.04773	0.00200	0.05	0.000449	94.6	75 - 125	0.04614	3.38	20
Cadmium	0.04919	0.00200	0.05	0.000018	98.3	75 - 125	0.0476	3.29	20
Lead	0.04721	0.00200	0.05	0.000037	94.3	75 - 125	0.0453	4.13	20
Selenium	0.04851	0.00200	0.05	0.000345	96.3	75 - 125	0.04738	2.36	20
PDS		Sample ID: HS21060194-01PDS		Units: mg/L		Analysis Date: 08-Jun-2021 01:19			
Client ID: MW-45		Run ID: ICPMS06_385066		SeqNo: 6126226		PrepDate: 07-Jun-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.1162	0.00200	0.1	0.000449	116	75 - 125			
Cadmium	0.1164	0.00200	0.1	0.000018	116	75 - 125			
Lead	0.1132	0.00200	0.1	0.000037	113	75 - 125			
Selenium	0.1211	0.00200	0.1	0.000345	121	75 - 125			
SD		Sample ID: HS21060194-01SD		Units: mg/L		Analysis Date: 08-Jun-2021 01:13			
Client ID: MW-45		Run ID: ICPMS06_385066		SeqNo: 6126223		PrepDate: 07-Jun-2021		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Arsenic	U	0.0100					0.000449	0	10
Cadmium	U	0.0100					0.000018	0	10
Lead	U	0.0100					0.000037	0	10
Selenium	U	0.0100					0.000345	0	10
The following samples were analyzed in this batch:									
HS21060194-01		HS21060194-02		HS21060194-03		HS21060194-04			
HS21060194-05		HS21060194-06		HS21060194-07		HS21060194-08			
HS21060194-09		HS21060194-10		HS21060194-11		HS21060194-12			

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

QC BATCH REPORT

Batch ID: 166641 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-166641	Units: mg/L		Analysis Date: 08-Jun-2021 22:28					
Client ID:	Run ID: ICPMS06_385127	SeqNo: 6128424		PrepDate: 08-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	U	0.00200							
Cadmium	U	0.00200							
Lead	U	0.00200							
Selenium	U	0.00200							

LCS	Sample ID: LCS-166641	Units: mg/L		Analysis Date: 08-Jun-2021 22:30					
Client ID:	Run ID: ICPMS06_385127	SeqNo: 6128425		PrepDate: 08-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.04559	0.00200	0.05	0	91.2	80 - 120			
Cadmium	0.04855	0.00200	0.05	0	97.1	80 - 120			
Lead	0.04586	0.00200	0.05	0	91.7	80 - 120			
Selenium	0.04838	0.00200	0.05	0	96.8	80 - 120			

MS	Sample ID: HS21060194-01MS	Units: mg/L		Analysis Date: 08-Jun-2021 22:37					
Client ID: MW-45	Run ID: ICPMS06_385127	SeqNo: 6128428		PrepDate: 08-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.04557	0.00200	0.05	0.000485	90.2	80 - 120			
Cadmium	0.04701	0.00200	0.05	0.000007	94.0	80 - 120			
Lead	0.04451	0.00200	0.05	0.000032	89.0	80 - 120			
Selenium	0.04786	0.00200	0.05	0.000372	95.0	80 - 120			

MSD	Sample ID: HS21060194-01MSD	Units: mg/L		Analysis Date: 08-Jun-2021 22:39					
Client ID: MW-45	Run ID: ICPMS06_385127	SeqNo: 6128429		PrepDate: 08-Jun-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.0472	0.00200	0.05	0.000485	93.4	80 - 120	0.04557	3.52	20
Cadmium	0.04834	0.00200	0.05	0.000007	96.7	80 - 120	0.04701	2.79	20
Lead	0.04484	0.00200	0.05	0.000032	89.6	80 - 120	0.04451	0.723	20
Selenium	0.05046	0.00200	0.05	0.000372	100	80 - 120	0.04786	5.28	20

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

QC BATCH REPORT

Batch ID: 166641 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
PDS		Sample ID: HS21060194-01PDS		Units: mg/L		Analysis Date: 08-Jun-2021 22:41			
Client ID: MW-45		Run ID: ICPMS06_385127		SeqNo: 6128430		PrepDate: 08-Jun-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.1021	0.00200	0.1	0.000485	102	75 - 125			
Cadmium	0.104	0.00200	0.1	0.000007	104	75 - 125			
Lead	0.1037	0.00200	0.1	0.000032	104	75 - 125			
Selenium	0.1082	0.00200	0.1	0.000372	108	75 - 125			

SD		Sample ID: HS21060194-01SD		Units: mg/L		Analysis Date: 08-Jun-2021 22:34			
Client ID: MW-45		Run ID: ICPMS06_385127		SeqNo: 6128427		PrepDate: 08-Jun-2021		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Arsenic	U	0.0100					0.000485	0	10
Cadmium	U	0.0100					0.000007	0	10
Lead	U	0.0100					0.000032	0	10
Selenium	U	0.0100					0.000372	0	10

The following samples were analyzed in this batch:

HS21060194-01	HS21060194-02	HS21060194-03	HS21060194-04
HS21060194-05	HS21060194-06	HS21060194-07	HS21060194-08
HS21060194-09	HS21060194-10	HS21060194-11	HS21060194-12

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21060194

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

Sample Receipt Checklist

Work Order ID: HS21060194

Date/Time Received: 03-Jun-2021 10:30

Client Name: Golder St Louis

Received by: Jared R. Makan

Completed By: <u>/S/ Paresh M. Giga</u>	03-Jun-2021 19:13	Reviewed by: <u>/S/ Dane J. Wacasey</u>	08-Jun-2021 18:35
eSignature	Date/Time	eSignature	Date/Time

Matrices: **GW**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

VOA/TX1005/TX1006 Solids in hermetically sealed vials?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

2 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

COC IDs:247000/246999

Samplers name present on COC?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

0.8°C U/C

IR31

Cooler(s)/Kit(s):

47465

Date/Time sample(s) sent to storage:

6/3/2021 19:25

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☒No ☐N/A ☐

pH adjusted?

Yes ☐No ☒N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



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Chain of Custody Form

Page 1 of 2

COC ID: 247000

HS21060194

WV

Golder Associates
Frisco CDC North CAMU GW



ALS Project Manager:

Customer Information		Project Information	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW
Work Order		Project Number	20409062.01
Company Name	Golder Associates	Bill To Company	Golder Associates
Send Report To	Emily Forthaus	Invoice Attn	Accounts Payable
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021
Phone	(314) 984-8800	Phone	(314) 984-8800
Fax		Fax	
e-Mail Address	Emily_Forthaus@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.com

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-45	6-1-21	0950	Groundwa	2,8	4	X	X	X								
2	PMW-19R	6-1-21	1010	Groundwa	2,8	2	X	X									
3	LMW-8	6-1-21	1055	Groundwa	2,8	2	X	X									
4	LMW-17	6-1-21	1145	Groundwa	2,8	2	X	X									
5	LMW-45	6-1-21	1245	Groundwa	2,8	2	X	X									
6	LMW-21	6-1-21	1345	Groundwa	2,8	2	X	X									
7	PMW-20R	6-1-21	1425	Groundwa	2,8	2	X	X									
8	MW-41	6-1-21	1500	Groundwa	2,8	2	X	X									
9	MW-47	6-1-21	1615	Groundwa	2,8	2	X	X									
10	LMW-9R	6-2-21	0750	Groundwa	2,8	2	X	X									

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method FedEx		Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:									
Relinquished by: [Signature]		Date: 6-2-21	Time: 1700	Received by:		Notes: Frisco CDC North CAMU GW											
Relinquished by:		Date: 6/3/21	Time: 10:30	Received by (Laboratory): [Signature]		Cooler ID 47465	Cooler Temp. 0.8°C	QC Package: (Check One Box Below) ☐ Level II Std QC ☒ TRRP Checklist ☐ Level III Std QC/Raw Date ☐ TRRP Level IV ☐ Level IV SWB-8/CLP ☐ Other									
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035																	

- ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

Page 2 of 2

COC ID: **246999**

HS21060194

Golder Associates
Frisco CDC North CAMU GW

wv



Customer Information		Project Information	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW
Work Order		Project Number	20409062.01
Company Name	Golder Associates	Bill To Company	Golder Associates
Send Report To	Emily Forthaus	Invoice Attn	Accounts Payable
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021
Phone	(314) 984-8800	Phone	(314) 984-8300
Fax		Fax	
e-Mail Address	Emily_Forthaus@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.co

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMM-22	6-2-21	0900	Groundwa	2.8	2	X	X									
2	DUP-01	6-1-21	1245	Groundwa	2.8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method FEDEX		Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour			Results Due Date:				
Relinquished by: [Signature]		Date: 6-2-21	Time: 1700	Received by:		Notes: Frisco CDC North CAMU GW					
Relinquished by:		Date: 6/3/21	Time: 10:30	Received by (Laboratory): J. WILSON		Cooler ID		Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):					☐ Level II Std QC ☒ TRRP Checklist ☐ Level III Std QC/Raw Data ☐ TRRP Level IV ☐ Level IV SW-846/CLP ☐ Other		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035											

- ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL Date: <u>6-3-21</u> Time: <u>1700</u> Name: <u>[Signature]</u> Company: <u>GOLDER</u>		Seal Broken By: <u>SM</u>
			Date: <u>06/03/21</u>
	u7465		

u7465 JUN 03 2021



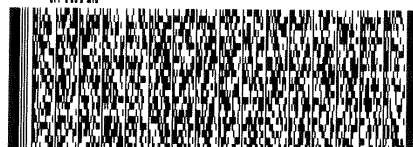
u7465

ORIGIN ID: SGRA (314) 304-1326
 JOHN BRAYTON
 GOLDER ASSOCIATES
 7471 5TH STREET
 FRISCO, TX 75034
 UNITED STATES US

SHIP DATE: 26MAY21
 ACTWGT: 1.00 LB MAN
 CAD: 0221247/CAFE3409
 DIMS: 14x11x10 IN

TO SHIPPING DEPT
 ALS LABORATORY GROUP
 10450 STANCLIFF RD
 SUITE 210
 HOUSTON TX 77099
 (281) 530-5656
 REF: FRISCO BO 78579 - DW

RMA: ||| ||| |||



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Express



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APPENDIX D
Data Usability Summaries

DATA USABILITY SUMMARY

ALS WORK ORDERS: HS21030422

PROJECT NO: 20409062-01

CLIENT: Frisco Community
Development Corporation

SAMPLE DATES: March 4 and 5, 2021

LABORATORY: ALS Group

WORK ORDERS: HS21030422

INTENDED USE: First Semiannual 2021 Groundwater Monitoring Report

SITE: Frisco Community Development Corporation Site, 7471 Old 5th Street,
Frisco, TX

TESTS/METHODS

- SW-846 6020A - Inductively Coupled Plasma-Mass Spectrometry (ICP/MS)
- SW-7470A – Mercury

SAMPLES

Eleven water samples, one matrix spike and matrix spike duplicate sample, and one field duplicate sample were collected for the analyses of total and dissolved metals: antimony, arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, zinc, and mercury. See Table 1 for the sample list.

Golder completed a review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS). Golder completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRC) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness

- Chain-of-Custody Procedures
- Sample Condition
- Field Procedures
- Results Reporting Procedures
- Field and Laboratory Blanks
- Laboratory Control Sample (LCS)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries
- Field Duplicate Precision
- Detectability Check Sample (DCS)

Additionally, Golder used the LRC to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs) and Sample Detection Limits (SDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

Criteria used for this data usability review are as follows:

- Precision: $\pm$ MQL difference or 30% relative percent difference (RPD) for laboratory duplicates and $\pm 2x$ MQL difference (if either result is less than $5x$ MQL) or 30% RPD for field duplicates as recommended in TRRP-13
- Accuracy: 70-130% spike recovery (and not less than 30% or data is rejected) as recommended in TRRP-13

If an item was found outside of the review criteria, the reviewer applied a data qualifier and bias code to the results for the affected samples in accordance with TRRP-13.

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP Certification T104704231) for the matrices, methods and parameters of analysis requested on the chain-of-custody forms.

USABILITY SUMMARY

Data are usable for the intended purpose. Data qualified due to exceedances of quality control criteria are summarized in Table 2.

Senior Reviewer: Brenda Basile 04/02/2021

Senior Reviewer: Anne Faeth-Boyd 04/02/2021

QUALITY CONTROL PARAMETERS AND OUTCOMES

Data Completeness

The laboratory data package contains necessary data (i.e., the laboratory reportable data per TRRP-13) and the EDD contains sample results in acceptable format.

Chain-of-Custody

Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. The information on the custody records is complete and agrees with that in the field notes and laboratory reports.

Sample Condition

Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical method. No data were qualified.

Field Procedures

The samples were collected and placed immediately into laboratory supplied containers and then into a cooler with ice for overnight delivery to the laboratory.

According to the Work Plan, groundwater samples with turbidity greater than 10 nephelometric turbidity units (NTU) would be field filtered with a 10-micron filter for analyses of total metals. None of the groundwater samples collected had a turbidity greater than 10 NTU during this sampling event. For dissolved metals, samples were field filtered with a 0.45-micron filter. According to the Groundwater Sample Collection Forms, samples were filtered appropriately.

Results Reporting Procedures

Water results are reported in milligrams per liter (mg/L). Non-detects are reported using the SDL as specified per TRRP and detects between the SDL and MQL are reported with a laboratory J-flag. The concentration reported for detects between the SDL and MQL is below the calibration range and thus is considered estimated.

The dissolved metals concentrations were slightly above the total metal concentration in some samples as shown on Table 3. Data qualified due to dissolved concentrations higher than total concentrations outside of criteria are listed in Table 2.

Field and Laboratory Blanks

No field blanks were collected.

Method blank and continuing calibration blank data provided by the laboratory were evaluated. Sample data associated with method blank data are qualified if the sample concentration is within five times the blank concentration. Sample data associated with continuing calibration blank data are qualified if the analyte is detected above the MDL and the sample concentration is detected. If data is qualified as estimated based on accuracy or precision criteria that was not met, the data is qualified with both a J-flag and a U-flag. Data are qualified as shown in Tables 2 and 4.

Laboratory Control Sample

The LCS recoveries (%R) are within the TRRP-13 recommended criteria of 80 -120 percent recovery (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

Golder submitted one MS/MSD for this sampling event (MW-45). The MS/MSD recoveries were within the TRRP-13 recommended criteria of 70-130%R. Precision was within the TRRP-13 recommended criteria of 30 RPD. The post-digestion spike recovery was within the TRRP-13 recommended criteria of 70-130%R. The serial dilution percent difference was within the method criteria of 10% difference.

Field Duplicate Precision

One field duplicate was collected with these samples (LMW-5/DUP-01). Field duplicate results are presented in Table 5. Samples and COCs with duplicate precision outside the TRRP-13 recommended criteria of 30 RPD or less than two times the MQL are qualified as shown in Tables 2 and 5.

Detectability Check Standards (DCS)

DCS data were provided in the laboratory report. DCS results support the SDLs in the laboratory report.

Instrument Tuning and Performance

According to the LRC, instrument tuning and interference check sample results met method requirements and therefore no data qualification was warranted.

Instrument Calibration

According to the LRC, calibrations were acceptable.

Internal Standards

According to the LRC, internal standard areas were acceptable.

TABLE 1
CROSS REFERENCE OF FIELD SAMPLE IDENTIFICATIONS AND LABORATORY IDENTIFICATIONS

Lab Sample Identification	Field Sample Identification	Sample Date	Total/Dissolved Metals	Comments
HS21030422-01	MW-45	3/4/2021	✓	Matrix Spike/Matrix Spike Duplicate
HS21030422-02	PMW-19R	3/4/2021	✓	
HS21030422-03	LMW-8	3/4/2021	✓	
HS21030422-04	LMW-17	3/4/2021	✓	
HS21030422-05	LMW-5	3/4/2021	✓	
HS21030422-06	LMW-21	3/4/2021	✓	
HS21030422-07	PMW-20R	3/4/2021	✓	
HS21030422-08	MW-41	3/4/2021	✓	
HS21030422-09	MW-47	3/5/2021	✓	
HS21030422-10	LMW-9R	3/5/2021	✓	
HS21030422-11	LMW-22	3/5/2021	✓	
HS21030422-12	DUP-01	3/5/2021	✓	Field duplicate of LMW-5

TABLE 2 - QUALIFIED DATA

Field Sample ID	Lab Sample ID	Analyte	Result	Units	Qualifier	Explanation
DUP-01	HS21030422-12	Mercury, total	0.000160	mg/L	U	Analyte detected in method blank, reported as non-detect at laboratory detected value (laboratory J-flag removed)
DUP-01	HS21030422-12	Copper, total	0.00190	mg/L	J	Dissoved and total concentration precision
DUP-01	HS21030422-12	Zinc, total	<0.00200	mg/L	J	Dissoved and total concentration precision
DUP-01	HS21030422-12	Copper, dissolved	0.0192	mg/L	J	Dissoved and total concentration precision; field duplicate precision
DUP-01	HS21030422-12	Zinc, dissolved	0.0177	mg/L	J	Dissoved and total concentration precision; field duplicate precision
LMW-5	HS21030422-05	Copper, dissolved	0.00266	mg/L	J	Field duplicate precision
LMW-5	HS21030422-05	Zinc, dissolved	0.00343	mg/L	J	Field duplicate precision
LMW-22	HS21030422-11	Antimony, total	0.000700	mg/L	U	Analyte detected above MDL in CCB 13, reported as non-detect at laboratory detected value (laboratory J-flag removed)
MW-45	HS21030422-01	Antimony, dissolved	0.000464	mg/L	U	Analyte detected above MDL in CCB 14, reported as non-detect at laboratory detected value (laboratory J-flag removed)

Notes:

J - Estimated data; data are qualified due to exceedance of one or more quality control criteria. The reported sample concentration is the approximate concentration of the analyte in the sample.

U - Analyte not detected at associated concentration (column labeled as "Result").

mg/L - milligrams per liter

TABLE 3 - TOTAL VERSUS DISSOLVED COMPARISON

Sample	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Precision (RPD)	MQL	Qualification
MW-45	Antimony	<0.000400	0.000464	15	0.00200	None; less than 30% RPD
MW-45	Arsenic	0.000451	0.000490	8.3	0.00200	None; less than 30% RPD
MW-45	Barium	0.0422	0.0444	5.1	0.00400	None; less than 30% RPD
MW-45	Copper	0.00153	0.00179	16	0.00200	None; less than 30% RPD
MW-45	Mercury	<0.0000300	0.0000980	106	0.000200	None; difference less than 2 times the MQL
PMW-19R	Arsenic	0.000537	0.000659	20	0.00200	None; less than 30% RPD
PMW-19R	Barium	0.0178	0.0192	7.6	0.00400	None; less than 30% RPD
PMW-19R	Copper	0.00298	0.00322	7.7	0.00200	None; less than 30% RPD
PMW-19R	Mercury	<0.0000300	0.0000870	97	0.000200	None; difference less than 2 times the MQL
LMW-8	Arsenic	<0.000400	0.000434	8.2	0.00200	None; less than 30% RPD
LMW-8	Barium	0.0624	0.0649	3.9	0.00400	None; less than 30% RPD
LMW-8	Copper	<0.00100	0.00127	24	0.00200	None; less than 30% RPD
LMW-8	Selenium	0.00136	0.00207	41	0.00200	None; difference less than 2 times the MQL
LMW-8	Zinc	<0.00200	0.00219	9.1	0.00400	None; less than 30% RPD
LMW-8	Mercury	<0.0000300	0.0000970	106	0.000200	None; difference less than 2 times the MQL
LMW-17	Arsenic	0.000430	0.000448	4.1	0.00200	None; less than 30% RPD
LMW-17	Barium	0.0779	0.0846	8.2	0.00400	None; less than 30% RPD
LMW-17	Zinc	<0.00200	0.00249	22	0.00400	None; less than 30% RPD
LMW-17	Mercury	<0.0000300	0.0000870	97	0.000200	None; difference less than 2 times the MQL
LMW-5	Barium	0.0630	0.0688	8.8	0.00400	None; less than 30% RPD
LMW-5	Copper	0.00244	0.00266	8.6	0.00200	None; less than 30% RPD
LMW-5	Mercury	<0.0000300	0.0000960	105	0.000200	None; difference less than 2 times the MQL
LMW-21	Arsenic	0.000441	0.000536	19	0.00200	None; less than 30% RPD
LMW-21	Barium	0.0308	0.0332	7.5	0.00400	None; less than 30% RPD
LMW-21	Copper	<0.00100	0.00217	74	0.00200	None; difference less than 2 times the MQL
LMW-21	Selenium	0.00374	0.00383	2.4	0.00200	None; less than 30% RPD
LMW-21	Zinc	<0.00200	0.00405	68	0.00400	None; difference less than 2 times the MQL
LMW-21	Mercury	<0.0000300	0.0000920	102	0.000200	None; difference less than 2 times the MQL
PMW-20R	Barium	0.0534	0.0538	0.75	0.00400	None; less than 30% RPD
PMW-20R	Copper	<0.00100	0.00122	20	0.00200	None; less than 30% RPD
PMW-20R	Mercury	<0.0000300	0.0000860	97	0.000200	None; difference less than 2 times the MQL
MW-41	Mercury	<0.0000300	0.0000910	101	0.000200	None; difference less than 2 times the MQL
MW-47	Barium	0.0487	0.0539	10	0.00400	None; less than 30% RPD
MW-47	Copper	<0.00100	0.00205	69	0.00200	None; difference less than 2 times the MQL
MW-47	Zinc	<0.00200	0.00269	29	0.00400	None; less than 30% RPD
MW-47	Mercury	<0.0000300	0.0000910	101	0.000200	None; difference less than 2 times the MQL
LMW-9R	Arsenic	0.00126	0.00152	19	0.00200	None; less than 30% RPD
LMW-9R	Barium	0.0257	0.0307	18	0.00400	None; less than 30% RPD
LMW-9R	Copper	0.00393	0.00498	24	0.00200	None; less than 30% RPD
LMW-9R	Mercury	<0.0000300	0.0000850	96	0.000200	None; difference less than 2 times the MQL
LMW-22	Barium	0.0628	0.0675	7.2	0.00400	None; less than 30% RPD
LMW-22	Copper	0.00145	0.00204	34	0.00200	None; difference less than 2 times the MQL
LMW-22	Zinc	0.00216	0.00227	5.0	0.00400	None; less than 30% RPD
LMW-22	Mercury	<0.0000300	0.0000890	99	0.000200	None; difference less than 2 times the MQL
DUP-01	Arsenic	<0.000400	0.000445	11	0.00200	None; less than 30% RPD
DUP-01	Barium	0.0590	0.0684	15	0.00400	None; less than 30% RPD
DUP-01	Chromium	<0.000400	0.000435	8.4	0.00400	None; less than 30% RPD
DUP-01	Copper	0.00190	0.0192	164	0.00200	J
DUP-01	Lead	0.000753	0.00119	45	0.00200	None; difference less than 2 times the MQL
DUP-01	Zinc	<0.00200	0.0177	159	0.00400	J

Notes:

No qualification necessary if the difference between dissolved and total did not exceed the analytical method error (i.e., + 2x MQL difference (if either result is less than 5x MQL) or 30% RPD).

mg/L - milligrams per liter

RPD - relative percent difference

MQL - Method quantitation limit

TABLE 4 - BLANK DETECTIONS

Lab Sample ID	Analyte	Result	Qualified Concentration	Units	Explanation
MBLK-163424	Total Mercury	0.00009	0.00045	mg/L	U: total mercury detected in sample HS21030422-12
ICPMS06_379555 CCB-13	Antimony	0.000416	0.00208	mg/L	U: total antimony detected in HS21030422-11
ICPMS06_379555 CCB-14	Antimony	0.000717	0.00359	mg/L	U: dissolved antimony detected in HS21030422-01

Notes:

U - Not detected; the analyte was detected <5x the concentration in an associated blank.

mg/L - milligrams per liter

TABLE 5 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD ^a	Qualifier	Qualifier Added
LMW-5/DUP-01	Arsenic, total	0.000492 J	0.000400 U	21	A	None
	Arsenic, dissolved	0.000436 J	0.000445 J	2.0	A	None
	Barium, total	0.0630	0.0590	6.6	A	None
	Barium, dissolved	0.0688	0.0684	0.58	A	None
	Chromium, total	0.000526 J	0.000400 U	27	A	None
	Chromium, dissolved	0.000400 U	0.000435 J	8.4	A	None
	Copper, total	0.00244	0.00190 J	25	A	None
	Copper, dissolved	0.00266	0.0192	151	J	Detected results
	Lead, total	0.00164 J	0.000753 J	74	A	None; absolute difference <2X MQL
	Lead, dissolved	0.000600 U	0.00119 J	66	A	None; absolute difference <2X MQL
	Zinc, total	0.00397 J	0.00200 U	66	A	None; absolute difference <2X MQL
	Zinc, dissolved	0.00343 J	0.0177	135	J	Detected results
	Mercury, total	0.0000300 U	0.000160 U	137	A	None; absolute difference <2X MQL
	Mercury, dissolved	0.0000960 J	0.0000940 J	2.1	A	None

Notes:

^a Relative Percent Difference (RPD) = $((SR - DR) * 200) / (SR + DR)$, where SR is the sample result and DR is the duplicate result.

A - Acceptable Data

The RPD test (<30%) applies if both results are greater than 5x MQL. Otherwise, the absolute difference test (< 2x MQL) applies.

NA - Not applicable

MQL - Method quantitation limit

SDL - Sample detection limit

mg/L - milligrams per liter

J - estimated value; detected between the MQL and SDL.

U - not detected; analyte was detected below SDL.

DATA USABILITY SUMMARY

ALS WORK ORDERS: HS21060194

PROJECT NO: 20409062-01

CLIENT: Frisco Community
Development Corporation

SAMPLE DATES: June 1 and 2, 2021

LABORATORY: ALS Group

WORK ORDERS: HS21060194

INTENDED USE: First Semiannual 2021 Groundwater Monitoring Report

SITE: Frisco Community Development Corporation Site, 7471 Old 5th Street,
Frisco, TX

TESTS/METHODS

- SW-846 6020A - Inductively Coupled Plasma-Mass Spectrometry (ICP/MS)

SAMPLES

Eleven water samples, one matrix spike and matrix spike duplicate sample, and one field duplicate sample were collected for the analyses of total and dissolved metals: arsenic, cadmium, lead, and selenium. See Table 1 for the sample list.

Golder completed a review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS). Golder completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRC) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness
- Chain-of-Custody Procedures
- Sample Condition

- Field Procedures
- Results Reporting Procedures
- Field and Laboratory Blanks
- Laboratory Control Sample (LCS)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries
- Field Duplicate Precision
- Detectability Check Sample (DCS)

Additionally, Golder used the LRC to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs) and Sample Detection Limits (SDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

Criteria used for this data usability review are as follows:

- Precision: $\pm$ MQL difference or 30% relative percent difference (RPD) for laboratory duplicates and $\pm$ 2x MQL difference (if either result is less than 5x MQL) or 30% RPD for field duplicates as recommended in TRRP-13
- Accuracy: 70-130% spike recovery (and not less than 30% or data is rejected) as recommended in TRRP-13

If an item was found outside of the review criteria, the reviewer applied a data qualifier and bias code to the results for the affected samples in accordance with TRRP-13.

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP Certification T104704231) for the matrices, methods and parameters of analysis requested on the chain-of-custody forms.

USABILITY SUMMARY

Data are usable for the intended purpose.

Senior Reviewer:	Brenda Basile	07/02/2021
Senior Reviewer:	Anne Faeth-Boyd	07/13/2021

QUALITY CONTROL PARAMETERS AND OUTCOMES

Data Completeness

The laboratory data package contains necessary data (i.e., the laboratory reportable data per TRRP-13) and the EDD contains sample results in acceptable format.

Chain-of-Custody

Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. The information on the custody records is complete and agrees with that in the field notes and laboratory reports.

Sample Condition

Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical method. No data were qualified.

Field Procedures

The samples were collected and placed immediately into laboratory supplied containers and then into a cooler with ice for overnight delivery to the laboratory.

According to the Work Plan, groundwater samples with turbidity greater than 10 nephelometric turbidity units (NTU) would be field filtered with a 10-micron filter for analyses of total metals. None of the groundwater samples collected had a turbidity greater than 10 NTU during this sampling event. For dissolved metals, samples were field filtered with a 0.45-micron filter. According to the Groundwater Sample Collection Forms, samples were filtered appropriately.

Results Reporting Procedures

Water results are reported in milligrams per liter (mg/L). Non-detects are reported using the SDL as specified per TRRP and detects between the SDL and MQL are reported with a laboratory J-flag. The concentration reported for detects between the SDL and MQL is below the calibration range and thus is considered estimated.

The dissolved metals concentrations were slightly above the total metal concentration in some samples as shown on Table 2. Precision was within acceptance criteria and no data required qualification.

Field and Laboratory Blanks

No field blanks were collected.

Method blank and continuing calibration blank data provided by the laboratory were evaluated. Sample data associated with method blank data are qualified if the sample concentration is within five times the blank concentration. Sample data associated with continuing calibration blank data are qualified if the analyte is detected above the MDL and the sample concentration is detected. If data is qualified as estimated based on accuracy or precision criteria that was not met, the data is qualified with both a J-flag and a U-flag. No analytes were detected in laboratory blanks and no data required qualification.

Laboratory Control Sample

The LCS recoveries (%R) are within the TRRP-13 recommended criteria of 80 -120 percent recovery (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

Golder submitted one MS/MSD for this sampling event (MW-45). The MS/MSD recoveries were within the TRRP-13 recommended criteria of 70-130%R. Precision was within the TRRP-13 recommended criteria of 30 RPD. The post-digestion spike recovery was within the TRRP-13 recommended criteria of 70-130%R. The serial dilution check is not applicable since sample concentrations are less than the MQL.

Field Duplicate Precision

One field duplicate was collected with these samples (LMW-5/DUP-01). Field duplicate results are presented in Table 3 and are within acceptance criteria of 30 RPD or less than two times the MQL. No data required qualification.

Detectability Check Standards (DCS)

DCS data were provided in the laboratory report. DCS results support the SDLs in the laboratory report.

Instrument Tuning and Performance

According to the LRC, instrument tuning and interference check sample results met method requirements and therefore no data qualification was warranted.

Instrument Calibration

According to the LRC, calibrations were acceptable.

Internal Standards

According to the LRC, internal standard areas were acceptable.

TABLE 1
CROSS REFERENCE OF FIELD SAMPLE IDENTIFICATIONS AND LABORATORY IDENTIFICATIONS

Lab Sample Identification	Field Sample Identification	Sample Date	Total/Dissolved Metals	Comments
HS21060194-01	MW-45	6/1/2021	✓	Matrix Spike/Matrix Spike Duplicate
HS21060194-02	PMW-19R	6/1/2021	✓	
HS21060194-03	LMW-8	6/1/2021	✓	
HS21060194-04	LMW-17	6/1/2021	✓	
HS21060194-05	LMW-5	6/1/2021	✓	
HS21060194-06	LMW-21	6/1/2021	✓	
HS21060194-07	PMW-20R	6/1/2021	✓	
HS21060194-08	MW-41	6/1/2021	✓	
HS21060194-09	MW-47	6/1/2021	✓	
HS21060194-10	LMW-9R	6/2/2021	✓	
HS21060194-11	LMW-22	6/2/2021	✓	
HS21060194-12	DUP-01	6/1/2021	✓	Field duplicate of LMW-5

TABLE 2 - TOTAL VERSUS DISSOLVED COMPARISON

Sample	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Precision (RPD)	MQL	Qualification
PMW-20R	Selenium	0.00157	0.00161	2.5	0.000200	None; less than 30% RPD
MW-41	Arsenic	0.000764	0.000801	4.7	0.000200	None; less than 30% RPD

Notes:

No qualification necessary if the difference between dissolved and total did not exceed the analytical method error (i.e., + 2x MQL difference (if either result is less than 5x MQL) or 30% RPD).

mg/L - milligrams per liter

RPD - relative percent difference

MQL - Method quantitation limit

TABLE 3 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD ^a	Qualifier	Qualifier Added
LMW-5/DUP-01	Arsenic, total	0.000400 U	0.000410 J	2.5	A	None; less than 30% RPD

Notes:

^a Relative Percent Difference (RPD) = $((SR - DR) * 200) / (SR + DR)$, where SR is the sample result and DR is the duplicate result.

A - Acceptable Data

The RPD test (<30%) applies if both results are greater than 5x MQL. Otherwise, the absolute difference test (< 2x MQL) applies.

NA - Not applicable

MQL - Method quantitation limit

SDL - Sample detection limit

mg/L - milligrams per liter

J - estimated value; detected between the MQL and SDL.

U - not detected; analyte was detected below SDL.



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