

REPORT

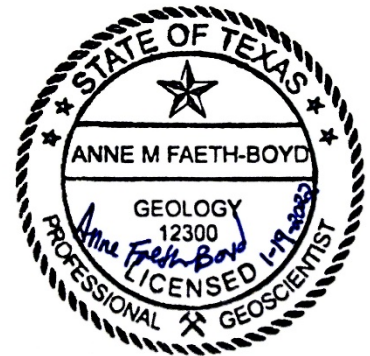
2021 Second Semiannual Groundwater Monitoring Report

Class 2 Landfill North CAMU - 3rd and 4th Quarter Events

Frisco Community Development Corporation Site

7471 Old 5th Street, Frisco, Texas

TCEQ SWR No. 30516



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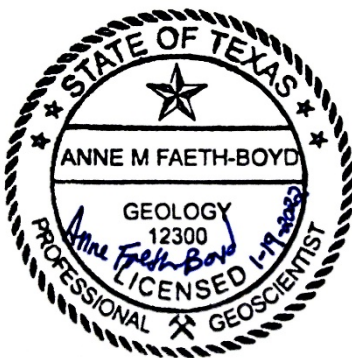
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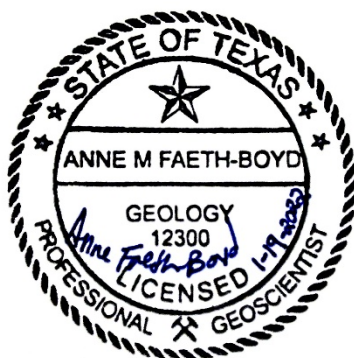
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APPENDICES

Appendix A	Monitoring Well Inspection Forms
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Appendix C	Groundwater Laboratory Analytical Results
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1.0 INTRODUCTION

Golder Associates USA Inc. (Golder) is pleased to submit this report summarizing third and fourth 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 third and fourth 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. Arsenic, cadmium, lead, and selenium were reported for both the third and fourth 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 14.3 and 13.0 gallons of purged groundwater were containerized during the third and fourth quarter events, respectively. The monitoring wells were locked prior to demobilization from the Site.

2.2 Well Inspection and Purging Summary

2.2.1 Third Quarter Event (August 2021)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either August 30th or August 31st 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 eighties and nineties degrees Fahrenheit. During the August sampling event, monitoring wells MW-45, PMW-19R, LMW-17, LMW-5, LMW-21, PMW-20R, and MW-41 stabilized within four parameter readings and monitoring wells LMW-8, MW-47, and LMW-22 stabilized within five

parameter readings. Monitoring well LMW-9R stabilized within six parameter readings. All wells and well pads appeared to be in good condition at the time of sampling.

2.2.2 Fourth Quarter Event (December 2021)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either December 8th or December 9th as described in Section 2.1. Each monitoring well was found locked upon arrival. At the time of sampling, the weather was cloudy with daytime high temperatures in the fifties and sixties degrees Fahrenheit. During the December sampling event, monitoring wells PMW-19R, LMW-17, LMW-5, LMW-21, and MW-41 stabilized within four parameter readings and monitoring wells LMW-22, MW-45, LMW-8, PMW-20R, and MW-47 stabilized within five parameter readings. Monitoring well LMW-9R stabilized within six 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 third and fourth 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 0.02 to 0.04 feet per foot (ft/ft). The groundwater levels and gradients measured during the third and fourth quarter sampling events are generally consistent with past groundwater monitoring events.

3.2 Analytical Results

Analytical results are summarized in Table 3 (third quarter event) and Table 4 (fourth 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 third and fourth 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.

Golder Associates USA Inc.

Emily Forthaus

Emily P. Forthaus
Senior Consultant

Anne Faeth-Boyd

Anne M. Faeth-Boyd, P.G.
Senior Lead Consultant



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
THIRD 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	13.02	647.84	22.57	10-20	2	9.55	1.6	1.00
PMW-19R	2/26/2013	678.45	681.79	18.52	663.27	22.70	4-19	2	4.18	0.7	1.00
LMW-9R	3/1/2016	661.39	664.31	15.09	649.22	32.90	15-30	2	17.81	2.9	1.50
LMW-8	2/4/1995	645.57	648.72	15.29	633.43	24.05	7-21.5	2	8.76	1.4	1.25
LMW-22	2/27/2013	643.32	646.99	15.68	631.31	23.15	5-20	2	7.47	1.2	1.25
LMW-17	7/24/1995	646.34	648.70	17.04	631.66	25.45	10-20	4	8.41	5.5	1.60
LMW-5	2/3/1995	643.27	646.07	15.09	630.98	25.25	7-21.5	2	10.16	1.7	1.60
LMW-21	2/27/2013	645.12	648.28	17.44	630.84	28.09	10-25	2	10.65	1.7	1.60
PMW-20R	2/26/2013	645.20	648.09	17.22	630.87	28.25	10-25	2	11.03	1.8	1.00
MW-41	1/14/2014	639.17	642.17	11.02	631.15	19.16	6-16	2	8.14	1.3	1.00
MW-47	5/2/2017	635.65	638.28	6.86	631.42	17.91	7.5-15	2	11.05	1.8	1.50
MW-42	1/14/2014	638.71	642.24	10.26	631.98	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	12.15	635.09	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 August 30, 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: ETF 09/13/2021

Checked by: EPF 01/03/2022

Reviewed by: AMF 01/12/2022

TABLE 2
FOURTH 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	13.29	647.57	22.56	10-20	2	9.27	1.5	1.25
PMW-19R	2/26/2013	678.45	681.79	19.53	662.26	22.69	4-19	2	3.16	0.5	0.8
LMW-9R	3/1/2016	661.39	664.31	15.54	648.77	32.90	15-30	2	17.36	2.8	1.2
LMW-8	2/4/1995	645.57	648.72	15.05	633.67	24.04	7-21.5	2	8.99	1.5	1.00
LMW-22	2/27/2013	643.32	646.99	16.56	630.43	23.15	5-20	2	6.59	1.1	1.25
LMW-17	7/24/1995	646.34	648.70	18.08	630.62	25.44	10-20	4	7.36	4.8	1.20
LMW-5	2/3/1995	643.27	646.07	16.12	629.95	25.25	7-21.5	2	9.13	1.5	1.20
LMW-21	2/27/2013	645.12	648.28	18.57	629.71	28.06	10-25	2	9.49	1.5	1.2
PMW-20R	2/26/2013	645.20	648.09	18.22	629.87	28.27	10-25	2	10.05	1.6	1.5
MW-41	1/14/2014	639.17	642.17	10.29	631.88	19.15	6-16	2	8.86	1.4	1.2
MW-47	5/2/2017	635.65	638.28	6.51	631.77	17.93	7.5-15	2	11.42	1.9	1.25
MW-42	1/14/2014	638.71	642.24	8.52	633.72	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	11.56	635.68	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 December 8, 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 12/27/2021

Checked by: EPF 01/03/2022

Reviewed by: AMF 01/12/2022

TABLE 3
THIRD 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				HS21090090-07		HS21090090-05		HS21090090-06		HS21090090-01		HS21090090-08		HS21090090-02							
Date Sampled				8/30/2021		8/30/2021		8/30/2021		8/30/2021		8/31/2021		8/30/2021							
Time Sampled				16:30		15:00		15:55		11:55		8:10		12:35							
Metals (USEPA Method 6020A) Total Recoverable																					
Date Prepared				9/8/2021				9/8/2021				9/8/2021		9/8/2021							
Date Analyzed				9/8/2021		9/8/2021		9/8/2021		9/8/2021		9/8/2021		9/8/2021							
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	0.000543	J	0.000400	0.000517	J	0.000400	0.000430	J	0.000691	J	0.000400	0.00176	J	0.000400	
Barium	7440-39-3	2	2	NS		NS		NS		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	U	0.000200	
Chromium	7440-47-3	0.1	0.1	NS		NS		NS		NS		NS		NS		NS		NS		NS	
Copper	7440-50-8	1.3	1.3	NS		NS		NS		NS		NS		NS		NS		NS		NS	
Lead	7439-92-1	0.015	0.015	0.000600	U	0.000600	0.00182	J	0.000600	0.000600	U	0.000600	0.000600	U	0.000600	0.000803	J	0.000600	0.00205	0.000600	
Selenium	7782-49-2	0.05	0.05	0.00121	J	0.00110	0.00110	U	0.00110	0.00500		0.00110	0.00121	J	0.00110	0.00110	U	0.00110	0.00143	J	0.00110
Silver	7440-22-4	0.12	0.37	NS		NS		NS		NS		NS		NS		NS		NS		NS	
Zinc	7440-66-6	7.3	22	NS		NS		NS		NS		NS		NS		NS		NS		NS	
Metals (USEPA Method 6020A) Dissolved																					
Date Prepared				9/3/2021				9/3/2021				9/3/2021		9/3/2021							
Date Analyzed				9/7/2021		9/7/2021		9/7/2021		9/7/2021		9/7/2021		9/7/2021							
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	0.000511	J	0.000400	0.000400	U	0.000400	0.000412	J	0.000400	0.000401	J	0.000400
Barium	7440-39-3	2	2	NS		NS		NS		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	U	0.000200	
Chromium	7440-47-3	0.1	0.1	NS		NS		NS		NS		NS		NS		NS		NS		NS	
Copper	7440-50-8	1.3	1.3	NS		NS		NS		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	U	0.000600	
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	0.00110	U	0.00110	0.00520		0.00110	0.00110	U	0.00110	0.00110	U	0.00110	U	0.00110	
Silver	7440-22-4	0.12	0.37	NS		NS		NS		NS		NS		NS		NS		NS		NS	
Zinc	7440-66-6	7.3	22	NS		NS		NS		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.
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: ETF 09/10/2021
Checked by: EPF 09/13/2021
Reviewed by: AMF 01/12/2022

TABLE 3
THIRD 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				HS21090090-10		HS21090090-03		HS21090090-04		HS21090090-11		HS21090090-09		HS21090090-09	
Date Sampled				8/31/2021		8/30/2021		8/30/2021		8/31/2021		8/31/2021		8/30/2021	
Time Sampled				9:55		13:20		14:15		10:40		9:00		15:00	
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				9/8/2021		9/8/2021		9/8/2021		9/8/2021		9/8/2021		9/8/2021	
Date Analyzed				9/8/2021		9/8/2021		9/8/2021		9/8/2021		9/8/2021		9/8/2021	
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	0.00229		0.000400		0.000499 J		0.000400		0.00362		0.000400	
Barium	7440-39-3	2	2	NS		NS		NS		NS		NS		NS	
Cadmium	7440-43-9	0.005	0.005	0.000346 J		0.000200		0.000200 U		0.000200		0.000200 U		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	
Selenium	7782-49-2	0.05	0.05	0.00237		0.00110		0.00142 J		0.00110		0.00110 U		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				9/3/2021		9/3/2021		9/3/2021		9/3/2021		9/3/2021		9/3/2021	
Date Analyzed				9/7/2021		9/7/2021		9/7/2021		9/7/2021		9/7/2021		9/7/2021	
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	0.00128 J		0.000400		0.000493 J		0.000400		0.00458		0.000400	
Barium	7440-39-3	2	2	NS		NS		NS		NS		NS		NS	
Cadmium	7440-43-9	0.005	0.005	0.000416 J		0.000200		0.000200 U		0.000200		0.000200 U		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 U	
Selenium	7782-49-2	0.05	0.05	0.00217		0.00110		0.00377		0.00110		0.00110 U		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.
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: ETF 09/10/2021
Checked by: EPF 09/13/2021
Reviewed by: AMF 01/12/2022

TABLE 4
FOURTH 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				HS21120678-07		HS21120678-05		HS21120678-06		HS21120678-01		HS21120678-08		HS21120678-02	
Date Sampled				12/8/2021		12/8/2021		12/8/2021		12/8/2021		12/8/2021		12/8/2021	
Time Sampled				13:35		12:15		12:55		9:45		14:15		10:20	
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				12/16/2021		12/16/2021		12/16/2021		12/16/2021		12/16/2021		12/16/2021	
Date Analyzed				12/17/2021		12/17/2021		12/17/2021		12/17/2021		12/17/2021		12/17/2021	
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	0.000639 J	0.000400	0.000699 J	0.000400	0.000744 J	0.000400	0.000628 J	0.000400	0.000738 J	0.000400	0.00109 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
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	0.00122 J	0.000600	0.000984 J	0.000600	0.000726 J	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	0.00194 J	0.00110	0.00110 U	0.00110	0.00372	0.00110	0.00110 U	0.00110	0.00110 U	0.00110	0.00110 U	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				12/16/2021		12/16/2021		12/16/2021		12/16/2021		12/16/2021		12/16/2021	
Date Analyzed				12/16/2021		12/16/2021		12/16/2021		12/16/2021		12/16/2021		12/16/2021	
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	0.000430 J	0.000400	0.000586 J	0.000400	0.000716 J	0.000400	0.000446 J	0.000400	0.000597 J	0.000400	0.000775 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
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
Selenium	7782-49-2	0.05	0.05	0.00278	0.00110	0.00135 J	0.00110	0.00372	0.00110	0.00178 J	0.00110	0.00110 U	0.00110	0.00150 J	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 12/27/2021
Checked by: EPF 01/06/2022
Reviewed by: AMF 01/12/2022

TABLE 4
FOURTH 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				HS21120678-10			HS21120678-03			HS21120678-04			HS21120678-11			HS21120678-09			HS21120678-12		
Date Sampled				12/8/2021			12/8/2021			12/8/2021			12/8/2021			12/8/2021			12/8/2021		
Time Sampled				15:50			11:00			11:35			8:30			15:00			12:15		
Metals (USEPA Method 6020A) Total Recoverable																					
Date Prepared				12/16/2021			12/16/2021			12/16/2021			12/16/2021			12/16/2021			12/16/2021		
Date Analyzed				12/17/2021			12/17/2021			12/17/2021			12/17/2021			12/17/2021			12/17/2021		
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	0.00165 J		0.000400	0.000641 J		0.000400	0.000659 J		0.000400	0.00968		0.000400	0.000572 J		0.000400	0.000646 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
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	0.000686 J		0.000600
Selenium	7782-49-2	0.05	0.05	0.00110 U		0.00110	0.00986 J		0.00110	0.00409		0.00110	0.00110 U		0.00110	0.00110 U		0.00110	0.00110 U		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				12/16/2021			12/16/2021			12/16/2021			12/16/2021			12/16/2021			12/16/2021		
Date Analyzed				12/16/2021			12/16/2021			12/16/2021			12/16/2021			12/16/2021			12/16/2021		
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	0.00185 J		0.000400	0.000536 J		0.000400	0.000715 J		0.000400	0.00793		0.000400	0.000485 J		0.000400	0.000433 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		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
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		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
Selenium	7782-49-2	0.05	0.05	0.00138 J		0.00110	0.0155 J		0.00110	0.00220		0.00110	0.00110 U		0.00110	0.00110 U		0.00110	0.00148 J		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		
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		

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.

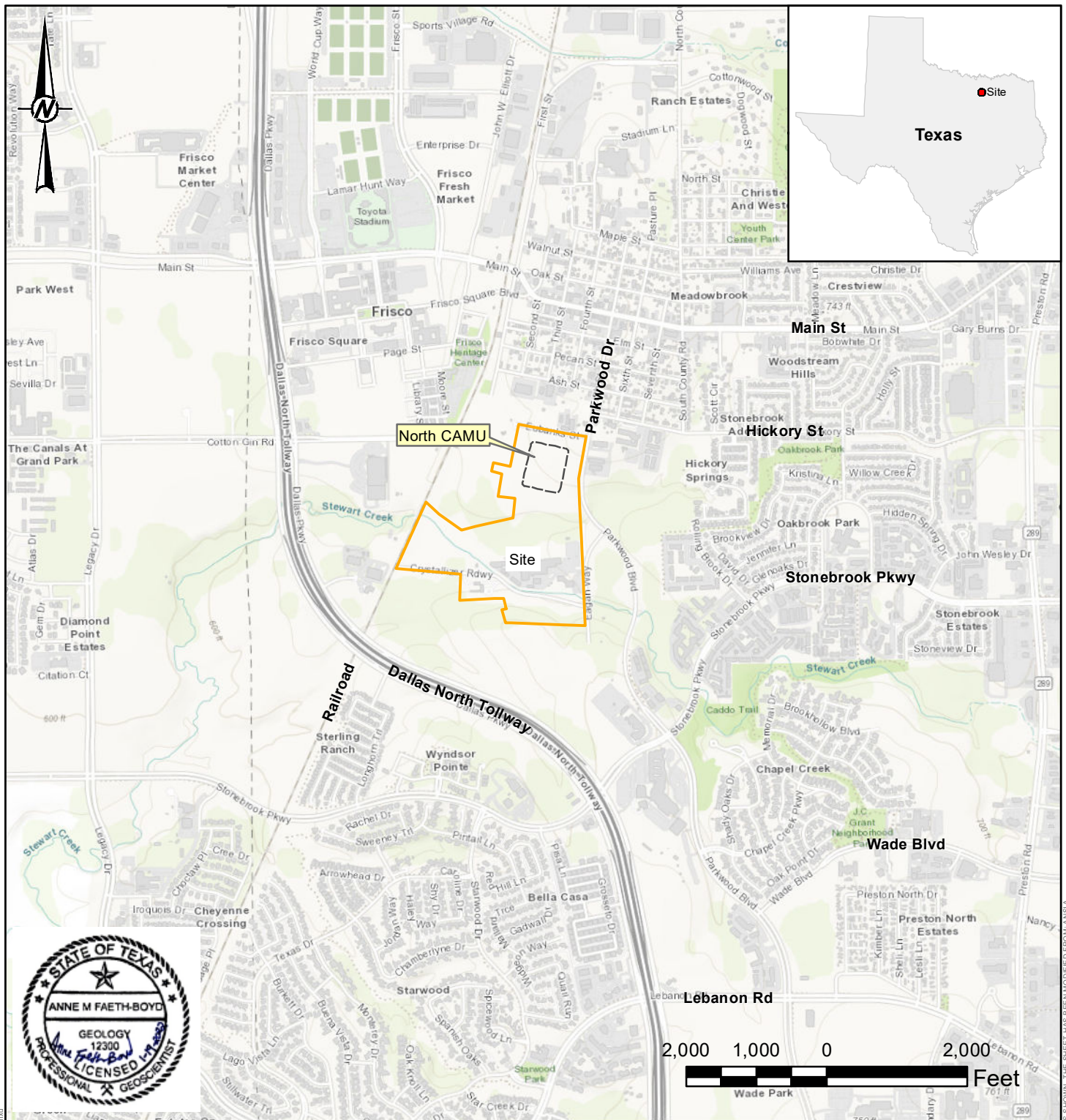
¹ - The Groundwater Residential Assessment Level (GW RAL) is the TRRP Tier 1 Residential^{GW}GW_{ing} PCL applicable for Class 2 groundwater ingestion.

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 12/27/2021
Checked by: EPF 01/06/2022
Reviewed by: AMF 01/12/2022

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

PROJECT No. 20409062	CONTROL 20409062A003.mxd	Rev. 0	FIGURE 1
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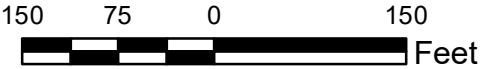
- LEGEND**
- Monitoring Well Location
 - Approximate Extent of Disposal Area
 - Former Operating Plant Property Boundary



- 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

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

PROJECT No. 20409062	CONTROL 20409062A004.mxd	Rev. 0	FIGURE 2
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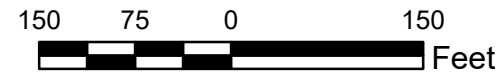
LEGEND


- 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 AUGUST 30, 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 - THIRD QUARTER 2021		
CONSULTANT	YYYY-MM-DD	01/06/2022
 GOLDER MEMBER OF WSP	PREPARED	JWT
	DESIGN	RSP
	REVIEW	EPF
	APPROVED	AMF
PROJECT No. 2040906201	CONTROL 20409062A009.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 DECEMBER 8, 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 - FOURTH QUARTER 2021			
CONSULTANT		YYYY-MM-DD	01/06/2022
 GOLDER MEMBER OF WSP		PREPARED	JWT
		DESIGN	RSP
		REVIEW	EPF
		APPROVED	AMF
PROJECT No.	CONTROL	Rev.	FIGURE
2040906201	20409062A010.mxd	0	4

Path: \\golder-gf.complex\data\office\jacksonville\Drafting\Fig 2020\20409062A010.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANS/B

APPENDIX A

Monitoring Well Inspection Forms



Monitoring Well Inspection Form

Project Name: North CAMU GW Monitoring

Location: Frisco, TX

Project No.: 2040906201

[illegible]

APPENDIX B

Groundwater Sampling Forms



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

91°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location MW-45

Sample No. MW-45/MS-01/MSD-01

Sample Date 8-30-21

Time 1155

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging:

13.02

FT BTOC

TD: 22.57

FT BTOC

1135

Well Volume: 9.55

FT

x 0.163 gal/FT = 1.55 gallons

@ 250 mL/min

Volume Water Removed Before Sampling: 1.00 gallons

Water Level Before Sampling: 13.02 32 FT BTOC

Water Level After Sampling: 13.31 FT BTOC

Appearance of Sample: clear, no color

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1140</u>	<u>1145</u>	<u>1150</u>		<u>1155</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>		<u>1.00</u>
pH	Standard	<u>7.02</u>	<u>7.02</u>	<u>7.08</u>		<u>7.06</u>
Spec. Cond.	mS/CM	<u>.689</u>	<u>.681</u>	<u>.680</u>		<u>.682</u>
Turbidity	NTU	<u>3.41</u>	<u>2.77</u>	<u>2.96</u>		<u>2.99</u>
Temperature	°C	<u>20.17</u>	<u>20.31</u>	<u>20.39</u>		<u>20.47</u>
Pump Rate	mL/min	<u>250</u>	<u>250</u>	<u>250</u>		<u>250</u>
Water Level	FT BTOC	<u>13.27</u>	<u>13.31</u>	<u>13.32</u>		<u>13.31</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 _____

Project Ref: North CAMU Groundwater Monitoring

 Project No. : 2040906201
WEATHER CONDITIONS

 Temperature 90° Weather SUNNY
SAMPLE INFORMATION

 Sample Location PMW-19R Sample No. PMW-19R
 Sample Date 8-30-21 Time 1235 Sample By JTB
 Sample Method Peristaltic Pump Sample Type Grab

 Begin Purge @ 1215 Water Level Before Purging: 18.52 FT BTOC TD: 22.70 FT BTOC
 @ 200 mL/min Well Volume: 4.18 FT x 0.163 gal/FT = 0.68 gallons
 Volume Water Removed Before Sampling: 1.00 gallons
 Water Level Before Sampling: 18.75 FT BTOC
 Water Level After Sampling: 18.76 FT BTOC
 Appearance of Sample: clear, no odor
FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1220</u>	<u>1225</u>	<u>1230</u>		<u>1235</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>		<u>1.00</u>
pH	Standard	<u>6.72</u>	<u>6.74</u>	<u>6.75</u>		<u>6.76</u>
Spec. Cond.	S/CM	<u>1.474</u>	<u>1.512</u>	<u>1.521</u>		<u>1.529</u>
Turbidity	NTU	<u>4.21</u>	<u>4.76</u>	<u>4.26</u>		<u>4.31</u>
Temperature	°C	<u>19.21</u>	<u>19.64</u>	<u>19.71</u>		<u>19.76</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>18.71</u>	<u>18.74</u>	<u>18.75</u>		<u>18.76</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 ☒ Peristaltic Pump Air-Lift Pump
 Stainless Steel ☐ Submersible Pump Other _____
 Teflon ☐ Hand Pump



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater MonitoringProject No.: 2040906201

WEATHER CONDITIONS

Temperature

91°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location LMW-8Sample No. LMW-8Sample Date 8-30-21Time 1320Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 15.29

FT BTOC

TD: 24.05

FT BTOC

1255Well Volume: 8.76FT x 0.163 gal/FT = 1.43 gallons@ 200 mL/minVolume Water Removed Before Sampling: 1.25 gallonsWater Level Before Sampling: 15.67

FT BTOC

Water Level After Sampling: 15.69

FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1300</u>	<u>1305</u>	<u>1310</u>	<u>1315</u>	<u>1320</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.00</u>	<u>1.25</u>
pH	Standard	<u>6.74</u>	<u>6.82</u>	<u>6.87</u>	<u>6.86</u>	<u>6.86</u>
Spec. Cond.	mS/CM	<u>0.861</u>	<u>0.821</u>	<u>0.826</u>	<u>0.829</u>	<u>0.826</u>
Turbidity	NTU	<u>2.31</u>	<u>2.67</u>	<u>2.71</u>	<u>2.74</u>	<u>2.66</u>
Temperature	°C	<u>19.61</u>	<u>19.71</u>	<u>19.74</u>	<u>19.72</u>	<u>19.71</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>15.47</u>	<u>15.57</u>	<u>15.63</u>	<u>15.67</u>	<u>15.69</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: _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No.: 2040906201

WEATHER CONDITIONS

Temperature 96° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-17 Sample No. LMW-17
Sample Date 8-30-21 Time 1415 Sample By JTB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1355 Water Level Before Purging: 17.04 FT BTOC TD: 25.45 FT BTOC
Well Volume: 8.41 FT x 0.653 gal/FT = 1.37 gallons
@ 300 mL/min Volume Water Removed Before Sampling: 1.60 gallons
Water Level Before Sampling: 17.31 FT BTOC
Water Level After Sampling: 17.31 FT BTOC
Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1400</u>	<u>1405</u>	<u>1410</u>		<u>1415</u>
Volume Discharge	gals	<u>.4</u>	<u>.8</u>	<u>1.2</u>		<u>1.6</u>
pH	Standard	<u>6.74</u>	<u>6.77</u>	<u>6.78</u>		<u>6.77</u>
Spec. Cond.	mS/CM	<u>0.796</u>	<u>0.774</u>	<u>0.786</u>		<u>0.787</u>
Turbidity	NTU	<u>3.61</u>	<u>3.51</u>	<u>3.56</u>		<u>3.55</u>
Temperature	°C	<u>19.92</u>	<u>19.81</u>	<u>19.74</u>		<u>19.76</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>17.29</u>	<u>17.32</u>	<u>17.31</u>		<u>17.31</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater MonitoringProject No.: 2040906201**WEATHER CONDITIONS**

Temperature

96°

Weather

SUNNY**SAMPLE INFORMATION**Sample Location LMW-5Sample No. LMW-5/DUP-01Sample Date 8-30-21Time 1500Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

15.09

FT BTOC

TD:

25.25

FT BTOC

1440Well Volume: 10.16 FTx 0.163 gal/FT = 1.66 gallons@ 300 mL/min

Volume Water Removed Before Sampling:

1.6 gallons

Water Level Before Sampling:

15.36

FT BTOC

Water Level After Sampling:

15.36

FT BTOC

Appearance of Sample:

clear, no odor**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>.4</u>	<u>.8</u>	<u>1.2</u>		<u>1.6</u>
pH	Standard	<u>7.12</u>	<u>7.06</u>	<u>7.07</u>		<u>7.09</u>
Spec. Cond.	mS/CM	<u>0.779</u>	<u>0.791</u>	<u>0.796</u>		<u>0.791</u>
Turbidity	NTU	<u>4.71</u>	<u>3.61</u>	<u>3.71</u>		<u>3.74</u>
Temperature	°C	<u>20.17</u>	<u>19.96</u>	<u>19.92</u>		<u>19.94</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>15.33</u>	<u>15.36</u>	<u>15.36</u>		<u>15.36</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring Project No. : 2040906201

WEATHER CONDITIONS

Temperature 82° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-21 Sample No. LMW-21
Sample Date 8-30-21 Time 1555 Sample By JTB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1535 Water Level Before Purging: 17.44 FT BTOC TD: 28.09 FT BTOC
Well Volume: 10.65 FT x 0.163 gal/FT = 1.73 gallons
@ 300 mL/min Volume Water Removed Before Sampling: 1.6 gallons
Water Level Before Sampling: 17.74 FT BTOC
Water Level After Sampling: 17.75 FT BTOC
Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1540</u>	<u>1545</u>	<u>1550</u>		<u>1555</u>
Volume Discharge	gals	<u>.4</u>	<u>.8</u>	<u>1.2</u>		<u>1.6</u>
pH	Standard	<u>6.71</u>	<u>6.67</u>	<u>6.71</u>		<u>6.72</u>
Spec. Cond.	mS/CM	<u>1.471</u>	<u>1.496</u>	<u>1.492</u>		<u>1.496</u>
Turbidity	NTU	<u>14.6</u>	<u>9.21</u>	<u>9.64</u>		<u>9.42</u>
Temperature	°C	<u>20.41</u>	<u>20.46</u>	<u>20.42</u>		<u>20.42</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>17.67</u>	<u>17.74</u>	<u>17.74</u>		<u>17.75</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

85°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location PMW-20R

Sample No. PMW-20R

Sample Date 8-30-21

Time 1630

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging:

17.22

FT BTOC

TD: 28.25

FT BTOC

1610

Well Volume: 11.03

FT

x 0.163 gal/FT = 1.80

gallons

@ 250

mL/min

Volume Water Removed Before Sampling: 1.00

gallons

Water Level Before Sampling:

17.44

FT BTOC

Water Level After Sampling:

17.45

FT BTOC

Appearance of Sample:

clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1615</u>	<u>1620</u>	<u>1625</u>		<u>1630</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>		<u>1.00</u>
pH	Standard	<u>6.91</u>	<u>6.87</u>	<u>6.88</u>		<u>6.86</u>
Spec. Cond.	mS/CM	<u>1.147</u>	<u>1.176</u>	<u>1.171</u>		<u>1.173</u>
Turbidity	NTU	<u>4.61</u>	<u>5.12</u>	<u>5.17</u>		<u>5.09</u>
Temperature	°C	<u>20.61</u>	<u>20.71</u>	<u>20.62</u>		<u>20.67</u>
Pump Rate	mL/min	<u>250</u>	<u>250</u>	<u>250</u>		<u>250</u>
Water Level	FT BTOC	<u>17.42</u>	<u>17.46</u>	<u>17.44</u>		<u>17.45</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 85°

Weather SUNNY

SAMPLE INFORMATION

Sample Location MW-41

Sample No. MW-41

Sample Date 8-31-21

Time 0810

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging: 11.02

FT BTOC

TD: 19.16

FT BTOC

0750

Well Volume: 8.14

FT

x 0.163 gal/FT = 1.32 gallons

@ 250 mL/min

Volume Water Removed Before Sampling: 1.00

gallons

Water Level Before Sampling: 11.51

FT BTOC

Water Level After Sampling: 11.50

FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0755</u>	<u>0800</u>	<u>0805</u>		<u>0810</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>		<u>1.00</u>
pH	Standard	<u>6.76</u>	<u>6.79</u>	<u>6.81</u>		<u>6.81</u>
Spec. Cond.	mS/CM	<u>1.174</u>	<u>1.132</u>	<u>1.139</u>		<u>1.141</u>
Turbidity	NTU	<u>3.62</u>	<u>4.12</u>	<u>4.16</u>		<u>4.12</u>
Temperature	°C	<u>20.62</u>	<u>20.71</u>	<u>20.67</u>		<u>20.69</u>
Pump Rate	mL/min	<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>11.51</u>		<u>11.50</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 85° Weather SUNNY

SAMPLE INFORMATION

Sample Location MW-47 Sample No. MW-47
Sample Date 8-31-21 Time 0900 Sample By STB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 0835 Water Level Before Purging: 6.86 FT BTOC TD: 17.91 FT BTOC
Well Volume: 11.05 FT x 0.163 gal/FT = 1.80 gallons
@ 250 mL/min Volume Water Removed Before Sampling: 1.50 gallons
Water Level Before Sampling: 7.41 FT BTOC
Water Level After Sampling: 7.42 FT BTOC
Appearance of Sample: clear, no color

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>0.3</u>	<u>0.6</u>	<u>0.9</u>	<u>1.2</u>	<u>1.5</u>
pH	Standard	<u>6.52</u>	<u>6.71</u>	<u>6.74</u>	<u>6.79</u>	<u>6.74</u>
Spec. Cond.	mS/CM	<u>1.690</u>	<u>1.127</u>	<u>1.012</u>	<u>1.076</u>	<u>1.029</u>
Turbidity	NTU	<u>16.3</u>	<u>9.26</u>	<u>7.21</u>	<u>5.12</u>	<u>5.31</u>
Temperature	°C	<u>20.61</u>	<u>20.51</u>	<u>20.41</u>	<u>20.47</u>	<u>20.56</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>7.16</u>	<u>7.29</u>	<u>7.36</u>	<u>7.41</u>	<u>7.42</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature 85° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-9R Sample No. LMW-9R
Sample Date 8-31-21 Time 0955 Sample By JTB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 0925 Water Level Before Purging: 15.09 FT BTOC TD: 32.90 FT BTOC
@ 200 mL/min Well Volume: 17.81 FT x 0.163 gal/FT = 2.90 gallons
Volume Water Removed Before Sampling: 1.50 gallons
Water Level Before Sampling: 15.62 FT BTOC
Water Level After Sampling: 15.62 FT BTOC
Appearance 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>	<u>0955</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.00</u> <u>1.25</u>	<u>1.50</u>
pH	Standard	<u>6.12</u>	<u>6.27</u>	<u>6.39</u>	<u>6.52</u> <u>6.56</u>	<u>6.51</u>
Spec. Cond.	mS/CM	<u>2.764</u>	<u>2.791</u>	<u>2.861</u>	<u>2.829</u> <u>2.834</u>	<u>2.839</u>
Turbidity	NTU	<u>4.62</u>	<u>3.71</u>	<u>3.72</u>	<u>3.79</u> <u>3.74</u>	<u>3.92</u>
Temperature	°C	<u>20.96</u>	<u>21.03</u>	<u>21.04</u>	<u>21.21</u> <u>21.17</u>	<u>21.11</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u> <u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>15.42</u>	<u>15.52</u>	<u>15.57</u>	<u>15.61</u> <u>15.62</u>	<u>15.62</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	No <small>EPA 1/12/22</small>	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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

85°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location LMW-22

Sample No. LMW-22

Sample Date 8-31-21

Time 1040

Sample By JB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging:

15.68

FT BTOC

TD: 23.15

FT BTOC

1015

Well Volume: 7.47

FT x 0.163 gal/FT = 1.21

gallons

@ 200

mL/min

Volume Water Removed Before Sampling: 1.25

gallons

Water Level Before Sampling:

15.96

FT BTOC

Water Level After Sampling:

15.97

FT BTOC

Appearance of Sample:

clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1020</u>	<u>1025</u>	<u>1030</u>	<u>1035</u>	<u>1040</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.00</u>	<u>1.25</u>
pH	Standard	<u>6.71</u>	<u>6.77</u>	<u>6.89</u>	<u>6.91</u>	<u>6.92</u>
Spec. Cond.	mS/CM	<u>1.170</u>	<u>1.110</u>	<u>0.962</u>	<u>0.972</u>	<u>0.974</u>
Turbidity	NTU	<u>6.21</u>	<u>7.44</u>	<u>7.47</u>	<u>7.39</u>	<u>7.34</u>
Temperature	°C	<u>20.17</u>	<u>20.47</u>	<u>20.59</u>	<u>20.51</u>	<u>20.56</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>15.82</u>	<u>15.91</u>	<u>15.97</u>	<u>15.96</u>	<u>15.97</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 _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No.: 2040906201

WEATHER CONDITIONS

Temperature

60°

Weather

cloudy

SAMPLE INFORMATION

Sample Location LMW-22

Sample No. LMW-22

Sample Date 12-9-21

Time 0830

Sample By STB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 0805 Water Level Before Purging: 16.56 FT BTOC TD: 23.15 FT BTOC

Well Volume: 6.59 FT x 0.163 gal/FT = 1.0 gallons

@ 200 mL/min Volume Water Removed Before Sampling: 1.25 gallons

Water Level Before Sampling: 16.78 FT BTOC

Water Level After Sampling: 16.78 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0810</u>	<u>0815</u>	<u>0820</u>	<u>0825</u>	<u>0830</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.00</u>	<u>1.25</u>
pH	Standard	<u>6.74</u>	<u>6.77</u>	<u>6.89</u>	<u>6.91</u>	<u>6.90</u>
Spec. Cond.	mS/CM	<u>1.146</u>	<u>1.152</u>	<u>1.156</u>	<u>1.151</u>	<u>1.149</u>
Turbidity	NTU	<u>8.21</u>	<u>6.26</u>	<u>6.39</u>	<u>6.46</u>	<u>6.41</u>
Temperature	°C	<u>18.96</u>	<u>18.87</u>	<u>18.89</u>	<u>18.96</u>	<u>18.96</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>16.71</u>	<u>16.72</u>	<u>16.72</u>	<u>16.78</u>	<u>16.78</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



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

45°

Weather

FOGGY

SAMPLE INFORMATION

Sample Location MW-45

Sample No. MW-45/MS-01/MSD-01

Sample Date 12-8-21

Time 0945

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 0920 Water Level Before Purging: 13.29 FT BTOC TD: 22.56 FT BTOC

Well Volume: 9.27 FT x 0.163 gal/FT = 1.5 gallons

@ 250 mL/min Volume Water Removed Before Sampling: 1.25 gallons

Water Level Before Sampling: 13.44 FT BTOC

Water Level After Sampling: 13.46 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0925</u>	<u>0930</u>	<u>0935</u>	<u>0940</u>	<u>0945</u>
Volume Discharge	gals	<u>.25</u>	<u>.50</u>	<u>.75</u>	<u>1.00</u>	<u>1.25</u>
pH	Standard	<u>7.09</u>	<u>7.06</u>	<u>7.02</u>	<u>7.01</u>	<u>7.02</u>
Spec. Cond.	mS/CM	<u>0.729</u>	<u>0.734</u>	<u>0.716</u>	<u>0.721</u>	<u>0.726</u>
Turbidity	NTU	<u>4.16</u>	<u>4.29</u>	<u>4.36</u>	<u>4.21</u>	<u>4.22</u>
Temperature	°C	<u>19.26</u>	<u>19.71</u>	<u>19.77</u>	<u>19.76</u>	<u>19.76</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>13.42</u>	<u>13.46</u>	<u>13.47</u>	<u>13.46</u>	<u>13.46</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



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

45°

Weather

FOGGY

SAMPLE INFORMATION

Sample Location PMW-19R

Sample No. PMW-19R

Sample Date 12-8-21

Time 1020

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1000 Water Level Before Purging: 19.53 FT BTOC TD: 22.69 FT BTOC

Well Volume: 3.16 FT x 0.163 gal/FT = 0.5 gallons

@ 200 mL/min Volume Water Removed Before Sampling: 0.8 gallons

Water Level Before Sampling: 19.71 FT BTOC

Water Level After Sampling: 19.72 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1005</u>	<u>1010</u>	<u>1015</u>		<u>1020</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>6.73</u>
Spec. Cond.	S/CM	<u>1.371</u>	<u>1.361</u>	<u>1.366</u>		<u>1.365</u>
Turbidity	NTU	<u>3.71</u>	<u>3.21</u>	<u>3.26</u>		<u>3.29</u>
Temperature	°C	<u>19.42</u>	<u>19.51</u>	<u>19.56</u>		<u>19.51</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>19.72</u>	<u>19.71</u>	<u>19.71</u>		<u>19.72</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: NONE

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump

☐ Submersible Pump

☐ Hand Pump

☐ Air-Lift Pump

☐ Other _____



GOLDER
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 45° Weather FOGGY

SAMPLE INFORMATION

Sample Location LMW-8 Sample No. LMW-8
Sample Date 12-8-21 Time 1100 Sample By JTB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1035 Water Level Before Purging: 15.05 FT BTOC TD: 24.04 FT BTOC
Well Volume: 8.99 FT x 0.163 gal/FT = 1.46 gallons
@ 200 mL/min Volume Water Removed Before Sampling: 1.00 gallons
Water Level Before Sampling: 15.49 FT BTOC
Water Level After Sampling: 15.51 FT BTOC
Appearance of Sample: clear, no color

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1040</u>	<u>1045</u>	<u>1050</u>	<u>1055</u>	<u>1100</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>6.71</u>	<u>6.62</u>	<u>6.59</u>	<u>6.51</u>	<u>6.52</u>
Spec. Cond.	mS/CM	<u>0.572</u>	<u>0.561</u>	<u>0.566</u>	<u>0.561</u>	<u>0.562</u>
Turbidity	NTU	<u>7.21</u>	<u>7.34</u>	<u>7.41</u>	<u>7.40</u>	<u>7.31</u>
Temperature	°C	<u>19.12</u>	<u>19.29</u>	<u>19.31</u>	<u>19.36</u>	<u>19.32</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>15.39</u>	<u>15.44</u>	<u>15.46</u>	<u>15.49</u>	<u>15.51</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: NONE

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE
Stainless Steel
Teflon

☒ Peristaltic Pump
☐ Submersible Pump
☐ Hand Pump

☐ Air-Lift Pump
Other _____



GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 45°

Weather cloudy

SAMPLE INFORMATION

Sample Location LMW-17

Sample No. LMW-17

Sample Date 12-8-21

Time 1135

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1115 Water Level Before Purging: 18.08 FT BTOC TD: 25.44 FT BTOC

Well Volume: 7.36 FT x 0.653 gal/FT = 1.20 gallons

@ 300 mL/min Volume Water Removed Before Sampling: 1.20 gallons

Water Level Before Sampling: 18.39 FT BTOC

Water Level After Sampling: 18.41 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1120</u>	<u>1125</u>	<u>1130</u>		<u>1135</u>
Volume Discharge	gals	<u>0.8</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>7.26</u>	<u>7.24</u>	<u>7.25</u>		<u>7.26</u>
Spec. Cond.	mS/CM	<u>0.742</u>	<u>0.759</u>	<u>0.754</u>		<u>0.758</u>
Turbidity	NTU	<u>4.17</u>	<u>4.29</u>	<u>4.26</u>		<u>4.21</u>
Temperature	°C	<u>19.61</u>	<u>19.41</u>	<u>19.41</u>		<u>19.39</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>18.29</u>	<u>18.36</u>	<u>18.37</u>		<u>18.41</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
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 45° Weather cloudy

SAMPLE INFORMATION

Sample Location LMW-5 Sample No. LMW-5/DUP-01
Sample Date 12-8-21 Time 12:15 Sample By STB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1155 Water Level Before Purging: 16.12 FT BTOC TD: 25.25 FT BTOC
Well Volume: 9.13 FT x 0.163 gal/FT = 1.50 gallons
@ 300 mL/min Volume Water Removed Before Sampling: 1.20 gallons
Water Level Before Sampling: 16.43 FT BTOC
Water Level After Sampling: 16.44 FT BTOC
Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1200</u>	<u>1205</u>	<u>1210</u>		<u>1215</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>7.06</u>	<u>7.13</u>	<u>7.14</u>		<u>7.12</u>
Spec. Cond.	mS/CM	<u>0.721</u>	<u>0.739</u>	<u>0.742</u>		<u>0.739</u>
Turbidity	NTU	<u>8.16</u>	<u>8.29</u>	<u>8.21</u>		<u>8.23</u>
Temperature	°C	<u>19.26</u>	<u>19.42</u>	<u>19.46</u>		<u>19.47</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>16.41</u>	<u>16.46</u>	<u>16.43</u>		<u>16.44</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
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 50°

Weather cloudy

SAMPLE INFORMATION

Sample Location LMW-21

Sample No. LMW-21

Sample Date 12-8-21

Time 1255

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1235 Water Level Before Purging: 18.57 FT BTOC TD: 28.06 FT BTOC

Well Volume: 9.49 FT x 0.163 gal/FT = 1.54 gallons

@ 300 mL/min Volume Water Removed Before Sampling: 1.2 gallons

Water Level Before Sampling: 18.75 FT BTOC

Water Level After Sampling: 18.74 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1240</u>	<u>1245</u>	<u>1250</u>		<u>1255</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>6.74</u>	<u>6.79</u>	<u>6.80</u>		<u>6.79</u>
Spec. Cond.	mS/CM	<u>1.321</u>	<u>1.341</u>	<u>1.346</u>		<u>1.342</u>
Turbidity	NTU	<u>6.21</u>	<u>6.29</u>	<u>6.24</u>		<u>6.21</u>
Temperature	°C	<u>19.71</u>	<u>19.64</u>	<u>19.67</u>		<u>19.69</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>18.71</u>	<u>18.74</u>	<u>18.75</u>		<u>18.74</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
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 50°

Weather cloudy

SAMPLE INFORMATION

Sample Location PMW-20R

Sample No. PMW-20R

Sample Date 12-8-21

Time 1335

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1310 Water Level Before Purging: 18.22 FT BTOC TD: 28.27 FT BTOC

Well Volume: 10.05 FT x 0.163 gal/FT = 1.63 gallons

@ 300 mL/min Volume Water Removed Before Sampling: 1.5 gallons

Water Level Before Sampling: 18.74 FT BTOC

Water Level After Sampling: 18.74 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1315</u>	<u>1320</u>	<u>1325</u>	<u>1330</u>	<u>1335</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>6.71</u>	<u>6.79</u>	<u>6.74</u>	<u>6.72</u>	<u>6.72</u>
Spec. Cond.	mS/CM	<u>1.171</u>	<u>1.126</u>	<u>1.129</u>	<u>1.101</u>	<u>1.102</u>
Turbidity	NTU	<u>4.71</u>	<u>4.61</u>	<u>4.62</u>	<u>4.67</u>	<u>4.66</u>
Temperature	°C	<u>19.71</u>	<u>19.61</u>	<u>19.52</u>	<u>19.56</u>	<u>19.58</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>18.67</u>	<u>18.71</u>	<u>18.73</u>	<u>18.74</u>	<u>18.74</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
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 55°

Weather cloudy

SAMPLE INFORMATION

Sample Location MW-41

Sample No. MW-41

Sample Date 12-8-21

Time 1415

Sample By STB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1355 Water Level Before Purging: 10.29 FT BTOC TD: 19.15 FT BTOC

Well Volume: 8.86 FT x 0.163 gal/FT = 1.44 gallons

@ 300 mL/min Volume Water Removed Before Sampling: 1.2 gallons

Water Level Before Sampling: 10.53 FT BTOC

Water Level After Sampling: 10.55 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1400</u>	<u>1405</u>	<u>1410</u>		<u>1415</u>
Volume Discharge	gals	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>		<u>1.2</u>
pH	Standard	<u>6.71</u>	<u>6.73</u>	<u>6.74</u>		<u>6.72</u>
Spec. Cond.	mS/CM	<u>1.346</u>	<u>1.371</u>	<u>1.367</u>		<u>1.364</u>
Turbidity	NTU	<u>7.19</u>	<u>7.21</u>	<u>7.22</u>		<u>7.17</u>
Temperature	°C	<u>19.26</u>	<u>19.31</u>	<u>19.36</u>		<u>19.39</u>
Pump Rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>		<u>300</u>
Water Level	FT BTOC	<u>10.46</u>	<u>10.51</u>	<u>10.53</u>		<u>10.55</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
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature 50°

Weather cloudy

SAMPLE INFORMATION

Sample Location MW-47

Sample No. MW-47

Sample Date 12-8-21

Time 1500

Sample By JMB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1435 Water Level Before Purging: 6.51 FT BTOC TD: 17.93 FT BTOC

Well Volume: 11.42 FT x 0.163 gal/FT = 1.86 gallons

@ 250 mL/min Volume Water Removed Before Sampling: 1.25 gallons

Water Level Before Sampling: 6.79 FT BTOC

Water Level After Sampling: 6.79 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1440</u>	<u>1445</u>	<u>1450</u>	<u>1455</u>	<u>1500</u>
Volume Discharge	gals	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>
pH	Standard	<u>6.64</u>	<u>6.79</u>	<u>6.86</u>	<u>6.81</u>	<u>6.82</u>
Spec. Cond.	mS/CM	<u>1,329</u>	<u>1,371</u>	<u>1,362</u>	<u>1,366</u>	<u>1,371</u>
Turbidity	NTU	<u>7.17</u>	<u>7.06</u>	<u>7.21</u>	<u>7.22</u>	<u>7.24</u>
Temperature	°C	<u>19.86</u>	<u>19.81</u>	<u>19.79</u>	<u>19.86</u>	<u>19.82</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>6.74</u>	<u>6.76</u>	<u>6.77</u>	<u>6.79</u>	<u>6.79</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: NONE

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

☒ Peristaltic Pump

☐ Submersible Pump

☐ Hand Pump

☐ Air-Lift Pump

☐ Other _____



GOLDER
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

55°

Weather

cloudy

SAMPLE INFORMATION

Sample Location LMW-9R

Sample No. LMW-9R

Sample Date 12-8-21

Time 1550

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @ 1520 Water Level Before Purging: 15.54 FT BTOC TD: 32.90 FT BTOC

Well Volume: 17.36 FT x 0.163 gal/FT = 2.82 gallons

@ 200 mL/min Volume Water Removed Before Sampling: 1.2 gallons

Water Level Before Sampling: 16.01 FT BTOC

Water Level After Sampling: 16.04 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1525</u>	<u>1530</u>	<u>1535</u>	<u>1540</u> <u>1545</u>	<u>1550</u>
Volume Discharge	gals	<u>.2</u>	<u>.4</u>	<u>.6</u>	<u>.8</u> <u>1.0</u>	<u>1.2</u>
pH	Standard	<u>6.39</u>	<u>6.39</u>	<u>6.47</u>	<u>6.52</u> <u>6.53</u>	<u>6.57</u>
Spec. Cond.	mS/CM	<u>2.717</u>	<u>2.734</u>	<u>2.739</u>	<u>2.751</u> <u>2.753</u>	<u>2.751</u>
Turbidity	NTU	<u>4.71</u>	<u>4.62</u>	<u>4.66</u>	<u>4.66</u> <u>4.61</u>	<u>4.56</u>
Temperature	°C	<u>19.71</u>	<u>19.86</u>	<u>19.94</u>	<u>19.95</u> <u>19.92</u>	<u>19.91</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u> <u>200</u>	<u>200</u>
Water Level	FT BTOC	<u>15.79</u>	<u>15.86</u>	<u>15.96</u>	<u>15.99</u> <u>16.01</u>	<u>16.04</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

APPENDIX C

Groundwater Laboratory Analytical
Results



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

September 09, 2021

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

Work Order: **HS21090090**

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

Dear Emily Forthaus,

ALS Environmental received 12 sample(s) on Sep 01, 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: HS21090090

**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: HS21090090

**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: 09/09/2021			
Project Name: Frisco CDC North CAMU GW				Laboratory Job Number: HS21090090			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 169860,169956			
# 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 DCSS 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: 09/09/2021			
Project Name: Frisco CDC North CAMU GW				Laboratory Job Number: HS21090090			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 169860.169956			
# 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: 09/09/2021
Project Name: Frisco CDC North CAMU GW	Laboratory Job Number: HS21090090
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 169860,169956
ER#⁵	Description
	No Exceptions
<p>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.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);</p> <p>NA = Not Applicable;</p> <p>NR = Not Reviewed;</p> <p>R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>	

Client: Golder Associates
Project: Frisco CDC North CAMU GW
Work Order: HS21090090

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21090090-01	MW-45	Groundwater		30-Aug-2021 11:55	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-02	PMW-19R	Groundwater		30-Aug-2021 12:35	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-03	LMW-8	Groundwater		30-Aug-2021 13:20	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-04	LMW-17	Groundwater		30-Aug-2021 14:15	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-05	LMW-5	Groundwater		30-Aug-2021 15:00	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-06	LMW-21	Groundwater		30-Aug-2021 15:55	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-07	PMW-20R	Groundwater		30-Aug-2021 16:30	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-08	MW-41	Groundwater		31-Aug-2021 08:10	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-09	MW-47	Groundwater		31-Aug-2021 09:00	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-10	LMW-9R	Groundwater		31-Aug-2021 09:55	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-11	LMW-22	Groundwater		31-Aug-2021 10:40	01-Sep-2021 09:40	<input type="checkbox"/>
HS21090090-12	DUP-01	Groundwater		30-Aug-2021 15:00	01-Sep-2021 09:40	<input type="checkbox"/>

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: MW-45
 Collection Date: 30-Aug-2021 11:55

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000430	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:18
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:18
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:18
Selenium	0.00121	J	0.00110	0.00200	mg/L	1	08-Sep-2021 17:18
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	07-Sep-2021 16:23
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:23
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:23
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:23

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: 30-Aug-2021 12:35

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.00176	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:28
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:28
Lead	0.00205		0.000600	0.00200	mg/L	1	08-Sep-2021 17:28
Selenium	0.00143	J	0.00110	0.00200	mg/L	1	08-Sep-2021 17:28
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.000401	J	0.000400	0.00200	mg/L	1	07-Sep-2021 16:33
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:33
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:33
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:33

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: 30-Aug-2021 13:20

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000499	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:30
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:30
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:30
Selenium	0.00142	J	0.00110	0.00200	mg/L	1	08-Sep-2021 17:30
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.000493	J	0.000400	0.00200	mg/L	1	07-Sep-2021 16:41
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:41
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:41
Selenium	0.00377		0.00110	0.00200	mg/L	1	07-Sep-2021 16:41

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

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: LMW-17
 Collection Date: 30-Aug-2021 14:15

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000508	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:38
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:38
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:38
Selenium	0.00112	J	0.00110	0.00200	mg/L	1	08-Sep-2021 17:38
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.000439	J	0.000400	0.00200	mg/L	1	07-Sep-2021 16:43
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:43
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:43
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:43

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: 30-Aug-2021 15:00

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000543	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:40
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:40
Lead	0.00182	J	0.000600	0.00200	mg/L	1	08-Sep-2021 17:40
Selenium	U		0.00110	0.00200	mg/L	1	08-Sep-2021 17:40
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	07-Sep-2021 16:45
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:45
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:45
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:45

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: 30-Aug-2021 15:55

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000517	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:42
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:42
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:42
Selenium	0.00500		0.00110	0.00200	mg/L	1	08-Sep-2021 17:42
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.000511	J	0.000400	0.00200	mg/L	1	07-Sep-2021 16:47
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:47
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:47
Selenium	0.00520		0.00110	0.00200	mg/L	1	07-Sep-2021 16:47

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: 30-Aug-2021 16:30

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	08-Sep-2021 17:44
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:44
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:44
Selenium	0.00121	J	0.00110	0.00200	mg/L	1	08-Sep-2021 17:44
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	07-Sep-2021 16:49
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:49
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:49
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:49

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: 31-Aug-2021 08:10

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000691	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:48
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:48
Lead	0.000803	J	0.000600	0.00200	mg/L	1	08-Sep-2021 17:48
Selenium	U		0.00110	0.00200	mg/L	1	08-Sep-2021 17:48
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.000412	J	0.000400	0.00200	mg/L	1	07-Sep-2021 16:51
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:51
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:51
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:51

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: 31-Aug-2021 09:00

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000447	J	0.000400	0.00200	mg/L	1	08-Sep-2021 17:50
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:50
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:50
Selenium	U		0.00110	0.00200	mg/L	1	08-Sep-2021 17:50
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	07-Sep-2021 16:53
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:53
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:53
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:53

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: 31-Aug-2021 09:55

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.00229		0.000400	0.00200	mg/L	1	08-Sep-2021 17:52
Cadmium	0.000346	J	0.000200	0.00200	mg/L	1	08-Sep-2021 17:52
Lead		U	0.000600	0.00200	mg/L	1	08-Sep-2021 17:52
Selenium	0.00237		0.00110	0.00200	mg/L	1	08-Sep-2021 17:52
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.00128	J	0.000400	0.00200	mg/L	1	07-Sep-2021 16:55
Cadmium	0.000416	J	0.000200	0.00200	mg/L	1	07-Sep-2021 16:55
Lead		U	0.000600	0.00200	mg/L	1	07-Sep-2021 16:55
Selenium	0.00217		0.00110	0.00200	mg/L	1	07-Sep-2021 16:55

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: 31-Aug-2021 10:40

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.00362		0.000400	0.00200	mg/L	1	08-Sep-2021 17:54
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 17:54
Lead	U		0.000600	0.00200	mg/L	1	08-Sep-2021 17:54
Selenium	U		0.00110	0.00200	mg/L	1	08-Sep-2021 17:54
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	0.00458		0.000400	0.00200	mg/L	1	07-Sep-2021 16:57
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:57
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:57
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:57

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: 30-Aug-2021 15:00

ANALYTICAL REPORT

WorkOrder:HS21090090
 Lab ID:HS21090090-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 08-Sep-2021		Analyst: JHD	
Arsenic	0.000501	J	0.000400	0.00200	mg/L	1	08-Sep-2021 19:57
Cadmium	U		0.000200	0.00200	mg/L	1	08-Sep-2021 19:57
Lead	0.000648	J	0.000600	0.00200	mg/L	1	08-Sep-2021 19:57
Selenium	U		0.00110	0.00200	mg/L	1	08-Sep-2021 19:57
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 03-Sep-2021		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	07-Sep-2021 16:59
Cadmium	U		0.000200	0.00200	mg/L	1	07-Sep-2021 16:59
Lead	U		0.000600	0.00200	mg/L	1	07-Sep-2021 16:59
Selenium	U		0.00110	0.00200	mg/L	1	07-Sep-2021 16:59

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: HS21090090

Batch ID: 169860 **Start Date:** 07 Sep 2021 10:30 **End Date:** 07 Sep 2021 14:30
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21090090-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 169956 **Start Date:** 08 Sep 2021 08:00 **End Date:** 08 Sep 2021 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21090090-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21090090-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21090090

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 169860 (0)		Test Name : DISSOLVED METALS BY SW6020A			Matrix: Groundwater	
HS21090090-01	MW-45	30 Aug 2021 11:55		03 Sep 2021 14:30	07 Sep 2021 16:23	1
HS21090090-02	PMW-19R	30 Aug 2021 12:35		03 Sep 2021 14:30	07 Sep 2021 16:33	1
HS21090090-03	LMW-8	30 Aug 2021 13:20		03 Sep 2021 14:30	07 Sep 2021 16:41	1
HS21090090-04	LMW-17	30 Aug 2021 14:15		03 Sep 2021 14:30	07 Sep 2021 16:43	1
HS21090090-05	LMW-5	30 Aug 2021 15:00		03 Sep 2021 14:30	07 Sep 2021 16:45	1
HS21090090-06	LMW-21	30 Aug 2021 15:55		03 Sep 2021 14:30	07 Sep 2021 16:47	1
HS21090090-07	PMW-20R	30 Aug 2021 16:30		03 Sep 2021 14:30	07 Sep 2021 16:49	1
HS21090090-08	MW-41	31 Aug 2021 08:10		03 Sep 2021 14:30	07 Sep 2021 16:51	1
HS21090090-09	MW-47	31 Aug 2021 09:00		03 Sep 2021 14:30	07 Sep 2021 16:53	1
HS21090090-10	LMW-9R	31 Aug 2021 09:55		03 Sep 2021 14:30	07 Sep 2021 16:55	1
HS21090090-11	LMW-22	31 Aug 2021 10:40		03 Sep 2021 14:30	07 Sep 2021 16:57	1
HS21090090-12	DUP-01	30 Aug 2021 15:00		03 Sep 2021 14:30	07 Sep 2021 16:59	1
Batch ID: 169956 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS21090090-01	MW-45	30 Aug 2021 11:55		08 Sep 2021 12:00	08 Sep 2021 17:18	1
HS21090090-02	PMW-19R	30 Aug 2021 12:35		08 Sep 2021 12:00	08 Sep 2021 17:28	1
HS21090090-03	LMW-8	30 Aug 2021 13:20		08 Sep 2021 12:00	08 Sep 2021 17:30	1
HS21090090-04	LMW-17	30 Aug 2021 14:15		08 Sep 2021 12:00	08 Sep 2021 17:38	1
HS21090090-05	LMW-5	30 Aug 2021 15:00		08 Sep 2021 12:00	08 Sep 2021 17:40	1
HS21090090-06	LMW-21	30 Aug 2021 15:55		08 Sep 2021 12:00	08 Sep 2021 17:42	1
HS21090090-07	PMW-20R	30 Aug 2021 16:30		08 Sep 2021 12:00	08 Sep 2021 17:44	1
HS21090090-08	MW-41	31 Aug 2021 08:10		08 Sep 2021 12:00	08 Sep 2021 17:48	1
HS21090090-09	MW-47	31 Aug 2021 09:00		08 Sep 2021 12:00	08 Sep 2021 17:50	1
HS21090090-10	LMW-9R	31 Aug 2021 09:55		08 Sep 2021 12:00	08 Sep 2021 17:52	1
HS21090090-11	LMW-22	31 Aug 2021 10:40		08 Sep 2021 12:00	08 Sep 2021 17:54	1
HS21090090-12	DUP-01	30 Aug 2021 15:00		08 Sep 2021 12:00	08 Sep 2021 19:57	1

WorkOrder: HS21090090

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	0.00121	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000512	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.00105	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00271	0.00110	0.00200

WorkOrder: HS21090090

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	0.00121	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000512	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.00105	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00271	0.00110	0.00200

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21090090

QC BATCH REPORT

Batch ID: 169860 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MBLK	Sample ID: MBLKF1-169860	Units: mg/L		Analysis Date: 07-Sep-2021 16:19					
Client ID:	Run ID: ICPMS06_390873		SeqNo: 6260175		PrepDate: 03-Sep-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							

MBLK	Sample ID: MBLK-169860	Units: mg/L		Analysis Date: 07-Sep-2021 16:17					
Client ID:	Run ID: ICPMS06_390873		SeqNo: 6260174		PrepDate: 03-Sep-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-169860	Units: mg/L		Analysis Date: 07-Sep-2021 16:21					
Client ID:	Run ID: ICPMS06_390873		SeqNo: 6260176		PrepDate: 03-Sep-2021		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.0452	0.00200	0.05	0	90.4	80 - 120			
Cadmium	0.0435	0.00200	0.05	0	87.0	80 - 120			
Lead	0.04274	0.00200	0.05	0	85.5	80 - 120			
Selenium	0.04724	0.00200	0.05	0	94.5	80 - 120			

MS	Sample ID: HS21090090-01MS	Units: mg/L		Analysis Date: 07-Sep-2021 16:27					
Client ID: MW-45	Run ID: ICPMS06_390873		SeqNo: 6260179		PrepDate: 03-Sep-2021		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.0443	0.00200	0.05	0.000304	88.0	75 - 125			
Cadmium	0.04208	0.00200	0.05	0.000018	84.1	75 - 125			
Lead	0.04285	0.00200	0.05	0.000055	85.6	75 - 125			
Selenium	0.04412	0.00200	0.05	0.000844	86.6	75 - 125			

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 WorkOrder: HS21090090

QC BATCH REPORT

Batch ID: 169860 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MSD		Sample ID: HS21090090-01MSD		Units: mg/L		Analysis Date: 07-Sep-2021 16:29			
Client ID: MW-45		Run ID: ICPMS06_390873		SeqNo: 6260180		PrepDate: 03-Sep-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.0439	0.00200	0.05	0.000304	87.2	75 - 125	0.0443	0.907	20
Cadmium	0.04194	0.00200	0.05	0.000018	83.8	75 - 125	0.04208	0.338	20
Lead	0.0417	0.00200	0.05	0.000055	83.3	75 - 125	0.04285	2.74	20
Selenium	0.04395	0.00200	0.05	0.000844	86.2	75 - 125	0.04412	0.388	20
PDS		Sample ID: HS21090090-01PDS		Units: mg/L		Analysis Date: 07-Sep-2021 16:31			
Client ID: MW-45		Run ID: ICPMS06_390873		SeqNo: 6260181		PrepDate: 03-Sep-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.1148	0.00200	0.1	0.000304	115	75 - 125			
Cadmium	0.1097	0.00200	0.1	0.000018	110	75 - 125			
Lead	0.112	0.00200	0.1	0.000055	112	75 - 125			
Selenium	0.1162	0.00200	0.1	0.000844	115	75 - 125			
SD		Sample ID: HS21090090-01SD		Units: mg/L		Analysis Date: 07-Sep-2021 16:25			
Client ID: MW-45		Run ID: ICPMS06_390873		SeqNo: 6260178		PrepDate: 03-Sep-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					0.000304	0	10
Cadmium	U	0.0100					0.000018	0	10
Lead	U	0.0100					0.000055	0	10
Selenium	U	0.0100					0.000844	0	10
The following samples were analyzed in this batch:									
HS21090090-01		HS21090090-02		HS21090090-03		HS21090090-04			
HS21090090-05		HS21090090-06		HS21090090-07		HS21090090-08			
HS21090090-09		HS21090090-10		HS21090090-11		HS21090090-12			

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21090090

QC BATCH REPORT

Batch ID: 169956 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-169956	Units: mg/L		Analysis Date: 09-Sep-2021 11:32					
Client ID:	Run ID: ICPMS06_391047	SeqNo: 6263161		PrepDate: 08-Sep-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-169956	Units: mg/L		Analysis Date: 08-Sep-2021 17:16					
Client ID:	Run ID: ICPMS06_390965	SeqNo: 6262125		PrepDate: 08-Sep-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.04447	0.00200	0.05	0	88.9	80 - 120			
Cadmium	0.04679	0.00200	0.05	0	93.6	80 - 120			
Lead	0.04462	0.00200	0.05	0	89.2	80 - 120			
Selenium	0.04546	0.00200	0.05	0	90.9	80 - 120			

MS	Sample ID: HS21090090-01MS	Units: mg/L		Analysis Date: 08-Sep-2021 17:22					
Client ID: MW-45	Run ID: ICPMS06_390965	SeqNo: 6262128		PrepDate: 08-Sep-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.04945	0.00200	0.05	0.00043	98.0	80 - 120			
Cadmium	0.04803	0.00200	0.05	0.000039	96.0	80 - 120			
Lead	0.04688	0.00200	0.05	0.000199	93.4	80 - 120			
Selenium	0.04847	0.00200	0.05	0.001212	94.5	80 - 120			

MSD	Sample ID: HS21090090-01MSD	Units: mg/L		Analysis Date: 08-Sep-2021 17:24					
Client ID: MW-45	Run ID: ICPMS06_390965	SeqNo: 6262129		PrepDate: 08-Sep-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05236	0.00200	0.05	0.00043	104	80 - 120	0.04945	5.72	20
Cadmium	0.05108	0.00200	0.05	0.000039	102	80 - 120	0.04803	6.15	20
Lead	0.04912	0.00200	0.05	0.000199	97.8	80 - 120	0.04688	4.67	20
Selenium	0.05313	0.00200	0.05	0.001212	104	80 - 120	0.04847	9.18	20

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21090090

QC BATCH REPORT

Batch ID: 169956 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
SD		Sample ID: HS21090090-01SD		Units: mg/L		Analysis Date: 08-Sep-2021 17:20			
Client ID: MW-45		Run ID: ICPMS06_390965		SeqNo: 6262127		PrepDate: 08-Sep-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					0.00043	0	10
Cadmium	U	0.0100					0.000039	0	10
Lead	U	0.0100					0.000199	0	10
Selenium	U	0.0100					0.001212	0	10
The following samples were analyzed in this batch:									
HS21090090-01		HS21090090-02		HS21090090-03		HS21090090-04			
HS21090090-05		HS21090090-06		HS21090090-07		HS21090090-08			
HS21090090-09		HS21090090-10		HS21090090-11		HS21090090-12			

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21090090

**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	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Texas	T104704231-21-28	30-Apr-2022

Sample Receipt Checklist

Work Order ID: HS21090090

Date/Time Received: 01-Sep-2021 09:40

Client Name: Golder St Louis

Received by: Jared R. Makan

Completed By: /S/ Pablo Martinez

02-Sep-2021 12:56

Reviewed by: /S/ Dane J. Wacasey

08-Sep-2021 09:07

eSignature

Date/Time

eSignature

Date/Time

Matrices: **WATER**Carrier 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 ☐

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

COC IDs:254107/106

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

IR 31

Cooler(s)/Kit(s):

47465

Date/Time sample(s) sent to storage:

9/2/21 13:05

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: MW-41 - Collection Time differs; logged per CoC
CoC = 07:50 Label = 08:10

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



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Everett, WA
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Holland, MI
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Chain of Custody Form

Page 1 of 2

COC ID: 254107

HS21090090

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) 984-8300
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	8-30-21	1155	Groundwa	2.8	4	X	X	X								
2	PMW-19R	8-30-21	1235	Groundwa	2.8	2	X	X									
3	LMW-48	8-30-21	1320	Groundwa	2.8	2	X	X									
4	LMW-17	8-30-21	1415	Groundwa	2.8	2	X	X									
5	LMW-45	8-30-21	1500	Groundwa	2.8	2	X	X									
6	LMW-21	8-30-21	1555	Groundwa	2.8	2	X	X									
7	PMW-20R	8-30-21	1630	Groundwa	2.8	2	X	X									
8	MW-41	8-31-21	0750	Groundwa	2.8	2	X	X									
9	MW-47	8-31-21	0900	Groundwa	2.8	2	X	X									
10	LMW-9R	8-31-21	0955	Groundwa	2.8	2	X	X									

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method FEDEX		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD: 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished By: John B	Date: 8-31-21	Time: 1700	Received by:	Notes: Frisco CDC North CAMU GW			
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID 47465	Cooler Temp. 15°C	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input type="checkbox"/> Level II Set QC <input checked="" type="checkbox"/> TRP Checklist <input type="checkbox"/> Level III Set QC/Paw Data <input type="checkbox"/> TRP Level IV <input type="checkbox"/> Level IV SWS-BICLP <input type="checkbox"/> 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.
 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: 254106

HS21090090

vv

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) 984-8300
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	LMW-22	8-31-21	1040	Groundwa	2.8	2	X	X									
2	DUP-01	8-30-21	1500	Groundwa	2.8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign JOHN BRAYDON		Shipment Method FEDEX		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished by: John R		Date: 8-31-21	Time: 1700	Received by:		Notes: Frisco CDC North CAMU GW	
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		Cooler Temp.	
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.
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		Seal Broken By:
	Date: 8-31-21	Time:	gm
	Name: [Signature]		Date: 09/01/21
	Company:		

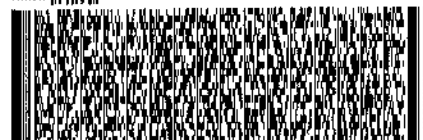


ORIGIN ID: SGRA (314) 304-1326
 JOHN BRAYTON
 COLDER ASSOCIATES
 7471 5TH STREET
 FRISCO, TX 75034
 UNITED STATES US

SHIP DATE: 26AUG21
 ACTWT: 1.00 LB MAN
 CRD: 0221247/CAFE3504
 DIMS: 28x14x14 IN.

TO **SHIPPING DEPT**
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
 (281) 530-5656
 REF: FRISCO CDC NORTH - BO 80376 - DW

RMA: [Barcode]



FedEx
 TRK# 9473 0847 2035
 0221

WED - 01 SEP 10:30A
 PRIORITY OVERNIGHT

AB SGRA

77099
 TX-US IAH





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

December 20, 2021

Emily Forthaus
Golder Associates
701 Emerson Road Suite 250
Creve Coeur, MO 63141

Work Order: **HS21120678**

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

Dear Emily Forthaus,

ALS Environmental received 12 sample(s) on Dec 10, 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: HS21120678

**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: HS21120678

**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: 12/20/2021			
Project Name: Frisco CDC North CAMU GW				Laboratory Job Number: HS21120678			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 173641,173648			
# 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 DCSs 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: 12/20/2021			
Project Name: Frisco CDC North CAMU GW				Laboratory Job Number: HS21120678			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 173641,173648			
# 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: 12/20/2021
Project Name: Frisco CDC North CAMU GW	Laboratory Job Number: HS21120678
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 173641,173648
ER#⁵	Description
	No Exceptions
<p>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.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);</p> <p>NA = Not Applicable;</p> <p>NR = Not Reviewed;</p> <p>R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>	

Client: Golder Associates
Project: Frisco CDC North CAMU GW
Work Order: HS21120678

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21120678-01	MW-45	Groundwater		08-Dec-2021 09:45	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-02	PMW-19R	Groundwater		08-Dec-2021 10:20	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-03	LMW-8	Groundwater		08-Dec-2021 11:00	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-04	LMW-17	Groundwater		08-Dec-2021 11:35	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-05	LMW-5	Groundwater		08-Dec-2021 12:15	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-06	LMW-21	Groundwater		08-Dec-2021 12:55	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-07	PMW-20R	Groundwater		08-Dec-2021 13:35	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-08	MW-41	Groundwater		08-Dec-2021 14:15	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-09	MW-47	Groundwater		08-Dec-2021 15:00	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-10	LMW-9R	Groundwater		08-Dec-2021 15:50	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-11	LMW-22	Groundwater		08-Dec-2021 08:30	10-Dec-2021 10:10	<input type="checkbox"/>
HS21120678-12	DUP-01	Groundwater		08-Dec-2021 12:15	10-Dec-2021 10:10	<input type="checkbox"/>

Client: Golder Associates
 Project: Frisco CDC North CAMU GW
 Sample ID: MW-45
 Collection Date: 08-Dec-2021 09:45

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000628	J	0.000400	0.00200	mg/L	1	17-Dec-2021 13:28
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 13:28
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 13:28
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 13:28
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000446	J	0.000400	0.00200	mg/L	1	16-Dec-2021 22:38
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 22:38
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 22:38
Selenium	0.00178	J	0.00110	0.00200	mg/L	1	16-Dec-2021 22:38

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: 08-Dec-2021 10:20

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.00109	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:00
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:00
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:00
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:00
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000775	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:04
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:04
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:04
Selenium	0.00150	J	0.00110	0.00200	mg/L	1	16-Dec-2021 23:04

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: 08-Dec-2021 11:00

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000641	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:02
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:02
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:02
Selenium	0.00986		0.00110	0.00200	mg/L	1	17-Dec-2021 14:02
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000536	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:06
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:06
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:06
Selenium	0.0155		0.00110	0.00200	mg/L	1	16-Dec-2021 23:06

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: 08-Dec-2021 11:35

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000659	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:04
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:04
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:04
Selenium	0.00409		0.00110	0.00200	mg/L	1	17-Dec-2021 14:04
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000715	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:08
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:08
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:08
Selenium	0.00220		0.00110	0.00200	mg/L	1	16-Dec-2021 23:08

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: 08-Dec-2021 12:15

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000699	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:06
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:06
Lead	0.000984	J	0.000600	0.00200	mg/L	1	17-Dec-2021 14:06
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:06
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000586	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:10
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:10
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:10
Selenium	0.00135	J	0.00110	0.00200	mg/L	1	16-Dec-2021 23:10

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: 08-Dec-2021 12:55

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000744	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:08
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:08
Lead	0.000726	J	0.000600	0.00200	mg/L	1	17-Dec-2021 14:08
Selenium	0.00372		0.00110	0.00200	mg/L	1	17-Dec-2021 14:08
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000716	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:16
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:16
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:16
Selenium	0.00372		0.00110	0.00200	mg/L	1	16-Dec-2021 23:16

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: 08-Dec-2021 13:35

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000639	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:10
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:10
Lead	0.00122	J	0.000600	0.00200	mg/L	1	17-Dec-2021 14:10
Selenium	0.00194	J	0.00110	0.00200	mg/L	1	17-Dec-2021 14:10
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000430	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:18
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:18
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:18
Selenium	0.00278		0.00110	0.00200	mg/L	1	16-Dec-2021 23:18

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: 08-Dec-2021 14:15

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000738	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:12
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:12
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:12
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:12
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000597	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:20
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:20
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:20
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2021 23:20

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: 08-Dec-2021 15:00

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000572	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:14
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:14
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:14
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:14
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000485	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:22
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:22
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:22
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2021 23:22

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: 08-Dec-2021 15:50

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.00165	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:16
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:16
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:16
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:16
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.00185	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:24
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:24
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:24
Selenium	0.00138	J	0.00110	0.00200	mg/L	1	16-Dec-2021 23:24

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: 08-Dec-2021 08:30

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.00968		0.000400	0.00200	mg/L	1	17-Dec-2021 14:52
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:52
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2021 14:52
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:52
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.00793		0.000400	0.00200	mg/L	1	16-Dec-2021 23:26
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:26
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:26
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2021 23:26

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: 08-Dec-2021 12:15

ANALYTICAL REPORT

WorkOrder:HS21120678
 Lab ID:HS21120678-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000646	J	0.000400	0.00200	mg/L	1	17-Dec-2021 14:54
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2021 14:54
Lead	0.000686	J	0.000600	0.00200	mg/L	1	17-Dec-2021 14:54
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2021 14:54
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 16-Dec-2021		Analyst: JHD	
Arsenic	0.000433	J	0.000400	0.00200	mg/L	1	16-Dec-2021 23:28
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2021 23:28
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2021 23:28
Selenium	0.00148	J	0.00110	0.00200	mg/L	1	16-Dec-2021 23:28

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: HS21120678

Batch ID: 173641 **Start Date:** 16 Dec 2021 11:00 **End Date:** 16 Dec 2021 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21120678-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 173648 **Start Date:** 16 Dec 2021 12:30 **End Date:** 16 Dec 2021 16:30
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21120678-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21120678-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21120678

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 173641 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS21120678-01	MW-45	08 Dec 2021 09:45		16 Dec 2021 15:00	17 Dec 2021 13:28	1
HS21120678-02	PMW-19R	08 Dec 2021 10:20		16 Dec 2021 15:00	17 Dec 2021 14:00	1
HS21120678-03	LMW-8	08 Dec 2021 11:00		16 Dec 2021 15:00	17 Dec 2021 14:02	1
HS21120678-04	LMW-17	08 Dec 2021 11:35		16 Dec 2021 15:00	17 Dec 2021 14:04	1
HS21120678-05	LMW-5	08 Dec 2021 12:15		16 Dec 2021 15:00	17 Dec 2021 14:06	1
HS21120678-06	LMW-21	08 Dec 2021 12:55		16 Dec 2021 15:00	17 Dec 2021 14:08	1
HS21120678-07	PMW-20R	08 Dec 2021 13:35		16 Dec 2021 15:00	17 Dec 2021 14:10	1
HS21120678-08	MW-41	08 Dec 2021 14:15		16 Dec 2021 15:00	17 Dec 2021 14:12	1
HS21120678-09	MW-47	08 Dec 2021 15:00		16 Dec 2021 15:00	17 Dec 2021 14:14	1
HS21120678-10	LMW-9R	08 Dec 2021 15:50		16 Dec 2021 15:00	17 Dec 2021 14:16	1
HS21120678-11	LMW-22	08 Dec 2021 08:30		16 Dec 2021 15:00	17 Dec 2021 14:52	1
HS21120678-12	DUP-01	08 Dec 2021 12:15		16 Dec 2021 15:00	17 Dec 2021 14:54	1
Batch ID: 173648 (0)		Test Name : DISSOLVED METALS BY SW6020A			Matrix: Groundwater	
HS21120678-01	MW-45	08 Dec 2021 09:45		16 Dec 2021 16:30	16 Dec 2021 22:38	1
HS21120678-02	PMW-19R	08 Dec 2021 10:20		16 Dec 2021 16:30	16 Dec 2021 23:04	1
HS21120678-03	LMW-8	08 Dec 2021 11:00		16 Dec 2021 16:30	16 Dec 2021 23:06	1
HS21120678-04	LMW-17	08 Dec 2021 11:35		16 Dec 2021 16:30	16 Dec 2021 23:08	1
HS21120678-05	LMW-5	08 Dec 2021 12:15		16 Dec 2021 16:30	16 Dec 2021 23:10	1
HS21120678-06	LMW-21	08 Dec 2021 12:55		16 Dec 2021 16:30	16 Dec 2021 23:16	1
HS21120678-07	PMW-20R	08 Dec 2021 13:35		16 Dec 2021 16:30	16 Dec 2021 23:18	1
HS21120678-08	MW-41	08 Dec 2021 14:15		16 Dec 2021 16:30	16 Dec 2021 23:20	1
HS21120678-09	MW-47	08 Dec 2021 15:00		16 Dec 2021 16:30	16 Dec 2021 23:22	1
HS21120678-10	LMW-9R	08 Dec 2021 15:50		16 Dec 2021 16:30	16 Dec 2021 23:24	1
HS21120678-11	LMW-22	08 Dec 2021 08:30		16 Dec 2021 16:30	16 Dec 2021 23:26	1
HS21120678-12	DUP-01	08 Dec 2021 12:15		16 Dec 2021 16:30	16 Dec 2021 23:28	1

WorkOrder: HS21120678

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	0.00121	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000512	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.00105	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00271	0.00110	0.00200

WorkOrder: HS21120678

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	0.00121	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000512	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.00105	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00271	0.00110	0.00200

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21120678

QC BATCH REPORT

Batch ID: 173641 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-173641	Units: mg/L		Analysis Date: 17-Dec-2021 13:04					
Client ID:	Run ID: ICPMS06_397852	SeqNo: 6427809		PrepDate: 16-Dec-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-173641	Units: mg/L		Analysis Date: 17-Dec-2021 13:06					
Client ID:	Run ID: ICPMS06_397852	SeqNo: 6427810		PrepDate: 16-Dec-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05244	0.00200	0.05	0	105	80 - 120			
Cadmium	0.05267	0.00200	0.05	0	105	80 - 120			
Lead	0.04891	0.00200	0.05	0	97.8	80 - 120			
Selenium	0.05321	0.00200	0.05	0	106	80 - 120			

MS	Sample ID: HS21120678-01MS	Units: mg/L		Analysis Date: 17-Dec-2021 13:32					
Client ID: MW-45	Run ID: ICPMS06_397852	SeqNo: 6427813		PrepDate: 16-Dec-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05623	0.00200	0.05	0.000628	111	80 - 120			
Cadmium	0.05312	0.00200	0.05	0.00001	106	80 - 120			
Lead	0.05187	0.00200	0.05	0.000287	103	80 - 120			
Selenium	0.05652	0.00200	0.05	0.000899	111	80 - 120			

MSD	Sample ID: HS21120678-01MSD	Units: mg/L		Analysis Date: 17-Dec-2021 13:34					
Client ID: MW-45	Run ID: ICPMS06_397852	SeqNo: 6427814		PrepDate: 16-Dec-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05566	0.00200	0.05	0.000628	110	80 - 120	0.05623	1.02	20
Cadmium	0.05344	0.00200	0.05	0.00001	107	80 - 120	0.05312	0.601	20
Lead	0.05369	0.00200	0.05	0.000287	107	80 - 120	0.05187	3.45	20
Selenium	0.05591	0.00200	0.05	0.000899	110	80 - 120	0.05652	1.07	20

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21120678

QC BATCH REPORT

Batch ID: 173641 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
PDS		Sample ID: HS21120678-01PDS		Units: mg/L		Analysis Date: 17-Dec-2021 13:36			
Client ID: MW-45		Run ID: ICPMS06_397852		SeqNo: 6427815		PrepDate: 16-Dec-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.104	0.00200	0.1	0.000628	103	75 - 125			
Cadmium	0.1003	0.00200	0.1	0.00001	100	75 - 125			
Lead	0.09945	0.00200	0.1	0.000287	99.2	75 - 125			
Selenium	0.1045	0.00200	0.1	0.000899	104	75 - 125			

SD		Sample ID: HS21120678-01SD		Units: mg/L		Analysis Date: 17-Dec-2021 13:30			
Client ID: MW-45		Run ID: ICPMS06_397852		SeqNo: 6427812		PrepDate: 16-Dec-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					0.000628	0	10
Cadmium	U	0.0100					0.00001	0	10
Lead	U	0.0100					0.000287	0	10
Selenium	U	0.0100					0.000899	0	10

The following samples were analyzed in this batch:

HS21120678-01	HS21120678-02	HS21120678-03	HS21120678-04
HS21120678-05	HS21120678-06	HS21120678-07	HS21120678-08
HS21120678-09	HS21120678-10	HS21120678-11	HS21120678-12

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21120678

QC BATCH REPORT

Batch ID: 173648 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MBLK	Sample ID: MBLKF2-173648	Units: mg/L		Analysis Date: 16-Dec-2021 22:34					
Client ID:	Run ID: ICPMS06_397785	SeqNo: 6425936		PrepDate: 16-Dec-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

MBLK	Sample ID: MBLKF1-173648	Units: mg/L		Analysis Date: 16-Dec-2021 22:32					
Client ID:	Run ID: ICPMS06_397785	SeqNo: 6425935		PrepDate: 16-Dec-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

MBLK	Sample ID: MBLK-173648	Units: mg/L		Analysis Date: 16-Dec-2021 22:30					
Client ID:	Run ID: ICPMS06_397785	SeqNo: 6425934		PrepDate: 16-Dec-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-173648	Units: mg/L		Analysis Date: 16-Dec-2021 22:36					
Client ID:	Run ID: ICPMS06_397785	SeqNo: 6425937		PrepDate: 16-Dec-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05296	0.00200	0.05	0	106	80 - 120
Cadmium	0.05088	0.00200	0.05	0	102	80 - 120
Lead	0.0511	0.00200	0.05	0	102	80 - 120
Selenium	0.05413	0.00200	0.05	0	108	80 - 120

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21120678

QC BATCH REPORT

Batch ID: 173648 (0)		Instrument: ICPMS06		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MS		Sample ID: HS21120678-01MS		Units: mg/L		Analysis Date: 16-Dec-2021 22:42			
Client ID: MW-45		Run ID: ICPMS06_397785		SeqNo: 6425940		PrepDate: 16-Dec-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.0525	0.00200	0.05	0.000446	104	75 - 125			
Cadmium	0.0509	0.00200	0.05	0.000036	102	75 - 125			
Lead	0.05144	0.00200	0.05	0.000139	103	75 - 125			
Selenium	0.0564	0.00200	0.05	0.00178	109	75 - 125			

MSD		Sample ID: HS21120678-01MSD		Units: mg/L		Analysis Date: 16-Dec-2021 22:44			
Client ID: MW-45		Run ID: ICPMS06_397785		SeqNo: 6425941		PrepDate: 16-Dec-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.0535	0.00200	0.05	0.000446	106	75 - 125	0.0525	1.88	20
Cadmium	0.0517	0.00200	0.05	0.000036	103	75 - 125	0.0509	1.56	20
Lead	0.0515	0.00200	0.05	0.000139	103	75 - 125	0.05144	0.117	20
Selenium	0.05499	0.00200	0.05	0.00178	106	75 - 125	0.0564	2.54	20

PDS		Sample ID: HS21120678-01PDS		Units: mg/L		Analysis Date: 16-Dec-2021 22:46			
Client ID: MW-45		Run ID: ICPMS06_397785		SeqNo: 6425942		PrepDate: 16-Dec-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.1229	0.00200	0.1	0.000446	122	75 - 125			
Cadmium	0.1146	0.00200	0.1	0.000036	115	75 - 125			
Lead	0.1162	0.00200	0.1	0.000139	116	75 - 125			

SD		Sample ID: HS21120678-01SD		Units: mg/L		Analysis Date: 16-Dec-2021 22:40			
Client ID: MW-45		Run ID: ICPMS06_397785		SeqNo: 6425939		PrepDate: 16-Dec-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					0.000446	0	10
Cadmium	U	0.0100					0.000036	0	10
Lead	U	0.0100					0.000139	0	10
Selenium	0.008096	0.0100					0.00178	0	10 J

The following samples were analyzed in this batch:									
HS21120678-01	HS21120678-02	HS21120678-03	HS21120678-04						
HS21120678-05	HS21120678-06	HS21120678-07	HS21120678-08						
HS21120678-09	HS21120678-10	HS21120678-11	HS21120678-12						

Client: Golder Associates
Project: Frisco CDC North CAMU GW
WorkOrder: HS21120678

**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	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Texas	T104704231-21-28	30-Apr-2022

Client: Golder Associates
Project: Frisco CDC North CAMU GW
Work Order: HS21120678

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21120678-01	MW-45	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-01	MW-45	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-02	PMW-19R	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-02	PMW-19R	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-03	LMW-8	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-03	LMW-8	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-04	LMW-17	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-04	LMW-17	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-05	LMW-5	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-05	LMW-5	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-06	LMW-21	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-06	LMW-21	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-07	PMW-20R	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-07	PMW-20R	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-08	MW-41	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-08	MW-41	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-09	MW-47	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-09	MW-47	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-10	LMW-9R	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-10	LMW-9R	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-11	LMW-22	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-11	LMW-22	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-12	DUP-01	Login	12/11/2021 9:09:30 AM	NDR	Disposed
HS21120678-12	DUP-01	Login	12/11/2021 9:09:30 AM	NDR	Disposed

Sample Receipt Checklist

Work Order ID: HS21120678

Date/Time Received: 10-Dec-2021 10:10

Client Name: Golder St Louis

Received by: Jared R. Makan

Completed By: /S/ Niles D. Ranchod

11-Dec-2021 09:12

Reviewed by: /S/ Dane J. Wacasey

15-Dec-2021 12:32

eSignature

Date/Time

eSignature

Date/Time

Matrices: **WATER**Carrier 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 ☐

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

COC IDs:255922/255921

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):

1.1°C UC/C

IR 31

Cooler(s)/Kit(s):

48230

Date/Time sample(s) sent to storage:

12/10/2021 20:00

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:



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 255922

HS21120678

Golder Associates

Frisco CDC North CAMU GW

vv



ALS Project Manager:

Customer Information		Project Information		ALS Project Manager:	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW	A	ICP_TW(6020A - Total As Cd, Pb, Se (QTY))
Work Order		Project Number	20409062.01	B	ICP_DISS (6020A - Dissolved As, Cd, Pb, Se (QTY) + RdF)
Company Name	Golder Associates	Bill To Company	Golder Associates	C	MS/MSD
Send Report To	Emily Fortnaus	Invoice Attn	Accounts Payable	D	
Address	13515 Barrett Parkway Drive Suite	Address	701 Emerson Road Suite 250	E	
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Creve Coeur MO 63141	F	
Phone	(314) 934-8800	Phone	(314) 934-8800	G	
Fax		Fax		H	
e-Mail Address	Emily_Fortnaus@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.com	I	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-45	12-8-21	0945	Groundwa	2.8	4	X	X	X								
2	PMW-19R	12-8-21	1020	Groundwa	2.8	2	X	X									
3	LMW-5	12-8-21	1100	Groundwa	2.8	2	X	X									
4	LMW-17	12-8-21	1135	Groundwa	2.8	2	X	X									
5	LMW-6	12-8-21	1215	Groundwa	2.8	2	X	X									
6	LMW-21	12-8-21	1255	Groundwa	2.8	2	X	X									
7	PMW-20R	12-8-21	1335	Groundwa	2.8	2	X	X									
8	MW-11	12-8-21	1415	Groundwa	2.8	2	X	X									
9	MW-47	12-8-21	1500	Groundwa	2.8	2	X	X									
10	LMW-9R	12-8-21	1550	Groundwa	2.8	2	X	X									

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method FEDEX		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 3-5 Business Days <input checked="" type="checkbox"/> 7-10 Business Days <input type="checkbox"/> 15 Business Days <input type="checkbox"/> 20 Business Days		Results Due Date:	
Relinquished by: John R	Date: 12-9-21	Time: 1600	Received by:	Notes: Frisco CDC North CAMU GW			
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID 40230	Cooler Temp. 11C	QC Package: (Check One Box Below) <input checked="" type="checkbox"/> Ice Pack (Dry Ice) <input type="checkbox"/> Ice Pack (Coolant) <input type="checkbox"/> Dry Ice (Dry Ice) <input type="checkbox"/> Dry Ice (Coolant)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):				

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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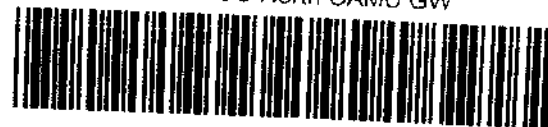
Chain of Custody Form

Page 2 of 2

COC ID: 255921

HS21120678

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	A ICP_TW(6020A - Total As, Cd, Pb, Se (QTY))
Work Order		Project Number	20409062.01	B ICP_DISS (6020A - Dissolved As, Cd, Pb, Se (QTY))-FIDRI
Company Name	Golder Associates	Bill To Company	Golder Associates	C MS/MSD
Send Report To	Emily Forthaus	Invoice Attn	Accounts Payable	D
Address	13515 Barrett Parkway Drive, Suit	Address	701 Emerson Road Suite 250	E
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Creve Coeur, MO 63141	F
Phone	(314) 984-8800	Phone	(314) 984-8800	G
Fax		Fax		H
e-Mail Address	Emily_Forthaus@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.com	I

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-22	12-9-21	0830	Groundwa	2.8	2	X	X									
2	DUP-01	12-9-21	1215	Groundwa	2.8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

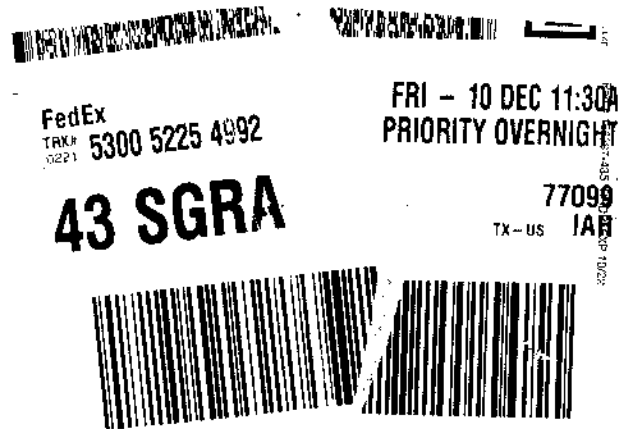
Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method FEDEX		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 1-3 Business Days <input checked="" type="checkbox"/> 5-7 Business Days <input type="checkbox"/> 7-10 Business Days <input type="checkbox"/> 24 Hours		Results Due Date:	
Relinquished by: John		Date: 12-9-21	Time: 1600	Received by:		Notes: Frisco CDC North CAMU GW	
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		Cooler Temp.	
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				OC Package: (Check One Box Below) <input type="checkbox"/> Liquid 50/50 <input checked="" type="checkbox"/> TAPED & SEALED <input type="checkbox"/> TAPED & SEALED <input type="checkbox"/> TAPED & SEALED		Cooler ID: 48730 Cooler Temp.: 12.16	

- 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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CUSTODY SEAL		Not Broken By:
Date: 12-9-21	Time: 16:50	
Name: [Signature]		Date:
Company:		



APPENDIX D

Data Usability Summaries

DATA USABILITY SUMMARY

ALS WORK ORDERS: HS21090090

PROJECT NO: 20409062-01

CLIENT: Frisco Community
Development Corporation

SAMPLE DATES: August 30 and 31, 2021

LABORATORY: ALS Group

WORK ORDERS: HS21090090

INTENDED USE: Second 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.

Preparer:	Caitlin Dobsky	09/30/2021
Senior Reviewer:	Brenda Basile	01/06/2022
Senior Reviewer:	Anne Faeth-Boyd	01/12/2022

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. Field blanks are not required for metals analyses when using dedicated equipment. 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
HS21090090-01	MW-45	8/30/2021	✓	Matrix Spike/Matrix Spike Duplicate
HS21090090-02	PMW-19R	8/30/2021	✓	
HS21090090-03	LMW-8	8/30/2021	✓	
HS21090090-04	LMW-17	8/30/2021	✓	
HS21090090-05	LMW-5	8/30/2021	✓	
HS21090090-06	LMW-21	8/30/2021	✓	
HS21090090-07	PMW-20R	8/30/2021	✓	
HS21090090-08	MW-41	8/31/2021	✓	
HS21090090-09	MW-47	8/31/2021	✓	
HS21090090-10	LMW-9R	8/31/2021	✓	
HS21090090-11	LMW-22	8/31/2021	✓	
HS21090090-12	DUP-01	8/30/2021	✓	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
LMW-8	Selenium	0.00142	0.00377	91	0.000200	None; absolute difference < 2x MQL
LMW-21	Selenium	0.0050	0.0052	3.9	0.000200	None; less than 30% RPD
LMW-9R	Cadmium	0.000346	0.000416	18	0.000200	None; less than 30% RPD
LMW-22	Arsenic	0.00362	0.00458	23	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	0.000543 J	0.000501 J	8.0	A	None; less than 30% RPD
	Lead, total	0.00182 J	0.000648 J	95	A	None; absolute difference < 2x MQL

Notes:

^a Relative Percent Difference (RPD) = $((SR - DR) * 200) / (SR + DR)$, where SR is the sample result and DR is the duplicate result. Not calculated if analyte not detected in sample and duplicate.

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: HS21090090

PROJECT NO: 20409062-01

CLIENT: Frisco Community
Development Corporation

SAMPLE DATES: December 8 and 9, 2021

LABORATORY: ALS Group

WORK ORDERS: HS21120678

INTENDED USE: Second 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. Data qualified due to exceedances of quality control criteria are summarized in Table 2.

Preparer:	Caitlin Dobsky	01/05/2022
Senior Reviewer:	Brenda Basile	01/06/2022
Senior Reviewer:	Anne Faeth-Boyd	01/12/2022

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. Field blanks are not required for metals analyses when using dedicated equipment.

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 4 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
HS21090090-01	MW-45	12/8/2021	✓	Matrix Spike/Matrix Spike Duplicate
HS21090090-02	PMW-19R	12/8/2021	✓	
HS21090090-03	LMW-8	12/8/2021	✓	
HS21090090-04	LMW-17	12/8/2021	✓	
HS21090090-05	LMW-5	12/8/2021	✓	
HS21090090-06	LMW-21	12/8/2021	✓	
HS21090090-07	PMW-20R	12/8/2021	✓	
HS21090090-08	MW-41	12/8/2021	✓	
HS21090090-09	MW-47	12/8/2021	✓	
HS21090090-10	LMW-9R	12/8/2021	✓	
HS21090090-11	LMW-22	12/9/2021	✓	
HS21090090-12	DUP-01	12/8/2021	✓	Field duplicate of LMW-5

TABLE 2 - QUALIFIED DATA

Field Sample ID	Lab Sample ID	Analyte	Result	Units	Qualifier	Explanation
LMW-8	HS21090090-03	Selenium, total	0.00986	mg/L	J	Dissolved and total concentration precision
LMW-8	HS21090090-03	Selenium, dissolved	0.0155	mg/L	J	Dissolved and total concentration precision

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	Selenium	0.00110	0.00178	47	0.000200	None; absolute difference < 2x MQL
PMW-19R	Selenium	0.00110	0.00150	31	0.000200	None; absolute difference < 2x MQL
LMW-8	Selenium	0.00986	0.0155	44	0.000200	J
LMW-17	Arsenic	0.000659	0.000715	8.2	0.000200	None; less than 30% RPD
LMW-5	Selenium	0.00110	0.00135	20	0.000200	None; less than 30% RPD
PMW-20R	Selenium	0.00194	0.00278	36	0.000200	None; absolute difference < 2x MQL
LMW-9R	Arsenic	0.00165	0.00185	11	0.000200	None; less than 30% RPD
LMW-9R	Selenium	0.00110	0.00138	23	0.000200	None; less than 30% RPD
DUP-01	Selenium	0.00110	0.00148	29	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 4 - 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	0.000699 J	0.000646 J	7.9	A	None; less than 30% RPD
	Arsenic, dissolved	0.000586 J	0.000433 J	30	A	None; absolute difference < 2x MQL
	Lead, total	0.000984 J	0.000686 J	36	A	None; absolute difference < 2x MQL
	Selenium, dissolved	0.00135 J	0.00148 J	9.2	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. Not calculated if analyte not detected in sample and duplicate.

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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