



REPORT

2022 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*

Submitted to:

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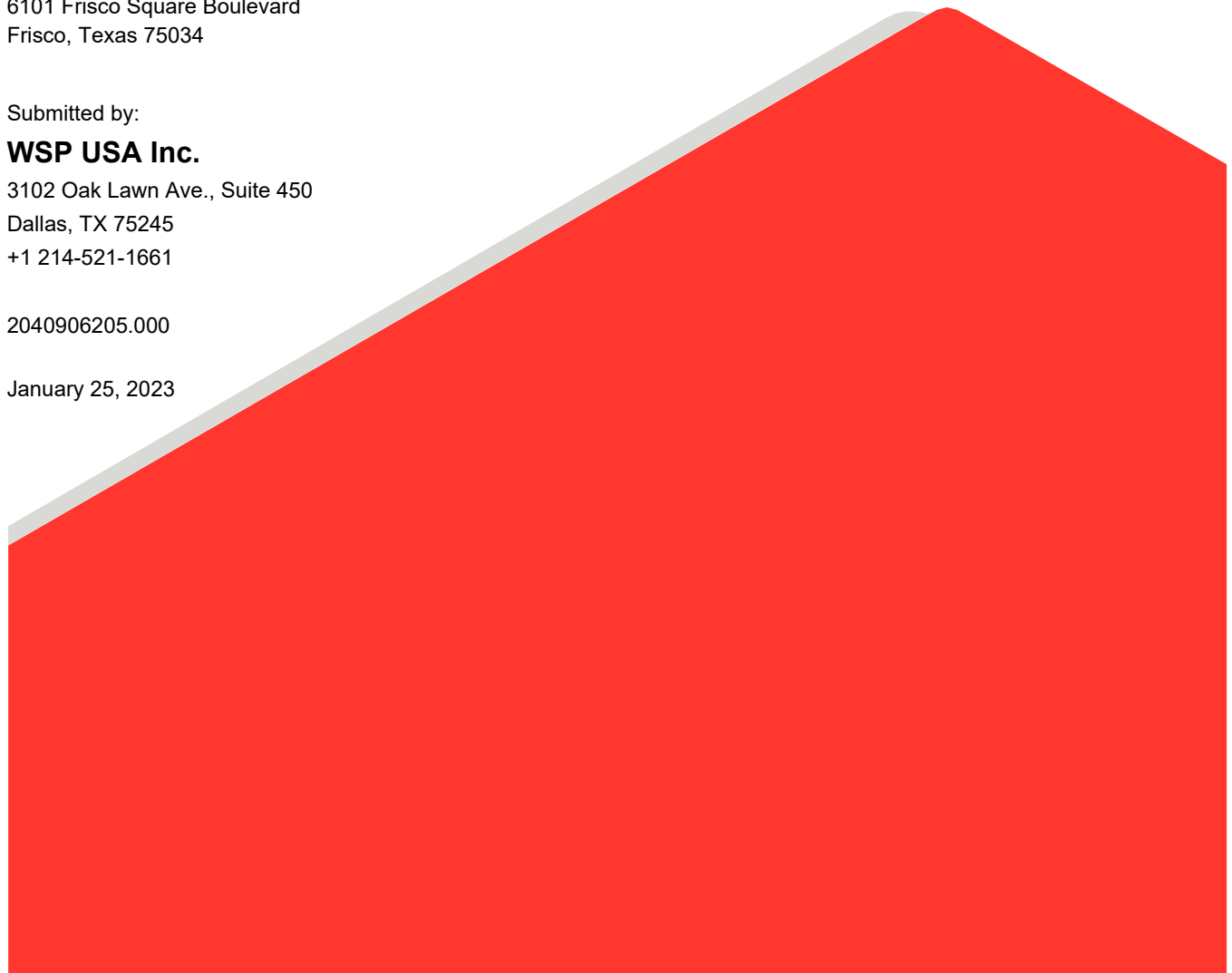
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1.0 INTRODUCTION

WSP USA Inc. (WSP), is pleased to submit this report summarizing third and fourth quarter 2022 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 (PBW), 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 Late Cretaceous age 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, and summarized on Table 1 for the third quarter event, and Table 2 for the fourth 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. Groundwater sample collection forms are provided in Appendix B.

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 WSP under chain-of-custody protocol to the ALS Environmental Laboratory (ALS) in Houston, Texas, via FedEx overnight transport, for analysis of dissolved and total metals by USEPA SW-846 Method 6020A. Arsenic, cadmium, lead, and selenium were reported for the third and fourth quarter sampling events.

Purged groundwater and decontamination water were containerized in 55-gallon steel drums and staged as directed by Frisco CDC personnel. Approximately 8.00 and 7.80 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 (September 2022)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either September 19th or September 20th as described in Section 2.1. Each monitoring well was found locked upon arrival. At the time of sampling, the weather was sunny with daytime temperatures around 90 degrees Fahrenheit. During the September sampling event, monitoring well MW-45 stabilized within five parameter readings, and all other monitoring wells stabilized within four parameter readings. All wells and well pads appeared to be in good condition at the time of sampling.

2.2.2 Fourth Quarter Event (November 2022)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either November 28th or 29th 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 mid-sixties degrees Fahrenheit. During the November sampling event, monitoring well LMW-5 stabilized within three parameter readings, MW-45 stabilized within five parameter readings, and all other monitoring wells stabilized within four 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 0.03 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 previous 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. According to the laboratory analytical results, dissolved metals and total metals concentrations were detected below the applicable Texas Risk Reduction Program (TRRP) 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. Analytical results are consistent with previous groundwater monitoring events.

3.4 Data Validation

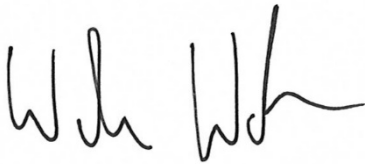
WSP completed a review of the above chemical analysis data for conformance with the requirements of the TRRP guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in the data usability summary (DUS), included as Appendix D. The DUS indicates all data are usable for determining concentrations of metals in groundwater.

4.0 CLOSING

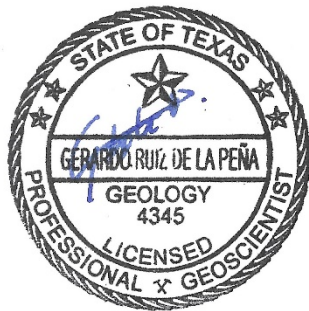
WSP appreciates the opportunity to serve as your consultant on this project. If you have any questions concerning this report or need additional information, please contact the undersigned at 214-521-1661.

Sincerely,

USA WSP Inc.



William L. Wedge
Staff Environmental Scientist



Gerardo Ruiz de la Peña, PG
Senior Lead Consultant

WW/GRP

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 2022
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	13.44	647.42	22.50	10-20	2	9.06	1.5	NR
PMW-19R	2/26/2013	678.45	681.79	20.51	661.28	22.50	4-19	2	1.99	0.3	0.80
LMW-9R	3/1/2016	661.39	664.31	17.44	646.87	32.60	15-30	2	15.16	2.5	0.80
LMW-8	2/4/1995	645.57	648.72	15.43	633.29	23.85	7-21.5	2	8.42	1.4	0.80
LMW-22	2/27/2013	643.32	646.99	17.56	629.43	22.95	5-20	2	5.39	0.9	0.80
LMW-17	7/24/1995	646.34	648.70	19.21	629.49	25.22	10-20	4	6.01	3.9	0.80
LMW-5	2/3/1995	643.27	646.07	16.59	629.48	25.10	7-21.5	2	8.51	1.4	0.80
LMW-21	2/27/2013	645.12	648.28	18.96	629.32	27.90	10-25	2	8.94	1.5	0.80
PMW-20R	2/26/2013	645.20	648.09	18.61	629.48	28.02	10-25	2	9.41	1.5	0.80
MW-41	1/14/2014	639.17	642.17	11.27	630.90	18.90	6-16	2	7.63	1.2	0.80
MW-47	5/2/2017	635.65	638.28	11.22	627.06	17.10	7.5-15	2	5.88	1.0	0.80
MW-42	1/14/2014	638.71	642.24	14.88	627.36	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	16.29	630.95	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 September 19, 2022.

AMSL - above mean sea level

BTOC - below top of casing

BGS - below ground surface

NS - not sampled

CAMU - Corrective Action Management Unit

NR - not reported

Prepared by: WLW 12/13/2022

Checked by: SMA 12/22/2022

Reviewed by: GRP 1/24/2023

TABLE 2
FOURTH QUARTER 2022
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	12.31	648.55	22.50	10-20	2	10.19	1.7	NR
PMW-19R	2/26/2013	678.45	681.79	19.06	662.73	22.50	4-19	2	3.44	0.6	0.80
LMW-9R	3/1/2016	661.39	664.31	5.17	659.14	32.60	15-30	2	27.43	4.5	0.80
LMW-8	2/4/1995	645.57	648.72	14.03	634.69	23.85	7-21.5	2	9.82	1.6	0.80
LMW-22	2/27/2013	643.32	646.99	14.12	632.87	22.95	5-20	2	8.83	1.4	0.80
LMW-17	7/24/1995	646.34	648.70	15.72	632.98	25.22	10-20	4	9.50	6.2	0.80
LMW-5	2/3/1995	643.27	646.07	12.23	633.84	25.10	7-21.5	2	12.87	2.1	0.60
LMW-21	2/27/2013	645.12	648.28	13.66	634.62	27.90	10-25	2	14.24	2.3	0.80
PMW-20R	2/26/2013	645.20	648.09	13.11	634.98	28.02	10-25	2	14.91	2.4	0.80
MW-41	1/14/2014	639.17	642.17	9.64	632.53	18.90	6-16	2	9.26	1.5	0.80
MW-47	5/2/2017	635.65	638.28	10.02	628.26	17.10	7.5-15	2	7.08	1.2	0.80
MW-42	1/14/2014	638.71	642.24	11.61	630.63	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	13.22	634.02	NS	10-20	2	NS	NS	NS

Notes

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

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

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

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

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

Groundwater levels measured on November 28, 2022.

AMSL - above mean sea level

BGS - below ground surface

BTOC - below top of casing

CAMU - Corrective Action Management Unit

NS - not sampled

NR - not reported

Prepared by: WLW 12/16/2022

Checked by: SMA 12/23/2022

Reviewed by: GRP 1/24/2023

TABLE 3
THIRD QUARTER 2022
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				HS22091030-07		HS22091030-05		HS22091030-06		HS22091030-01		HS22091030-08		HS22091030-02	
Date Sampled				9/19/2022		9/19/2022		9/19/2022		9/19/2022		9/19/2022		9/19/2022	
Time Sampled				13:00		11:45		12:25		9:25		13:40		10:00	
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				9/26/2022		9/26/2022		9/26/2022		9/26/2022		9/26/2022		9/26/2022	
Date Analyzed				9/26/2022		9/26/2022		9/26/2022		9/26/2022		9/26/2022		9/26/2022	
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	0.000537 J	0.000400	0.000577 J	0.000400	0.000400 U	0.000400	0.000828 J	0.000400	0.000617 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	0.000825 J	0.000600	0.00220	0.000600	0.000958 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	0.00134 J	0.00110	0.00110 U	0.00110	0.00453	0.00110	0.00180 J	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				9/27/2022		9/27/2022		9/27/2022		9/27/2022		9/27/2022		9/27/2022	
Date Analyzed				9/27/2022		9/27/2022		9/27/2022		9/27/2022		9/27/2022		9/27/2022	
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	0.000446 J	0.000400	0.000502 J	0.000400	0.000400 U	0.000400	0.000756 J	0.000400	0.000400 U	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	0.00192 J	0.00110	0.00110 U	0.00110	0.00404	0.00110	0.00186 J	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	
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 above the SDL.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
NS - Not Sampled.
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: WLW 12/13/22
Checked by: SMA 12/23/2022
Reviewed by: GRP 1/24/2023



TABLE 3
THIRD QUARTER 2022
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				HS22091030-10				HS22091030-03				HS22091030-04				HS22091030-11				HS22091030-09				HS22091030-12			
Date Sampled				9/19/2022				9/19/2022				9/19/2022				9/20/2022				9/19/2022				9/19/2022			
Time Sampled				15:15				10:35				11:10				8:30				14:25				11:45			
Metals (USEPA Method 6020A) Total Recoverable																											
Date Prepared				9/26/2022				9/26/2022				9/26/2022				9/26/2022				9/26/2022				9/26/2022			
Date Analyzed				9/26/2022				9/26/2022				9/26/2022				9/26/2022				9/26/2022				9/26/2022			
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	0.00189 J		0.000400		0.00120 J		0.000400		0.000538 J		0.000400		0.00864		0.000400		0.00184 J		0.000400		0.000524 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		0.000702 J		0.000600		0.00104 J		0.000600		0.000600 U		0.000600		0.000600 U		0.000600		0.00220		0.000600	
Selenium	7782-49-2	0.05	0.05	0.00259		0.00110		0.00123 J		0.00110		0.00110 U		0.00110		0.00110 U		0.00110		0.00252		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				9/27/2022				9/27/2022				9/27/2022				9/27/2022				9/27/2022				9/27/2022			
Date Analyzed				9/27/2022				9/27/2022				9/27/2022				9/27/2022				9/27/2022				9/27/2022			
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	0.00192 J		0.000400		0.000547 J		0.000400		0.000500 J		0.000400		0.00636		0.000400		0.00171 J		0.000400		0.000457 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	0.00259		0.00110		0.00604 J		0.00110		0.00197 J		0.00110		0.00110 U		0.00110		0.00292		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			
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 above the SDL.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
NS - Not Sampled.
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: WLW 12/13/22
Checked by: SMA 12/23/2022
Reviewed by: GRP 1/24/2023



TABLE 4
FOURTH QUARTER 2022
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
Lab Sample ID				HS22111582-07			HS22111582-05			HS22111582-06			HS22111582-01		
Date Sampled				11/28/2022			11/28/2022			11/28/2022			11/28/2022		
Time Sampled				14:00			12:35			13:25			10:20		
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				12/2/2022			12/2/2022			12/2/2022			12/2/2022		
Date Analyzed				12/3/2022			12/3/2022			12/3/2022			12/3/2022		
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	0.000570	J	0.000400	0.00101	J	0.000400	0.000649	J	0.000400	0.000673	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
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
Selenium	7782-49-2	0.05	0.05	0.00149	J	0.00110	0.00110	U	0.00110	0.00452		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				12/5/2022			12/5/2022			12/5/2022			12/5/2022		
Date Analyzed				12/6/2022			12/6/2022			12/6/2022			12/6/2022		
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	0.000664	J	0.000400	0.000486	J	0.000400	0.000400	U	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
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
Selenium	7782-49-2	0.05	0.05	0.00219		0.00110	0.00110	U	0.00110	0.00496		0.00110	0.00152	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		
Date Analyzed				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		
Date Analyzed				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

Notes

Results in ***bold italics*** denote detections above the SDL.

USEPA - United States Environmental Protection Agency.

RAL - Residential Assessment Level.

PCL - Protective Concentration Level.

SDL - Sample Detection Limit.

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NS - Not Sampled.

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: WLW 12/13/2022

Checked by: SMA 12/23/2022

Reviewed by: GRP 1/24/2023

TABLE 4
FOURTH QUARTER 2022
CLASS 2 LANDFILL NORTH CAMU
FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
FRISCO, TEXAS

Monitoring Well				MW-41		SDL		PMW-19R		SDL		LMW-9R		SDL		LMW-8		SDL	
Lab Sample ID				HS22111582-08				HS22111582-02				HS22111582-10				HS22111582-03			
Date Sampled				11/28/2022				11/28/2022				11/28/2022				11/28/2022			
Time Sampled				14:40				10:55				16:05				11:30			
Metals (USEPA Method 6020A) Total Recoverable																			
Date Prepared				12/2/2022				12/2/2022				12/2/2022				12/2/2022			
Date Analyzed				12/3/2022				12/3/2022				12/3/2022				12/3/2022			
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(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			
Arsenic	7440-38-2	0.01	0.01	0.000971		J		0.000400		0.000400		J		0.000400		0.000502		J	
Barium	7440-39-3	2	2	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	
Chromium	7440-47-3	0.1	0.1	NS				NS				NS				NS			
Copper	7440-50-8	1.3	1.3	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	
Selenium	7782-49-2	0.05	0.05	0.00110		U		0.00110		0.00110		U		0.00110		0.00824			
Silver	7440-22-4	0.12	0.37	NS				NS				NS				NS			
Zinc	7440-66-6	7.3	22	NS				NS				NS				NS			
Metals (USEPA Method 6020A) Dissolved																			
Date Prepared				12/5/2022				12/5/2022				12/5/2022				12/5/2022			
Date Analyzed				12/6/2022				12/6/2022				12/6/2022				12/6/2022			
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)		(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			
Arsenic	7440-38-2	0.01	0.01	0.000400		U		0.000400		0.000400		U		0.000400		0.000400		U	
Barium	7440-39-3	2	2	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	
Chromium	7440-47-3	0.1	0.1	NS				NS				NS				NS			
Copper	7440-50-8	1.3	1.3	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	
Selenium	7782-49-2	0.05	0.05	0.000110		U		0.00110		0.000110		U		0.00110		0.00661			
Silver	7440-22-4	0.12	0.37	NS				NS				NS				NS			
Zinc	7440-66-6	7.3	22	NS				NS				NS				NS			
Mercury (USEPA Method 7470A)																			
Date Prepared				N/A				N/A				N/A				N/A			
Date Analyzed				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)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	NS				NS				NS				NS			
Mercury (USEPA Method 7470A) Dissolved																			
Date Prepared				N/A				N/A				N/A				N/A			
Date Analyzed				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)		(mg/L)		(mg/L)	
Mercury	7439-97-6	0.002	0.002	NS				NS				NS				NS			

Notes

Notes

Results in ***bold italics*** denote detections above the SDL.

USEPA - United States Environmental Protection Agency.

RAL - Residential Assessment Level.

PCL - Protective Concentration Level.

SDL - Sample Detection Limit.

TRRP - Texas Risk Reduction Program.

NS - Not Sampled.

mg/L - Milligrams per liter.

CAMU - Corrective Action Management Unit.

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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: WLW 12/13/2022

Checked by: SMA 12/23/2022

Reviewed by: GRP 1/24/2023

TABLE 4
FOURTH QUARTER 2022
CLASS 2 LANDFILL NORTH CAMU
FRISCO COMMUNITY DEVELOPMENT CORPORATION SITE
FRISCO, TEXAS

Monitoring Well				LMW-17		SDL	LMW-22		SDL	MW-47		SDL	DUP-01		SDL
Lab Sample ID				HS22111582-04			HS22111582-11			HS22111582-09			HS22111582-12		
Date Sampled				11/28/2022			11/29/2022			11/28/2022			11/28/2022		
Time Sampled				12:05			8:35			15:25			12:35		
Metals (USEPA Method 6020A) Total Recoverable															
Date Prepared				12/2/2022			12/2/2022			12/2/2022			12/2/2022		
Date Analyzed				12/3/2022			12/3/2022			12/3/2022			12/3/2022		
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)			(mg/L)			(mg/L)			(mg/L)		
Antimony	7440-36-0	0.006	0.006	NS			NS			NS			NS		
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400	0.00122	J	0.000400	0.000589	J	0.000400	0.000904	J	0.000400
Barium	7440-39-3	2	2	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
Chromium	7440-47-3	0.1	0.1	NS			NS			NS			NS		
Copper	7440-50-8	1.3	1.3	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
Selenium	7782-49-2	0.05	0.05	0.00473		0.00110	0.00143	J	0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS		
Metals (USEPA Method 6020A) Dissolved															
Date Prepared				12/5/2022			12/5/2022			12/5/2022			12/5/2022		
Date Analyzed				12/6/2022			12/6/2022			12/6/2022			12/6/2022		
Analyte	CAS No.	RAL ¹ (mg/L)	PCL ² (mg/L)	(mg/L)			(mg/L)			(mg/L)			(mg/L)		
Antimony	7440-36-0	0.006	0.006	NS			NS			NS			NS		
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400	0.000859	J	0.000400	0.000400	U	0.000400	0.000856	J	0.000400
Barium	7440-39-3	2	2	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
Chromium	7440-47-3	0.1	0.1	NS			NS			NS			NS		
Copper	7440-50-8	1.3	1.3	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
Selenium	7782-49-2	0.05	0.05	0.00538		0.00110	0.00242		0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS		
Mercury (USEPA Method 7470A)															
Date Prepared				N/A			N/A			N/A			N/A		
Date Analyzed				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)		
Mercury	7439-97-6	0.002	0.002	NS						NS			NS		
Mercury (USEPA Method 7470A) Dissolved															
Date Prepared				N/A			N/A			N/A			N/A		
Date Analyzed				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)		
Mercury	7439-97-6	0.002	0.002	NS						NS			NS		

Notes

Notes

Results in ***bold italics*** denote detections above the SDL.

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Flags and Qualifiers

U - Analyte was not detected at or above the Sample Detection Limit (SDL).

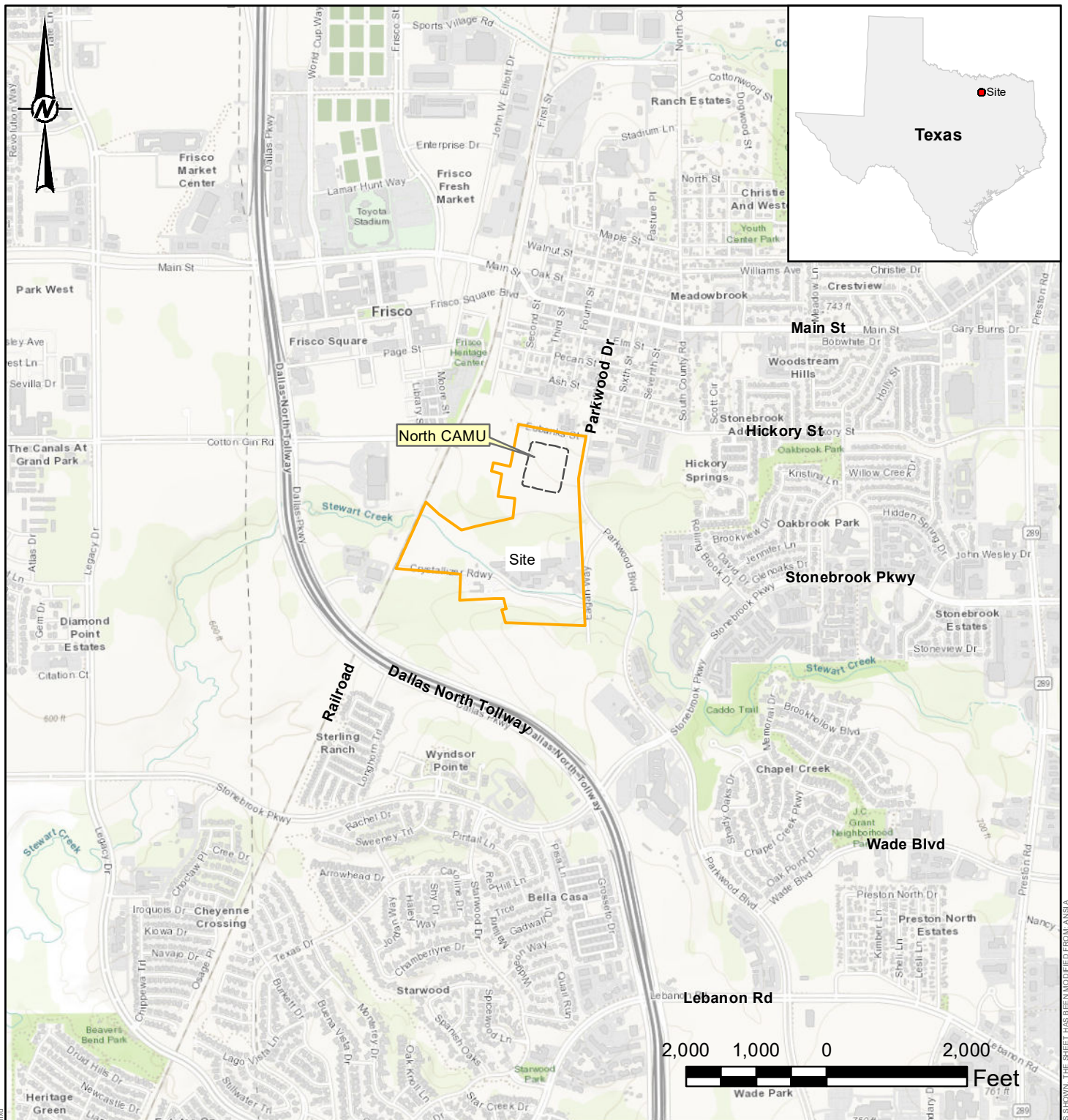
J - Result is an estimated value.

Prepared by: WLW 12/13/2022

Checked by: SMA 12/23/2022

Reviewed by: GRP 1/24/2023

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, ORDANCE 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



LEGEND

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

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

REFERENCE


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



CLIENT
FRISCO COMMUNITY DEVELOPMENT CORPORATION
FRISCO, TX

PROJECT
NORTH CAMU GROUNDWATER MONITORING

TITLE
MONITORING WELL LOCATION MAP

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



LEGEND

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

NOTES

- GROUNDWATER ELEVATIONS MEASURED SEPTEMBER 19, 2022.
- 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
- MW-41 NOT INCLUDING IN CONTOURING.

REFERENCE


- AERIAL IMAGERY - SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY.
- SITE AERIAL IMAGERY - PROVIDED BY DALLAS AERIAL SURVEY, DATED APRIL, 2017.

150750150
Feet

CLIENT
FRISCO COMMUNITY DEVELOPMENT CORPORATION
FRISCO, TX

PROJECT
NORTH CAMU GROUNDWATER MONITORING

TITLE
POTENTIOMETRIC SURFACE MAP - THIRD QUARTER 2022

CONSULTANT


YYYY-MM-DD	01/19/2023
PREPARED	SJRS
DESIGN	WLW
REVIEW	RSP
APPROVED	GR

PROJECT No.
2040906201

CONTROL
20409062A013.mxd

Rev.
0

FIGURE
3

Path: N:\File\2020\20-40062 Eddie FriscoA - Contingency Plan\map document\20409062A013.mxd

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



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 NOVEMBER 28, 2022.
 - 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, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY.
 - SITE AERIAL IMAGERY - PROVIDED BY DALLAS AERIAL SURVEY, DATED APRIL, 2017.

150 75 0 150
Feet

CLIENT
FRISCO COMMUNITY DEVELOPMENT CORPORATION
FRISCO, TX

PROJECT
NORTH CAMU GROUNDWATER MONITORING

TITLE
POTENTIOMETRIC SURFACE MAP - FOURTH QUARTER 2022

CONSULTANT	YYYY-MM-DD	01/19/2023
	PREPARED	SJRS
	DESIGN	WLW
	REVIEW	RSP
	APPROVED	GR

PROJECT No. 2040906201	CONTROL 20409062A014.mxd	Rev. 0	FIGURE 4
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APPENDIX A

Monitoring Well Inspection Forms

115) **GOLDER**

Project Name: North CAMU GW Monitoring

Location: Frisco, TX

Project No.: 2040906201

[illegible]

Project No.: 2040906201[illegible]

APPENDIX B

Groundwater Sampling Forms

GROUNDWATER SAMPLE COLLECTION FORM

WSP GOLDER

Project Ref: North CAMU Groundwater MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

81°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location MW-45Sample No. MW-45/MS-01/MSD-01Sample Date 9-19-22Time 0925Sample By STBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

0900

Water Level Before Purging:

13.44

FT BTOC

TD:

22.50

FT BTOC

Well Volume: 9.06 FT x 0.163 gal/FT = 1.47 gallons@ 250 mL/min

Volume Water Removed Before Sampling: _____ gallons

Water Level Before Sampling:

13.67

FT BTOC

Water Level After Sampling:

13.68

FT BTOC

Appearance of Sample:

clean

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	0905	0910	0915	0920	0925
Volume Discharge	gals	—	—	—	—	—
pH	Standard	6.49	6.42	6.44	6.47	6.46
Spec. Cond.	mS/CM	1310	1260	1240	1250	1250
Turbidity	NTU	6.21	5.71	5.06	5.11	5.12
Temperature	°C	21.26	21.29	21.39	21.34	21.36
Pump Rate	mL/min	250	250	250	250	250
Water Level	FT BTOC	13.62	13.66	13.67	13.67	13.68

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	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

WSP GOLDER

Project Ref: North CAMU Groundwater MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature 85° Weather SUNNY

SAMPLE INFORMATION

Sample Location PMW-19RSample No. PMW-19RSample Date 9-19-22Time 1000Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 20.51

FT BTOC

TD: 22.50

FT BTOC

0940Well Volume: 1.99

FT

x 0.163 gal/FT = 0.32 gallons@ 200 mL/minVolume Water Removed Before Sampling: 0.8

gallons

Water Level Before Sampling: 20.77

FT BTOC

Water Level After Sampling: 20.78

FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0945</u>	<u>0950</u>	<u>0955</u>		<u>1000</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.91</u>	<u>6.96</u>	<u>6.98</u>		<u>6.98</u>
Spec. Cond.	S/CM	<u>1.376</u>	<u>1.396</u>	<u>1.391</u>		<u>1.393</u>
Turbidity	NTU	<u>7.63</u>	<u>6.74</u>	<u>6.76</u>		<u>6.79</u>
Temperature	°C	<u>21.76</u>	<u>21.91</u>	<u>21.94</u>		<u>21.96</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>20.77</u>	<u>20.79</u>	<u>20.77</u>		<u>20.78</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

WSP GOLDER

Project Ref: North CAMU Groundwater MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

85°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location LMW-8Sample No. LMW-8Sample Date 9-19-22Time 1035Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

15.43

FT BTOC

TD: 23.85

FT BTOC

@ 1015

Well Volume:

8.42

FT

x

0.163 gal/FT

=

1.37

gallons

@

mL/min

Volume Water Removed Before Sampling:

0.8

gallons

200

Water Level Before Sampling:

15.76

FT BTOC

Water Level After Sampling:

15.76

FT BTOC

Appearance of Sample:

clear,

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1020	1025	1030		1035
Volume Discharge	gals	0.2	0.4	0.6		0.8
pH	Standard	6.72	6.76	6.77		6.77
Spec. Cond.	mS/CM	0.829	0.846	0.851		0.847
Turbidity	NTU	9.17	9.26	9.29		9.26
Temperature	°C	21.39	21.46	21.48		21.46
Pump Rate	mL/min	200	200	200		200
Water Level	FT BTOC	15.71	15.74	15.76		15.76

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	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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

85°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location LMW-17Sample No. LMW-17Sample Date 9-19-22Time 1110Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 19.21

FT BTOC

TD: 25.22

FT BTOC

@ 1050Well Volume: 6.01 FT x 0.653 gal/FT = 0.97 gallons@ 200 mL/minVolume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 19.52

FT BTOC

Water Level After Sampling: 19.52

FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1055</u>	<u>1100</u>	<u>1105</u>		<u>1110</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.63</u>	<u>6.67</u>	<u>6.68</u>		<u>6.67</u>
Spec. Cond.	mS/CM	<u>929</u>	<u>941</u>	<u>944</u>		<u>942</u>
Turbidity	NTU	<u>4.21</u>	<u>5.61</u>	<u>5.31</u>		<u>5.29</u>
Temperature	°C	<u>21.79</u>	<u>22.06</u>	<u>22.13</u>		<u>22.14</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>19.46</u>	<u>19.51</u>	<u>19.52</u>		<u>19.52</u>

LABORATORY CONTAINERS

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

REMARKS:

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

wsp GOLDER

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

Temperature

95°

Weather

SUNNY**SAMPLE INFORMATION**Sample Location LMW-5Sample No. LMW-5/DUP-01Sample Date 9-19-22Time 1145Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

16.59

FT BTOC

TD: 25.10

FT BTOC

@ 1125Well Volume: 8.51 FTx 0.163 gal/FT = 1.4 gallons

@

mL/min

Volume Water Removed Before Sampling:

0.8

gallons

Water Level Before Sampling:

16.84

FT BTOC

Water Level After Sampling:

16.84

FT BTOC

Appearance of Sample:

clear**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1130</u>	<u>1135</u>	<u>1140</u>		<u>1145</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>7.13</u>	<u>7.04</u>	<u>7.06</u>		<u>7.07</u>
Spec. Cond.	mS/CM	<u>0.816</u>	<u>0.829</u>	<u>0.826</u>		<u>0.823</u>
Turbidity	NTU	<u>5.19</u>	<u>5.26</u>	<u>5.29</u>		<u>5.28</u>
Temperature	°C	<u>21.46</u>	<u>21.31</u>	<u>21.33</u>		<u>21.36</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>16.81</u>	<u>16.83</u>	<u>16.84</u>		<u>16.84</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

WSP GOLDER

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

Temperature

95°

Weather

SUNNY**SAMPLE INFORMATION**Sample Location LMW-21Sample No. LMW-21Sample Date 9-19-22Time 1225Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

18.96

FT BTOC

TD: 27.90

FT BTOC

1205Well Volume: 8.94FT x 0.163 gal/FT = 1.5 gallons

@

mL/min

Volume Water Removed Before Sampling:

0.8 gallons200

Water Level Before Sampling:

19.15

FT BTOC

Water Level After Sampling:

19.15

FT BTOC

Appearance of Sample:

clean**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1210</u>	<u>1215</u>	<u>1220</u>		<u>1225</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.64</u>	<u>6.69</u>	<u>6.71</u>		<u>6.72</u>
Spec. Cond.	mS/CM	<u>1,264</u>	<u>1,279</u>	<u>1,274</u>		<u>1,277</u>
Turbidity	NTU	<u>6.14</u>	<u>6.01</u>	<u>6.02</u>		<u>6.02</u>
Temperature	°C	<u>21.56</u>	<u>21.77</u>	<u>21.74</u>		<u>21.73</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>19.12</u>	<u>19.14</u>	<u>19.15</u>		<u>19.15</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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

95°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location PMW-20RSample No. PMW-20RSample Date 9-19-22Time 1300Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

1240

Water Level Before Purging:

18.61

FT BTOC

TD: 28.02

FT BTOC

Well Volume: 9.41

FT

x 0.163 gal/FT = 1.5

gallons

@ 200 mL/min

Volume Water Removed Before Sampling:

0.8

gallons

Water Level Before Sampling:

18.94

FT BTOC

Water Level After Sampling:

18.95

FT BTOC

Appearance of Sample:

clean

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1245</u>	<u>1250</u>	<u>1255</u>		<u>1300</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>7.06</u>	<u>7.09</u>	<u>7.11</u>		<u>7.12</u>
Spec. Cond.	mS/CM	<u>1.062</u>	<u>1.074</u>	<u>1.072</u>		<u>1.071</u>
Turbidity	NTU	<u>5.26</u>	<u>4.21</u>	<u>4.26</u>		<u>4.29</u>
Temperature	°C	<u>22.09</u>	<u>22.13</u>	<u>22.16</u>		<u>22.14</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>18.89</u>	<u>18.92</u>	<u>18.94</u>		<u>18.95</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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature 95° Weather SUNNY

SAMPLE INFORMATION

Sample Location MW-41Sample No. MW-41Sample Date 9-19-22Time 1340Sample By JTBSample Method Peristaltic PumpSample Type GrabBegin Purge @ 1320 Water Level Before Purging: 11.27 FT BTOC TD: 10.90 FT BTOC@ 200 mL/min Well Volume: 7.63 FT x 0.163 gal/FT = 1.2 gallonsVolume Water Removed Before Sampling: 0.8 gallonsWater Level Before Sampling: 11.49 FT BTOCWater Level After Sampling: 11.50 FT BTOCAppearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1325</u>	<u>1330</u>	<u>1335</u>		<u>1340</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.96</u>	<u>6.91</u>	<u>6.92</u>		<u>6.93</u>
Spec. Cond.	mS/CM	<u>1.134</u>	<u>1.149</u>	<u>1.141</u>		<u>1.143</u>
Turbidity	NTU	<u>4.2</u>	<u>3.9</u>	<u>3.6</u>		<u>3.5</u>
Temperature	°C	<u>21.87</u>	<u>21.96</u>	<u>21.93</u>		<u>21.95</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>11.46</u>	<u>11.49</u>	<u>11.49</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: 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

WSP GOLDER

Project Ref: North CAMU Groundwater MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature 95°Weather SUNNY

SAMPLE INFORMATION

Sample Location MW-47Sample No. MW-47Sample Date 9-19-22Time 1425Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 11.22

FT BTOC

TD: 17.10

FT BTOC

@ 1405

Well Volume: _____

FT

x 0.163 gal/FT = _____

gallons

@ 200 mL/minVolume Water Removed Before Sampling: 0.8

gallons

Water Level Before Sampling: _____

FT BTOC

Water Level After Sampling: _____

FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1410</u>	<u>1415</u>	<u>1420</u>		<u>1425</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.84</u>	<u>6.89</u>	<u>6.91</u>		<u>6.92</u>
Spec. Cond.	mS/CM	<u>1.461</u>	<u>1.442</u>	<u>1.443</u>		<u>1.447</u>
Turbidity	NTU	<u>6.21</u>	<u>5.72</u>	<u>5.77</u>		<u>5.72</u>
Temperature	°C	<u>20.66</u>	<u>20.81</u>	<u>20.86</u>		<u>20.84</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC					

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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature 95° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-9R Sample No. LMW-9R
Sample Date 9-19-22 Time 1515 Sample By JB
Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1455 Water Level Before Purging: 17.44 FT BTOC TD: 32.60 FT BTOC
@ 200 mL/min Well Volume: 15.16 FT x 0.163 gal/FT = 2.5 gallons
Volume Water Removed Before Sampling: 0.8 gallons
Water Level Before Sampling: 17.72 FT BTOC
Water Level After Sampling: 17.73 FT BTOC
Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1500</u>	<u>1505</u>	<u>1510</u>		<u>1515</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.39</u>	<u>6.42</u>	<u>6.47</u>		<u>6.52</u>
Spec. Cond.	mS/CM	<u>4.267</u>	<u>4.379</u>	<u>4.356</u>		<u>4.359</u>
Turbidity	NTU	<u>7.26</u>	<u>6.56</u>	<u>6.47</u>		<u>6.49</u>
Temperature	°C	<u>21.21</u>	<u>21.47</u>	<u>21.51</u>		<u>21.52</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>17.67</u>	<u>17.71</u>	<u>17.72</u>		<u>17.73</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

WSP GOLDER

Project Ref: North CAMU Groundwater MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

80°

Weather

SUNNY

SAMPLE INFORMATION

Sample Location LMW-22Sample No. LMW-22Sample Date 9-20-22Time 0830Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging:

17.56

FT BTOC

TD:

22.95

FT BTOC

0810

Well Volume: 5.39

FT

x 0.163 gal/FT = 0.9

gallons

@

mL/min

Volume Water Removed Before Sampling:

0.8

gallons

200

Water Level Before Sampling:

17.86

FT BTOC

Water Level After Sampling:

17.86

FT BTOC

Appearance of Sample:

clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	0815	0820	0825		0830
Volume Discharge	gals	0.2	0.4	0.6		0.8
pH	Standard	6.71	6.75	6.77		6.78
Spec. Cond.	mS/CM	1.274	1.342	1.339		1.346
Turbidity	NTU	5.34	4.96	4.91		4.94
Temperature	°C	21.39	21.47	21.41		21.43
Pump Rate	mL/min	200	200	200		200
Water Level	FT BTOC	17.81	17.84	17.86		17.86

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	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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

65°

Weather

cloudy

SAMPLE INFORMATION

Sample Location LMW-22Sample No. LMW-22Sample Date 11-29-22Time 0835Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 14.12

FT BTOC

TD: 22.95

FT BTOC

@

0815

mL/min

Well Volume: 8.83 FT x 0.163 gal/FT = 1.4 gallons200Volume Water Removed Before Sampling: — gallonsWater Level Before Sampling: 14.41 FT BTOCWater Level After Sampling: 14.45 FT BTOCAppearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>0820</u>	<u>0825</u>	<u>0830</u>		<u>0835</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.67</u>	<u>6.72</u>	<u>6.71</u>		<u>6.72</u>
Spec. Cond.	mS/CM	<u>1.177</u>	<u>1.196</u>	<u>1.191</u>		<u>1.193</u>
Turbidity	NTU	<u>4.71</u>	<u>4.61</u>	<u>4.63</u>		<u>4.64</u>
Temperature	°C	<u>20.56</u>	<u>20.39</u>	<u>20.41</u>		<u>20.46</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>14.31</u>	<u>14.36</u>	<u>14.41</u>		<u>14.45</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:

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 MonitoringProject No. : 2040906201**WEATHER CONDITIONS**

Temperature

65°

Weather

cloudy**SAMPLE INFORMATION**Sample Location LMW-9RSample No. LMW-9RSample Date 11-28-22Time 1605Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 5.17 FT BTOC TD: 32.60 FT BTOC

@

1545
200

mL/min

Well Volume: 27.43 FT x 0.163 gal/FT = 4.5 gallonsVolume Water Removed Before Sampling: — gallonsWater Level Before Sampling: 5.57 FT BTOCWater Level After Sampling: 5.59 FT BTOCAppearance of Sample: clear**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1550</u>	<u>1555</u>	<u>1600</u>		<u>1605</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.46</u>	<u>6.52</u>	<u>6.54</u>		<u>6.54</u>
Spec. Cond.	mS/CM	<u>3.296</u>	<u>3.334</u>	<u>3.341</u>		<u>3.347</u>
Turbidity	NTU	<u>5.29</u>	<u>5.42</u>	<u>5.41</u>		<u>5.44</u>
Temperature	°C	<u>20.67</u>	<u>20.77</u>	<u>20.79</u>		<u>20.79</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>5.46</u>	<u>5.53</u>	<u>5.57</u>		<u>5.59</u>

LABORATORY CONTAINERS

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

REMARKS: NONE

NA = Not applicable

SAMPLING METHODS:

Bailer: PVC/PE

Stainless Steel

Teflon

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

Other _____



GOLDER
MEMBER OF WSP

GROUNDWATER SAMPLE COLLECTION FORM

Project Ref: North CAMU Groundwater Monitoring

Project No. : 2040906201

WEATHER CONDITIONS

Temperature

65°

Weather

cloudy

SAMPLE INFORMATION

Sample Location MW-47

Sample No. MW-47

Sample Date 11-28-22

Time 1525

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging: 10.02 FT BTOC TD: 17.10 FT BTOC

@ 1505 mL/min

Well Volume: 7.08 FT x 0.163 gal/FT = 1.2 gallons

200

Volume Water Removed Before Sampling: — gallons

Water Level Before Sampling: 10.37 FT BTOC

Water Level After Sampling: 10.41 FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1510</u>	<u>1515</u>	<u>1520</u>		<u>1525</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.76</u>	<u>6.81</u>	<u>6.82</u>		<u>6.83</u>
Spec. Cond.	mS/CM	<u>1.379</u>	<u>1.406</u>	<u>1.411</u>		<u>1.416</u>
Turbidity	NTU	<u>6.96</u>	<u>7.12</u>	<u>7.16</u>		<u>7.14</u>
Temperature	°C	<u>21.47</u>	<u>21.61</u>	<u>21.62</u>		<u>21.61</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>10.26</u>	<u>10.34</u>	<u>10.37</u>		<u>10.41</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

65°

Weather

cloudy

SAMPLE INFORMATION

Sample Location MW-41

Sample No. MW-41

Sample Date 11-28-22

Time 1440

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging: 9.64

FT BTOC

TD: 18.90

FT BTOC

1420

Well Volume: 9.26

FT

x 0.163 gal/FT

= 1.5

gallons

@ 200

mL/min

Volume Water Removed Before Sampling: —

gallons

Water Level Before Sampling: 9.86

FT BTOC

Water Level After Sampling: 9.88

FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1425</u>	<u>1430</u>	<u>1435</u>		<u>1440</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.99</u>	<u>7.04</u>	<u>7.06</u>		<u>7.07</u>
Spec. Cond.	mS/CM	<u>1.206</u>	<u>1.227</u>	<u>1.217</u>		<u>1.211</u>
Turbidity	NTU	<u>3.16</u>	<u>3.34</u>	<u>3.39</u>		<u>3.36</u>
Temperature	°C	<u>20.77</u>	<u>20.86</u>	<u>20.89</u>		<u>20.88</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>9.81</u>	<u>9.85</u>	<u>9.86</u>		<u>9.88</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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

65°

Weather

cloudy

SAMPLE INFORMATION

Sample Location PMW-20RSample No. PMW-20RSample Date 11-28-22Time 1400Sample By STBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 13.11

FT BTOC

TD: 28.02

FT BTOC

1340
@ 200

mL/min

Well Volume: 14.91 FT x 0.163 gal/FT = 2.4 gallonsVolume Water Removed Before Sampling: — gallonsWater Level Before Sampling: 13.34 FT BTOCWater Level After Sampling: 13.37 FT BTOCAppearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1345</u>	<u>1350</u>	<u>1355</u>		<u>1400</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>7.01</u>	<u>6.91</u>	<u>6.93</u>		<u>6.92</u>
Spec. Cond.	mS/CM	<u>1.134</u>	<u>1.117</u>	<u>1.126</u>		<u>1.131</u>
Turbidity	NTU	<u>5.06</u>	<u>4.96</u>	<u>4.91</u>		<u>4.93</u>
Temperature	°C	<u>21.76</u>	<u>21.79</u>	<u>21.77</u>		<u>21.76</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>13.27</u>	<u>13.31</u>	<u>13.34</u>		<u>13.37</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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

65°

Weather

cloudy

SAMPLE INFORMATION

Sample Location LMW-21Sample No. LMW-21Sample Date 11-28-22Time 1325Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 13.66 FT BTOCTD: 27.90 FT BTOC

@

1305

mL/min

Well Volume: 14.24 FT x 0.163 gal/FT = 2.3 gallons

@

200Volume Water Removed Before Sampling: — gallonsWater Level Before Sampling: 13.91 FT BTOCWater Level After Sampling: 13.92 FT BTOCAppearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1310</u>	<u>1315</u>	<u>1320</u>		<u>1325</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.69</u>	<u>6.72</u>	<u>6.74</u>		<u>6.73</u>
Spec. Cond.	mS/CM	<u>1.147</u>	<u>1.156</u>	<u>1.161</u>		<u>1.160</u>
Turbidity	NTU	<u>5.39</u>	<u>5.47</u>	<u>5.49</u>		<u>5.46</u>
Temperature	°C	<u>20.74</u>	<u>20.81</u>	<u>20.86</u>		<u>20.81</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>13.82</u>	<u>13.89</u>	<u>13.91</u>		<u>13.92</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

65°

Weather

cloudy

SAMPLE INFORMATION

Sample Location LMW-5

Sample No. LMW-5/DUP-01

Sample Date 11-28-22

Time 1235

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging: 12.23

FT BTOC

TD: 25.10 FT BTOC

@

1220

mL/min

Well Volume: _____ FT x 0.163 gal/FT = _____ gallons

Volume Water Removed Before Sampling: _____ gallons

Water Level Before Sampling: 12.34 FT BTOC

Water Level After Sampling: 12.35 FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1225</u>	<u>1230</u>	1235		<u>1235</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>			<u>0.6</u>
pH	Standard	<u>6.36</u>	<u>6.41</u>			<u>6.43</u>
Spec. Cond.	mS/CM	<u>967</u>	<u>972</u>			<u>971</u>
Turbidity	NTU	<u>4.34</u>	4.41 <u>4.41</u>			<u>4.42</u>
Temperature	°C	<u>20.96</u>	<u>20.91</u>			<u>20.92</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>			<u>200</u>
Water Level	FT BTOC	<u>12.34</u>	<u>12.35</u>			<u>12.35</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 60°

Weather cloudy

SAMPLE INFORMATION

Sample Location LMW-17

Sample No. LMW-17

Sample Date 11-28-22

Time 1205

Sample By JTB

Sample Method Peristaltic Pump

Sample Type Grab

Begin Purge @

Water Level Before Purging: 15.72 FT BTOC TD: 25.22 FT BTOC

1145
@ 200

mL/min

Well Volume: 9.5 FT x 0.653 gal/FT = 1.5 gallons

Volume Water Removed Before Sampling: — gallons

Water Level Before Sampling: 15.98 FT BTOC

Water Level After Sampling: 15.99 FT BTOC

Appearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1150</u>	<u>1155</u>	<u>1200</u>		<u>1205</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.56</u>	<u>6.61</u>	<u>6.63</u>		<u>6.61</u>
Spec. Cond.	mS/CM	<u>789</u>	<u>816</u>	<u>822</u>		<u>821</u>
Turbidity	NTU	<u>5.26</u>	<u>5.34</u>	<u>5.37</u>		<u>5.31</u>
Temperature	°C	<u>20.76</u>	<u>20.84</u>	<u>20.81</u>		<u>20.84</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>15.91</u>	<u>15.96</u>	<u>15.98</u>		<u>15.99</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 MonitoringProject No. : 2040906201**WEATHER CONDITIONS**

Temperature

60°

Weather

cloudy**SAMPLE INFORMATION**Sample Location LMW-8Sample No. LMW-8

Sample Date

11-28-22

Time

1130

Sample By

JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 14.03

FT BTOC

TD:

23.85

FT BTOC

@

1110
200

mL/min

Well Volume: 9.82 FT x 0.163 gal/FT = 1.6 gallonsVolume Water Removed Before Sampling: — gallonsWater Level Before Sampling: 14.46 FT BTOCWater Level After Sampling: 14.48 FT BTOCAppearance of Sample: clear**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1115</u>	<u>1120</u>	<u>1125</u>		<u>1130</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.86</u>	<u>6.81</u>	<u>6.77</u>		<u>6.74</u>
Spec. Cond.	mS/CM	<u>822</u>	<u>834</u>	<u>839</u>		<u>836</u>
Turbidity	NTU	<u>7.29</u>	<u>7.62</u>	<u>7.65</u>		<u>7.67</u>
Temperature	°C	<u>21.06</u>	<u>21.09</u>	<u>21.12</u>		<u>21.12</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>14.34</u>	<u>14.41</u>	<u>14.46</u>		<u>14.48</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 MonitoringProject No. : 2040906201**WEATHER CONDITIONS**

Temperature

60°

Weather

cloudy**SAMPLE INFORMATION**Sample Location PMW-19RSample No. PMW-19RSample Date 11-28-22Time 1055Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 19.06 FT BTOC TD: 22.50 FT BTOC1035Well Volume: 3.44 FT x 0.163 gal/FT = 0.56 gallons

@

mL/min

Volume Water Removed Before Sampling: _____ gallons

200Water Level Before Sampling: 19.43 FT BTOCWater Level After Sampling: 19.43 FT BTOCAppearance of Sample: clear**FIELD MEASUREMENTS**

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	<u>1040</u>	<u>1045</u>	<u>1050</u>		<u>1055</u>
Volume Discharge	gals	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>		<u>0.8</u>
pH	Standard	<u>6.81</u>	<u>6.82</u>	<u>6.82</u>		<u>6.87</u>
Spec. Cond.	S/CM	<u>1.260</u>	<u>1.291</u>	<u>1.283</u>		<u>1.289</u>
Turbidity	NTU	<u>7.42</u>	<u>7.79</u>	<u>7.86</u>		<u>7.71</u>
Temperature	°C	<u>21.13</u>	<u>21.26</u>	<u>21.34</u>		<u>21.36</u>
Pump Rate	mL/min	<u>200</u>	<u>200</u>	<u>200</u>		<u>200</u>
Water Level	FT BTOC	<u>19.31</u>	<u>19.41</u>	<u>19.43</u>		<u>19.43</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 MonitoringProject No. : 2040906201

WEATHER CONDITIONS

Temperature

cloudy, 60°

Weather

cloudy

SAMPLE INFORMATION

Sample Location MW-45Sample No. MW-45/MS-01/MSD-01Sample Date 11-28-22Time 1020Sample By JTBSample Method Peristaltic PumpSample Type Grab

Begin Purge @

Water Level Before Purging: 12.31 FT BTOC TD: 22.50 FT BTOC0955Well Volume: 10.19 FT x 0.163 gal/FT = 1.6 gallons@ 250 mL/minVolume Water Removed Before Sampling: — gallonsWater Level Before Sampling: 12.71 FT BTOCWater Level After Sampling: 12.72 FT BTOCAppearance of Sample: clear

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	0955 1000	1005	1010	1015	1020
Volume Discharge	gals	—	—	—	—	—
pH	Standard	6.56	6.67	6.63	6.62	6.61
Spec. Cond.	mS/CM	1290	1220	1240	1250	1250
Turbidity	NTU	4.34	4.57	4.56	4.51	4.57
Temperature	°C	21.17	21.24	21.29	21.31	21.32
Pump Rate	mL/min	250	250	250	250	250
Water Level	FT BTOC	12.56	12.62	12.67	12.71	12.72

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 _____

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 28, 2022

Gerardo Ruiz
WSP Golder
701 Emerson Road Suite 250
Creve Coeur, MO 63141

Work Order: **HS22091030**

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

Dear Gerardo Ruiz,

ALS Environmental received 12 sample(s) on Sep 21, 2022 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: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

**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: WSP Golder**Project:** Frisco CDC North CAMU GW Qty**WorkOrder:** HS22091030**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: 09/28/2022			
Project Name: Frisco CDC North CAMU GW Qty				Laboratory Job Number: HS22091030			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 183990,184046			
# 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 effects 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: 09/28/2022		
Project Name: Frisco CDC North CAMU GW Qty				Laboratory Job Number: HS22091030		
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 183990,184046		
#1	A ²	Description	Yes	No	NA ³	NR ⁴
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: 09/28/2022
Project Name: Frisco CDC North CAMU GW Qty	Laboratory Job Number: HS22091030
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 183990,184046
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: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Work Order: HS22091030

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22091030-01	MW-45	Groundwater		19-Sep-2022 09:25	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-02	PMW-19R	Groundwater		19-Sep-2022 10:00	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-03	LMW-8	Groundwater		19-Sep-2022 10:35	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-04	LMW-17	Groundwater		19-Sep-2022 11:10	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-05	LMW-5	Groundwater		19-Sep-2022 11:45	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-06	LMW-21	Groundwater		19-Sep-2022 12:25	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-07	PMW-20R	Groundwater		19-Sep-2022 13:00	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-08	MW-41	Groundwater		19-Sep-2022 13:40	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-09	MW-47	Groundwater		19-Sep-2022 14:25	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-10	LMW-9R	Groundwater		19-Sep-2022 15:15	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-11	LMW-22	Groundwater		20-Sep-2022 08:30	21-Sep-2022 08:55	<input type="checkbox"/>
HS22091030-12	DUP-01	Groundwater		19-Sep-2022 11:45	21-Sep-2022 08:55	<input type="checkbox"/>

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 Sample ID: MW-45
 Collection Date: 19-Sep-2022 09:25

ANALYTICAL REPORT

WorkOrder:HS22091030
 Lab ID:HS22091030-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	26-Sep-2022 21:50
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 21:50
Lead	U		0.000600	0.00200	mg/L	1	26-Sep-2022 21:50
Selenium	0.00180	J	0.00110	0.00200	mg/L	1	26-Sep-2022 21:50
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	27-Sep-2022 21:25
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:25
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:25
Selenium	0.00186	J	0.00110	0.00200	mg/L	1	27-Sep-2022 21:25

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

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Sample ID: PMW-19R
Collection Date: 19-Sep-2022 10:00

ANALYTICAL REPORT

WorkOrder:HS22091030
Lab ID:HS22091030-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.000617	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:13
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:13
Lead	U		0.000600	0.00200	mg/L	1	26-Sep-2022 22:13
Selenium	U		0.00110	0.00200	mg/L	1	26-Sep-2022 22:13
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	27-Sep-2022 21:38
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:38
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:38
Selenium	U		0.00110	0.00200	mg/L	1	27-Sep-2022 21:38

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

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 Sample ID: LMW-8
 Collection Date: 19-Sep-2022 10:35

ANALYTICAL REPORT

WorkOrder:HS22091030
 Lab ID:HS22091030-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.00120	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:14
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:14
Lead	0.000702	J	0.000600	0.00200	mg/L	1	26-Sep-2022 22:14
Selenium	0.00123	J	0.00110	0.00200	mg/L	1	26-Sep-2022 22:14
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.000547	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:40
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:40
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:40
Selenium	0.00604		0.00110	0.00200	mg/L	1	27-Sep-2022 21:40

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

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 Sample ID: LMW-17
 Collection Date: 19-Sep-2022 11:10

ANALYTICAL REPORT

WorkOrder:HS22091030
 Lab ID:HS22091030-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.000538	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:16
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:16
Lead	0.00104	J	0.000600	0.00200	mg/L	1	26-Sep-2022 22:16
Selenium	U		0.00110	0.00200	mg/L	1	26-Sep-2022 22:16
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.000500	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:42
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:42
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:42
Selenium	0.00197	J	0.00110	0.00200	mg/L	1	27-Sep-2022 21:42

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

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Sample ID: LMW-5
Collection Date: 19-Sep-2022 11:45

ANALYTICAL REPORT

WorkOrder:HS22091030
Lab ID:HS22091030-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.000537	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:18
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:18
Lead	0.00220		0.000600	0.00200	mg/L	1	26-Sep-2022 22:18
Selenium	U		0.00110	0.00200	mg/L	1	26-Sep-2022 22:18
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.000446	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:43
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:43
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:43
Selenium	U		0.00110	0.00200	mg/L	1	27-Sep-2022 21:43

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

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 Sample ID: LMW-21
 Collection Date: 19-Sep-2022 12:25

ANALYTICAL REPORT

WorkOrder:HS22091030
 Lab ID:HS22091030-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.000577	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:20
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:20
Lead	0.000958	J	0.000600	0.00200	mg/L	1	26-Sep-2022 22:20
Selenium	0.00453		0.00110	0.00200	mg/L	1	26-Sep-2022 22:20
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.000502	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:45
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:45
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:45
Selenium	0.00404		0.00110	0.00200	mg/L	1	27-Sep-2022 21:45

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

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 Sample ID: PMW-20R
 Collection Date: 19-Sep-2022 13:00

ANALYTICAL REPORT

WorkOrder:HS22091030
 Lab ID:HS22091030-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A			Prep:SW3010A / 26-Sep-2022		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	26-Sep-2022 22:26
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:26
Lead	0.000825	J	0.000600	0.00200	mg/L	1	26-Sep-2022 22:26
Selenium	0.00134	J	0.00110	0.00200	mg/L	1	26-Sep-2022 22:26
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)			Prep:SW3010A / 27-Sep-2022		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	27-Sep-2022 21:47
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:47
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:47
Selenium	0.00192	J	0.00110	0.00200	mg/L	1	27-Sep-2022 21:47

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

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 Sample ID: MW-41
 Collection Date: 19-Sep-2022 13:40

ANALYTICAL REPORT

WorkOrder:HS22091030
 Lab ID:HS22091030-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.000828	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:27
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:27
Lead	U		0.000600	0.00200	mg/L	1	26-Sep-2022 22:27
Selenium	U		0.00110	0.00200	mg/L	1	26-Sep-2022 22:27
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.000756	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:49
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:49
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:49
Selenium	U		0.00110	0.00200	mg/L	1	27-Sep-2022 21:49

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

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Sample ID: MW-47
Collection Date: 19-Sep-2022 14:25

ANALYTICAL REPORT

WorkOrder:HS22091030
Lab ID:HS22091030-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.00184	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:29
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:29
Lead	U		0.000600	0.00200	mg/L	1	26-Sep-2022 22:29
Selenium	0.00252		0.00110	0.00200	mg/L	1	26-Sep-2022 22:29
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.00171	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:51
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:51
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:51
Selenium	0.00292		0.00110	0.00200	mg/L	1	27-Sep-2022 21:51

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

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Sample ID: LMW-9R
Collection Date: 19-Sep-2022 15:15

ANALYTICAL REPORT

WorkOrder:HS22091030
Lab ID:HS22091030-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.00189	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:31
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:31
Lead	U		0.000600	0.00200	mg/L	1	26-Sep-2022 22:31
Selenium	0.00259		0.00110	0.00200	mg/L	1	26-Sep-2022 22:31
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.00192	J	0.000400	0.00200	mg/L	1	27-Sep-2022 21:53
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:53
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:53
Selenium	0.00259		0.00110	0.00200	mg/L	1	27-Sep-2022 21:53

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

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Sample ID: LMW-22
Collection Date: 20-Sep-2022 08:30

ANALYTICAL REPORT

WorkOrder:HS22091030
Lab ID:HS22091030-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.00864		0.000400	0.00200	mg/L	1	26-Sep-2022 22:33
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:33
Lead	U		0.000600	0.00200	mg/L	1	26-Sep-2022 22:33
Selenium	U		0.00110	0.00200	mg/L	1	26-Sep-2022 22:33
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.00636		0.000400	0.00200	mg/L	1	27-Sep-2022 21:55
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 21:55
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 21:55
Selenium	U		0.00110	0.00200	mg/L	1	27-Sep-2022 21:55

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

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
Sample ID: DUP-01
Collection Date: 19-Sep-2022 11:45

ANALYTICAL REPORT

WorkOrder:HS22091030
Lab ID:HS22091030-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 26-Sep-2022		Analyst: JHD	
Arsenic	0.000524	J	0.000400	0.00200	mg/L	1	26-Sep-2022 22:35
Cadmium	U		0.000200	0.00200	mg/L	1	26-Sep-2022 22:35
Lead	0.00220		0.000600	0.00200	mg/L	1	26-Sep-2022 22:35
Selenium	U		0.00110	0.00200	mg/L	1	26-Sep-2022 22:35
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 27-Sep-2022		Analyst: JHD	
Arsenic	0.000457	J	0.000400	0.00200	mg/L	1	27-Sep-2022 22:00
Cadmium	U		0.000200	0.00200	mg/L	1	27-Sep-2022 22:00
Lead	U		0.000600	0.00200	mg/L	1	27-Sep-2022 22:00
Selenium	U		0.00110	0.00200	mg/L	1	27-Sep-2022 22:00

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

Weight / Prep Log

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

Batch ID: 183990 **Start Date:** 26 Sep 2022 11:00 **End Date:** 26 Sep 2022 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22091030-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 184046 **Start Date:** 27 Sep 2022 10:00 **End Date:** 27 Sep 2022 14:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22091030-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22091030-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 183990 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS22091030-01	MW-45	19 Sep 2022 09:25		26 Sep 2022 11:00	26 Sep 2022 21:50	1
HS22091030-02	PMW-19R	19 Sep 2022 10:00		26 Sep 2022 11:00	26 Sep 2022 22:13	1
HS22091030-03	LMW-8	19 Sep 2022 10:35		26 Sep 2022 11:00	26 Sep 2022 22:14	1
HS22091030-04	LMW-17	19 Sep 2022 11:10		26 Sep 2022 11:00	26 Sep 2022 22:16	1
HS22091030-05	LMW-5	19 Sep 2022 11:45		26 Sep 2022 11:00	26 Sep 2022 22:18	1
HS22091030-06	LMW-21	19 Sep 2022 12:25		26 Sep 2022 11:00	26 Sep 2022 22:20	1
HS22091030-07	PMW-20R	19 Sep 2022 13:00		26 Sep 2022 11:00	26 Sep 2022 22:26	1
HS22091030-08	MW-41	19 Sep 2022 13:40		26 Sep 2022 11:00	26 Sep 2022 22:27	1
HS22091030-09	MW-47	19 Sep 2022 14:25		26 Sep 2022 11:00	26 Sep 2022 22:29	1
HS22091030-10	LMW-9R	19 Sep 2022 15:15		26 Sep 2022 11:00	26 Sep 2022 22:31	1
HS22091030-11	LMW-22	20 Sep 2022 08:30		26 Sep 2022 11:00	26 Sep 2022 22:33	1
HS22091030-12	DUP-01	19 Sep 2022 11:45		26 Sep 2022 11:00	26 Sep 2022 22:35	1
Batch ID: 184046 (0)		Test Name : DISSOLVED METALS BY SW6020A			Matrix: Groundwater	
HS22091030-01	MW-45	19 Sep 2022 09:25		27 Sep 2022 10:00	27 Sep 2022 21:25	1
HS22091030-02	PMW-19R	19 Sep 2022 10:00		27 Sep 2022 10:00	27 Sep 2022 21:38	1
HS22091030-03	LMW-8	19 Sep 2022 10:35		27 Sep 2022 10:00	27 Sep 2022 21:40	1
HS22091030-04	LMW-17	19 Sep 2022 11:10		27 Sep 2022 10:00	27 Sep 2022 21:42	1
HS22091030-05	LMW-5	19 Sep 2022 11:45		27 Sep 2022 10:00	27 Sep 2022 21:43	1
HS22091030-06	LMW-21	19 Sep 2022 12:25		27 Sep 2022 10:00	27 Sep 2022 21:45	1
HS22091030-07	PMW-20R	19 Sep 2022 13:00		27 Sep 2022 10:00	27 Sep 2022 21:47	1
HS22091030-08	MW-41	19 Sep 2022 13:40		27 Sep 2022 10:00	27 Sep 2022 21:49	1
HS22091030-09	MW-47	19 Sep 2022 14:25		27 Sep 2022 10:00	27 Sep 2022 21:51	1
HS22091030-10	LMW-9R	19 Sep 2022 15:15		27 Sep 2022 10:00	27 Sep 2022 21:53	1
HS22091030-11	LMW-22	20 Sep 2022 08:30		27 Sep 2022 10:00	27 Sep 2022 21:55	1
HS22091030-12	DUP-01	19 Sep 2022 11:45		27 Sep 2022 10:00	27 Sep 2022 22:00	1

WorkOrder: HS22091030

InstrumentID: ICPMS07

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	0.00125	0.000993	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.126	0.000200	0.00200
A	Lead	7439-92-1	0.00125	0.00101	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00165	0.00110	0.00200

WorkOrder: HS22091030

InstrumentID: ICPMS07

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	0.00125	0.000993	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.126	0.000200	0.00200
A	Lead	7439-92-1	0.00125	0.00101	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00165	0.00110	0.00200

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

QC BATCH REPORT

Batch ID: 183990 (0)		Instrument: ICPMS07		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-183990	Units: mg/L		Analysis Date: 26-Sep-2022 21:46					
Client ID:	Run ID: ICPMS07_417926	SeqNo: 6884499		PrepDate: 26-Sep-2022		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-183990	Units: mg/L		Analysis Date: 26-Sep-2022 21:48					
Client ID:	Run ID: ICPMS07_417926	SeqNo: 6884531		PrepDate: 26-Sep-2022		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05218	0.00200	0.05	0	104	80 - 120			
Cadmium	0.05198	0.00200	0.05	0	104	80 - 120			
Lead	0.04605	0.00200	0.05	0	92.1	80 - 120			
Selenium	0.05466	0.00200	0.05	0	109	80 - 120			

MS	Sample ID: HS22091030-01MS	Units: mg/L		Analysis Date: 26-Sep-2022 21:54					
Client ID: MW-45	Run ID: ICPMS07_417926	SeqNo: 6884503		PrepDate: 26-Sep-2022		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05094	0.00200	0.05	0.000399	101	80 - 120			
Cadmium	0.04988	0.00200	0.05	0.000009	99.8	80 - 120			
Lead	0.04584	0.00200	0.05	0.000258	91.2	80 - 120			
Selenium	0.05304	0.00200	0.05	0.0018	102	80 - 120			

MSD	Sample ID: HS22091030-01MSD	Units: mg/L		Analysis Date: 26-Sep-2022 21:56					
Client ID: MW-45	Run ID: ICPMS07_417926	SeqNo: 6884504		PrepDate: 26-Sep-2022		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05359	0.00200	0.05	0.000399	106	80 - 120	0.05094	5.05	20
Cadmium	0.05112	0.00200	0.05	0.000009	102	80 - 120	0.04988	2.45	20
Lead	0.04767	0.00200	0.05	0.000258	94.8	80 - 120	0.04584	3.93	20
Selenium	0.05611	0.00200	0.05	0.0018	109	80 - 120	0.05304	5.62	20

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

QC BATCH REPORT

Batch ID: 183990 (0)		Instrument: ICPMS07		Method: ICP-MS METALS BY SW6020A					
PDS		Sample ID: HS22091030-01PDS		Units: mg/L		Analysis Date: 26-Sep-2022 21:58			
Client ID: MW-45		Run ID: ICPMS07_417926		SeqNo: 6884505		PrepDate: 26-Sep-2022		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.1005	0.00200	0.1	0.000399	100	75 - 125			
Cadmium	0.09548	0.00200	0.1	0.000009	95.5	75 - 125			
Lead	0.09538	0.00200	0.1	0.000258	95.1	75 - 125			
Selenium	0.1002	0.00200	0.1	0.0018	98.4	75 - 125			

SD		Sample ID: HS22091030-01SD		Units: mg/L		Analysis Date: 26-Sep-2022 21:52			
Client ID: MW-45		Run ID: ICPMS07_417926		SeqNo: 6884502		PrepDate: 26-Sep-2022		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Arsenic	U	0.0100					0.000399	0	10
Cadmium	U	0.0100					0.000009	0	10
Lead	U	0.0100					0.000258	0	10
Selenium	U	0.0100					0.0018	0	10

The following samples were analyzed in this batch:

HS22091030-01	HS22091030-02	HS22091030-03	HS22091030-04
HS22091030-05	HS22091030-06	HS22091030-07	HS22091030-08
HS22091030-09	HS22091030-10	HS22091030-11	HS22091030-12

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

QC BATCH REPORT

Batch ID: 184046 (0)		Instrument: ICPMS07		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MBLK	Sample ID: MBLKF2-184046	Units: mg/L		Analysis Date: 27-Sep-2022 21:21					
Client ID:	Run ID: ICPMS07_418032		SeqNo: 6888874		PrepDate: 27-Sep-2022		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: MBLKF1-184046	Units: mg/L		Analysis Date: 27-Sep-2022 21:19					
Client ID:	Run ID: ICPMS07_418032		SeqNo: 6888873		PrepDate: 27-Sep-2022		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-184046	Units: mg/L		Analysis Date: 27-Sep-2022 21:17					
Client ID:	Run ID: ICPMS07_418032		SeqNo: 6888872		PrepDate: 27-Sep-2022		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-184046	Units: mg/L		Analysis Date: 27-Sep-2022 21:23					
Client ID:	Run ID: ICPMS07_418032		SeqNo: 6888875		PrepDate: 27-Sep-2022		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic 0.05303 0.00200 0.05 0 106 80 - 120

Cadmium 0.05291 0.00200 0.05 0 106 80 - 120

Lead 0.04735 0.00200 0.05 0 94.7 80 - 120

Selenium 0.05568 0.00200 0.05 0 111 80 - 120

Client: WSP Golder
 Project: Frisco CDC North CAMU GW Qty
 WorkOrder: HS22091030

QC BATCH REPORT

Batch ID: 184046 (0)		Instrument: ICPMS07		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MS		Sample ID: HS22091030-01MS		Units: mg/L		Analysis Date: 27-Sep-2022 21:29			
Client ID: MW-45		Run ID: ICPMS07_418032		SeqNo: 6888878		PrepDate: 27-Sep-2022		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05257	0.00200	0.05	0.000373	104	75 - 125			
Cadmium	0.05	0.00200	0.05	0	100	75 - 125			
Lead	0.04643	0.00200	0.05	0.00001	92.8	75 - 125			
Selenium	0.05228	0.00200	0.05	0.001862	101	75 - 125			

MSD		Sample ID: HS22091030-01MSD		Units: mg/L		Analysis Date: 27-Sep-2022 21:30			
Client ID: MW-45		Run ID: ICPMS07_418032		SeqNo: 6888879		PrepDate: 27-Sep-2022		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05269	0.00200	0.05	0.000373	105	75 - 125	0.05257	0.232	20
Cadmium	0.05049	0.00200	0.05	0	101	75 - 125	0.05	0.967	20
Lead	0.04772	0.00200	0.05	0.00001	95.4	75 - 125	0.04643	2.74	20
Selenium	0.05396	0.00200	0.05	0.001862	104	75 - 125	0.05228	3.17	20

SD		Sample ID: HS22091030-01SD		Units: mg/L		Analysis Date: 27-Sep-2022 21:27			
Client ID: MW-45		Run ID: ICPMS07_418032		SeqNo: 6888877		PrepDate: 27-Sep-2022		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Arsenic	U	0.0100					0.000373	0	10
Cadmium	U	0.0100					0	0	10
Lead	U	0.0100					0.00001	0	10
Selenium	U	0.0100					0.001862	0	10

The following samples were analyzed in this batch:

HS22091030-01	HS22091030-02	HS22091030-03	HS22091030-04
HS22091030-05	HS22091030-06	HS22091030-07	HS22091030-08
HS22091030-09	HS22091030-10	HS22091030-11	HS22091030-12

Client: WSP Golder
Project: Frisco CDC North CAMU GW Qty
WorkOrder: HS22091030

**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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS22091030

Date/Time Received: 21-Sep-2022 08:55

Client Name: Golder St Louis

Received by: Corey Grandits

Completed By: <u>/S/ Niles D. Ranchod</u>	21-Sep-2022 16:35	Reviewed by: <u>/S/ Ragen Giga</u>	22-Sep-2022 17:54
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	2 Page(s)
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	COC IDs:283829/283830
Samplers name present on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	3.3C/3.1C UC/C IR #31		
Cooler(s)/Kit(s):	47448		
Date/Time sample(s) sent to storage:	09/21/2022 16:45		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:			

Login Notes: Sample count discrepancy MW-45 COC = 4 bottles
Received = 6 bottles (MS/MSD) logged in accordingly.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



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Chain of Custody Form

Page 1 of 2

COC ID: 283830

HS22091030

WSP Golder
Frisco CDC North CAMU GW Qty



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW Qty	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))-FidFI
Company Name	WSP Golder	Bill To Company	WSP Golder	C	MS/MSD
Send Report To	Gerardo Ruiz	Invoice Attn	Accounts Payable WSP	D	
Address	701 Emerson Road Suite 250	Address	701 Emerson Road Suite 250	E	
				F	
City/State/Zip	Creve Coeur, MO 63141	City/State/Zip	Creve Coeur MO 63141	G	
Phone	(314) 394-6125	Phone	(314) 984-8800	H	
Fax		Fax		I	
e-Mail Address	gerardo_ruiz@golder.com	e-Mail Address	USENVAccountsPayable@wsp.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-45	9-19-22	0925	Groundwa	2,8	4	X	X	X								
2	PMW-19R	9-19-22	1000	Groundwa	2,8	2	X	X									
3	LMW-8	9-19-22	1035	Groundwa	2,8	2	X	X									
4	LMW-17	9-19-22	1110	Groundwa	2,8	2	X	X									
5	LMW-5	9-19-22	1145	Groundwa	2,8	2	X	X									
6	LMW-21	9-19-22	1225	Groundwa	2,8	2	X	X									
7	PMW-20R	9-19-22	1300	Groundwa	2,8	2	X	X									
8	MW-41	9-19-22	1340	Groundwa	2,8	2	X	X									
9	MW-47	9-19-22	1425	Groundwa	2,8	2	X	X									
10	LMW-9R	9-19-22	1515	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:	Date: 9-20-22	Time: 1830	Received by:	Notes: Frisco CDC North CAMU GW			
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	47448	3.34	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist
				1R41		<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV
				1F202		<input type="checkbox"/> Level IV SW846/CLP	
						<input type="checkbox"/> Other	

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₅ 6-NaHSO₄ 7-Other 8-4°C 9-5035

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

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Chain of Custody Form

Page 2 of 2

COC ID: 283829

HS22091030

WSP Golder

Frisco CDC North CAMU GW Qty

, WV

Customer Information		Project Information	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW Qty
Work Order		Project Number	20409062.01
Company Name	WSP Golder	Bill To Company	WSP Golder
Send Report To	Gerardo Ruiz	Invoice Attn	Accounts Payable WSP
Address	701 Emerson Road Suite 250	Address	701 Emerson Road Suite 250
City/State/Zip	Creve Coeur, MO 63141	City/State/Zip	Creve Coeur MO 63141
Phone	(314) 394-6125	Phone	(314) 984-8800
Fax		Fax	
e-Mail Address	gerardo_ruiz@golder.com	e-Mail Address	USENVAccountsPayable@wsp.com




No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-22	9-20-22	0830	Groundwa	2,8	2	X	X									
2	DUP-01	9-19-22	1145	Groundwa	2,8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>John Breyton</i>		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"/> 1 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:					
Relinquished by: <i>John Breyton</i>	Date: 9-20-22	Time: 1830	Received by:	Notes: Frisco CDC North CAMU GW									
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>CURETA 9/20/22 0855</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)							
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist						
						<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV						
						<input type="checkbox"/> Level IV SW846/CLP							
						<input type="checkbox"/> Other							

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

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

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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <u>SM</u>
	Date: <u>47448</u>	Time: _____	Date: <u>09/21/22</u>
	Name: <u>[Signature]</u>	_____	_____
	Company: <u>[Signature]</u>	_____	_____

47448 SEP 21 2022



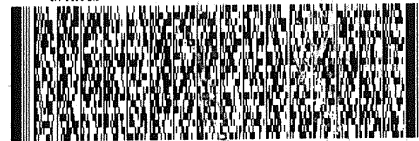
47448

ORIGIN ID: SGRA (512) 805-8609
 JOHN BRAYTON
 GOLDER ASSOCIATES
 1823 CALLENDER HILL RD.
 MANSFIELD, TX 760636091
 UNITED STATES US

SHIP DATE: 12SEP22
 ACTWGT: 1.00 LB MAN
 CAD: 0221247/CAFE3616
 DIMS: 26x14x14 IN

TO SHIPPING DEPT
 ALS LABORATORY GROUP
 10450 STANCLIFF RD
 SUITE 210
 HOUSTON TX 77099
 (281) 530-5656
 REF: FRISCOCDNORTHCAMUGW-87678-DW

RMA: ||| ||| |||



FedEx
Express



FedEx

TRK# 5789 1997 8852
 0221

WED - 21 SEP 10:30A
 PRIORITY OVERNIGHT

AB SGRA

77099
 TX-US IAH



#5041156 09/20 581J1/ECR/FE2D



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

December 07, 2022

Rahel Pommerenke
WSP Golder
701 Emerson Road Suite 250
Creve Coeur, MO 63141

Work Order: **HS22111582**

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

Dear Rahel Pommerenke,

ALS Environmental received 12 sample(s) on Nov 29, 2022 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: DAYNA.FISHER

Dane J. Wacasey

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

**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: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

**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: 12/07/2022			
Project Name: Frisco CDC GW North CAMU				Laboratory Job Number: HS22111582			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 186873, 186948			
# 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 effects 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: 12/07/2022			
Project Name: Frisco CDC GW North CAMU				Laboratory Job Number: HS22111582			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 186873, 186948			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			1
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

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

Laboratory Review Checklist: Exception Reports	
Laboratory Name: ALS Laboratory Group	LRC Date: 12/07/2022
Project Name: Frisco CDC GW North CAMU	Laboratory Job Number: HS22111582
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 186873, 186948
ER#⁵	Description
1	See Run Log and CCB Exception Reports
<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>	

FORM 13 - ANALYSIS RUN LOG

Client: WSP Golder

Run ID:ICPMS07_423044

Project: Frisco CDC GW North CAMU

Instrument:ICPMS07

WorkOrder: HS22111582

Method:SW6020A

Start Date: 02-Dec-2022

End Date: 03-Dec-2022

Sample No.	D/F	Time	FileID	Analytes
CCB 19	1	02-Dec-2022 23:00	254_CCB.d	AS CD PB SE
CCV 21	1	02-Dec-2022 23:18	264_CCV.d	AS CD PB SE
CCB 20	1	02-Dec-2022 23:20	265_CCB.d	AS CD PB SE
CCV 22	1	02-Dec-2022 23:39	275_CCV.d	AS CD PB SE
CCB 21	1	02-Dec-2022 23:41	276_CCB.d	AS CD PB SE
ICSA	1	02-Dec-2022 23:43	277ICSA.d	AS CD PB SE
ICSAB	1	02-Dec-2022 23:44	278ICSB.d	AS CD PB SE
CCV 23	1	03-Dec-2022 00:00	286_CCV.d	AS CD PB SE
CCB 22	1	03-Dec-2022 00:01	287_CCB.d	AS CD PB SE
CCV 24	1	03-Dec-2022 00:18	296_CCV.d	AS CD PB SE
CCB 23	1	03-Dec-2022 00:20	297_CCB.d	AS CD PB SE
CCV 25	1	03-Dec-2022 00:35	305_CCV.d	AS CD PB SE
CCB 24	1	03-Dec-2022 00:37	306_CCB.d	AS CD PB SE
MBLK-186873	1	03-Dec-2022 00:39	307SMPL.d	AS CD PB SE
LCS-186873	1	03-Dec-2022 00:41	308SMPL.d	AS CD PB SE
MW-45	1	03-Dec-2022 00:43	309SMPL.d	AS CD PB SE
MW-45SD	5	03-Dec-2022 00:44	310SMPL.d	AS CD PB SE
MW-45MS	1	03-Dec-2022 00:46	311SMPL.d	AS CD PB SE
MW-45MSD	1	03-Dec-2022 00:48	312SMPL.d	AS CD PB SE
MW-45PDS	1	03-Dec-2022 00:50	313SMPL.d	AS CD PB SE
CCV 26	1	03-Dec-2022 00:52	314_CCV.d	AS CD PB SE
CCB 25	1	03-Dec-2022 00:54	315_CCB.d	AS CD PB SE
PMW-19R	1	03-Dec-2022 01:05	321SMPL.d	AS CD PB SE
LMW-8	1	03-Dec-2022 01:07	322SMPL.d	AS CD PB SE
LMW-17	1	03-Dec-2022 01:09	323SMPL.d	AS CD PB SE
LMW-5	1	03-Dec-2022 01:11	324SMPL.d	AS CD PB SE
LMW-21	1	03-Dec-2022 01:12	325SMPL.d	AS CD PB SE
CCV 27	1	03-Dec-2022 01:14	326_CCV.d	AS CD PB SE
CCB 26	1	03-Dec-2022 01:16	327_CCB.d	AS CD PB SE
PMW-20R	1	03-Dec-2022 01:18	328SMPL.d	AS CD PB SE
MW-41	1	03-Dec-2022 01:20	329SMPL.d	AS CD PB SE
MW-47	1	03-Dec-2022 01:22	330SMPL.d	AS CD PB SE
LMW-9R	1	03-Dec-2022 01:24	331SMPL.d	AS CD PB SE
LMW-22	1	03-Dec-2022 01:26	332SMPL.d	AS CD PB SE
DUP-01	1	03-Dec-2022 01:27	333SMPL.d	AS CD PB SE
CCV 28	1	03-Dec-2022 01:35	337_CCV.d	AS CD PB SE
CCB 27	1	03-Dec-2022 01:37	338_CCB.d	AS CD PB SE
CCV 29	1	03-Dec-2022 01:43	341_CCV.d	AS CD PB SE
CCB 28	1	03-Dec-2022 01:45	342_CCB.d	AS CD PB SE
LLCCV2	1	03-Dec-2022 01:46	343LCV2.d	AS CD PB SE
LLCCV5	1	03-Dec-2022 01:48	344LCV5.d	AS CD PB SE
ICSA	1	03-Dec-2022 01:50	345ICSA.d	AS CD PB SE
ICSAB	1	03-Dec-2022 01:52	346ICSB.d	AS CD PB SE

CCB EXCEPTIONS REPORT

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

Run ID: ICPMS07_423044
Instrument: ICPMS07
Method: SW6020A

CCB 7	Date: 02-Dec-2022 15:00	Seq: 7011492	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Cadmium	0.312	0.2	2	
ICCB 11	Date: 02-Dec-2022 19:58	Seq: 7011738	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Cadmium	0.21	0.2	2	
CCB 12	Date: 02-Dec-2022 20:04	Seq: 7011741	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Cadmium	0.267	0.2	2	
CCB 18	Date: 02-Dec-2022 22:37	Seq: 7011870	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Cadmium	0.307	0.2	2	
CCB 21	Date: 02-Dec-2022 23:41	Seq: 7011911	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.553	0.4	2	
CCB 22	Date: 03-Dec-2022 00:01	Seq: 7013776	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.545	0.4	2	
Cadmium	0.272	0.2	2	
CCB 23	Date: 03-Dec-2022 00:20	Seq: 7013786	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.432	0.4	2	
CCB 24	Date: 03-Dec-2022 00:37	Seq: 7013795	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.503	0.4	2	
Cadmium	0.362	0.2	2	
Selenium	-1.198	1.1	2	
CCB 25	Date: 03-Dec-2022 00:54	Seq: 7013804	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.569	0.4	2	
Cadmium	0.513	0.2	2	
CCB 26	Date: 03-Dec-2022 01:16	Seq: 7013816	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.649	0.4	2	
Cadmium	0.358	0.2	2	
CCB 27	Date: 03-Dec-2022 01:37	Seq: 7013827	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.449	0.4	2	
CCB 28	Date: 03-Dec-2022 01:45	Seq: 7013831	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Arsenic	0.493	0.4	2	
Cadmium	0.23	0.2	2	

Client: WSP Golder
Project: Frisco CDC GW North CAMU
Work Order: HS22111582

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22111582-01	MW-45	Groundwater		28-Nov-2022 10:20	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-02	PMW-19R	Groundwater		28-Nov-2022 10:55	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-03	LMW-8	Groundwater		28-Nov-2022 11:30	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-04	LMW-17	Groundwater		28-Nov-2022 12:05	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-05	LMW-5	Groundwater		28-Nov-2022 12:35	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-06	LMW-21	Groundwater		28-Nov-2022 13:25	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-07	PMW-20R	Groundwater		28-Nov-2022 14:00	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-08	MW-41	Groundwater		28-Nov-2022 14:40	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-09	MW-47	Groundwater		28-Nov-2022 15:25	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-10	LMW-9R	Groundwater		28-Nov-2022 16:05	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-11	LMW-22	Groundwater		29-Nov-2022 08:35	29-Nov-2022 15:20	<input type="checkbox"/>
HS22111582-12	DUP-01	Groundwater		28-Nov-2022 12:35	29-Nov-2022 15:20	<input type="checkbox"/>

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: MW-45
 Collection Date: 28-Nov-2022 10:20

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000673	J	0.000400	0.00200	mg/L	1	03-Dec-2022 00:43
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 00:43
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 00:43
Selenium	U		0.00110	0.00200	mg/L	1	03-Dec-2022 00:43
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:15
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:15
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:15
Selenium	0.00152	J	0.00110	0.00200	mg/L	1	06-Dec-2022 00:15

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

Client: WSP Golder
Project: Frisco CDC GW North CAMU
Sample ID: PMW-19R
Collection Date: 28-Nov-2022 10:55

ANALYTICAL REPORT

WorkOrder:HS22111582
Lab ID:HS22111582-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000400	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:05
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:05
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:05
Selenium	U		0.00110	0.00200	mg/L	1	03-Dec-2022 01:05
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:28
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:28
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:28
Selenium	U		0.00110	0.00200	mg/L	1	06-Dec-2022 00:28

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: LMW-8
 Collection Date: 28-Nov-2022 11:30

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000502	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:07
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:07
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:07
Selenium	0.00824		0.00110	0.00200	mg/L	1	03-Dec-2022 01:07
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:29
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:29
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:29
Selenium	0.00661		0.00110	0.00200	mg/L	1	06-Dec-2022 00:29

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: LMW-17
 Collection Date: 28-Nov-2022 12:05

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	03-Dec-2022 01:09
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:09
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:09
Selenium	0.00473		0.00110	0.00200	mg/L	1	03-Dec-2022 01:09
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:31
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:31
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:31
Selenium	0.00538		0.00110	0.00200	mg/L	1	06-Dec-2022 00:31

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: LMW-5
 Collection Date: 28-Nov-2022 12:35

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.00101	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:11
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:11
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:11
Selenium	U		0.00110	0.00200	mg/L	1	03-Dec-2022 01:11
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	0.000664	J	0.000400	0.00200	mg/L	1	06-Dec-2022 00:33
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:33
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:33
Selenium	U		0.00110	0.00200	mg/L	1	06-Dec-2022 00:33

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: LMW-21
 Collection Date: 28-Nov-2022 13:25

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000649	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:12
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:12
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:12
Selenium	0.00452		0.00110	0.00200	mg/L	1	03-Dec-2022 01:12
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	0.000486	J	0.000400	0.00200	mg/L	1	06-Dec-2022 00:35
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:35
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:35
Selenium	0.00496		0.00110	0.00200	mg/L	1	06-Dec-2022 00:35

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: PMW-20R
 Collection Date: 28-Nov-2022 14:00

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000570	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:18
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:18
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:18
Selenium	0.00149	J	0.00110	0.00200	mg/L	1	03-Dec-2022 01:18
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:37
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:37
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:37
Selenium	0.00219		0.00110	0.00200	mg/L	1	06-Dec-2022 00:37

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

Client: WSP Golder
Project: Frisco CDC GW North CAMU
Sample ID: MW-41
Collection Date: 28-Nov-2022 14:40

ANALYTICAL REPORT

WorkOrder:HS22111582
Lab ID:HS22111582-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000971	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:20
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:20
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:20
Selenium	U		0.00110	0.00200	mg/L	1	03-Dec-2022 01:20
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:39
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:39
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:39
Selenium	U		0.00110	0.00200	mg/L	1	06-Dec-2022 00:39

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

Client: WSP Golder
Project: Frisco CDC GW North CAMU
Sample ID: MW-47
Collection Date: 28-Nov-2022 15:25

ANALYTICAL REPORT

WorkOrder:HS22111582
Lab ID:HS22111582-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000589	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:22
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:22
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:22
Selenium	U		0.00110	0.00200	mg/L	1	03-Dec-2022 01:22
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Dec-2022 00:41
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:41
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:41
Selenium	U		0.00110	0.00200	mg/L	1	06-Dec-2022 00:41

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: LMW-9R
 Collection Date: 28-Nov-2022 16:05

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.00161	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:24
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:24
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:24
Selenium	0.00301		0.00110	0.00200	mg/L	1	03-Dec-2022 01:24
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	0.00132	J	0.000400	0.00200	mg/L	1	06-Dec-2022 00:43
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:43
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:43
Selenium	0.00338		0.00110	0.00200	mg/L	1	06-Dec-2022 00:43

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: LMW-22
 Collection Date: 29-Nov-2022 08:35

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.00122	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:26
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:26
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:26
Selenium	0.00143	J	0.00110	0.00200	mg/L	1	03-Dec-2022 01:26
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	0.000859	J	0.000400	0.00200	mg/L	1	06-Dec-2022 00:44
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:44
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:44
Selenium	0.00242		0.00110	0.00200	mg/L	1	06-Dec-2022 00:44

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

Client: WSP Golder
 Project: Frisco CDC GW North CAMU
 Sample ID: DUP-01
 Collection Date: 28-Nov-2022 12:35

ANALYTICAL REPORT

WorkOrder:HS22111582
 Lab ID:HS22111582-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020A		Prep:SW3010A / 02-Dec-2022		Analyst: JHD	
Arsenic	0.000904	J	0.000400	0.00200	mg/L	1	03-Dec-2022 01:27
Cadmium	U		0.000200	0.00200	mg/L	1	03-Dec-2022 01:27
Lead	U		0.000600	0.00200	mg/L	1	03-Dec-2022 01:27
Selenium	U		0.00110	0.00200	mg/L	1	03-Dec-2022 01:27
DISSOLVED METALS BY SW6020A		Method:SW6020A (dissolved)		Prep:SW3010A / 05-Dec-2022		Analyst: JHD	
Arsenic	0.000856	J	0.000400	0.00200	mg/L	1	06-Dec-2022 00:50
Cadmium	U		0.000200	0.00200	mg/L	1	06-Dec-2022 00:50
Lead	U		0.000600	0.00200	mg/L	1	06-Dec-2022 00:50
Selenium	U		0.00110	0.00200	mg/L	1	06-Dec-2022 00:50

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

Weight / Prep Log

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

Batch ID: 186873 **Start Date:** 02 Dec 2022 08:00 **End Date:** 02 Dec 2022 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22111582-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 186948 **Start Date:** 05 Dec 2022 09:00 **End Date:** 05 Dec 2022 13:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22111582-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22111582-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 186873 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS22111582-01	MW-45	28 Nov 2022 10:20		02 Dec 2022 10:00	03 Dec 2022 00:43	1
HS22111582-02	PMW-19R	28 Nov 2022 10:55		02 Dec 2022 10:00	03 Dec 2022 01:05	1
HS22111582-03	LMW-8	28 Nov 2022 11:30		02 Dec 2022 10:00	03 Dec 2022 01:07	1
HS22111582-04	LMW-17	28 Nov 2022 12:05		02 Dec 2022 10:00	03 Dec 2022 01:09	1
HS22111582-05	LMW-5	28 Nov 2022 12:35		02 Dec 2022 10:00	03 Dec 2022 01:11	1
HS22111582-06	LMW-21	28 Nov 2022 13:25		02 Dec 2022 10:00	03 Dec 2022 01:12	1
HS22111582-07	PMW-20R	28 Nov 2022 14:00		02 Dec 2022 10:00	03 Dec 2022 01:18	1
HS22111582-08	MW-41	28 Nov 2022 14:40		02 Dec 2022 10:00	03 Dec 2022 01:20	1
HS22111582-09	MW-47	28 Nov 2022 15:25		02 Dec 2022 10:00	03 Dec 2022 01:22	1
HS22111582-10	LMW-9R	28 Nov 2022 16:05		02 Dec 2022 10:00	03 Dec 2022 01:24	1
HS22111582-11	LMW-22	29 Nov 2022 08:35		02 Dec 2022 10:00	03 Dec 2022 01:26	1
HS22111582-12	DUP-01	28 Nov 2022 12:35		02 Dec 2022 10:00	03 Dec 2022 01:27	1
Batch ID: 186948 (0)		Test Name : DISSOLVED METALS BY SW6020A			Matrix: Groundwater	
HS22111582-01	MW-45	28 Nov 2022 10:20		05 Dec 2022 09:00	06 Dec 2022 00:15	1
HS22111582-02	PMW-19R	28 Nov 2022 10:55		05 Dec 2022 09:00	06 Dec 2022 00:28	1
HS22111582-03	LMW-8	28 Nov 2022 11:30		05 Dec 2022 09:00	06 Dec 2022 00:29	1
HS22111582-04	LMW-17	28 Nov 2022 12:05		05 Dec 2022 09:00	06 Dec 2022 00:31	1
HS22111582-05	LMW-5	28 Nov 2022 12:35		05 Dec 2022 09:00	06 Dec 2022 00:33	1
HS22111582-06	LMW-21	28 Nov 2022 13:25		05 Dec 2022 09:00	06 Dec 2022 00:35	1
HS22111582-07	PMW-20R	28 Nov 2022 14:00		05 Dec 2022 09:00	06 Dec 2022 00:37	1
HS22111582-08	MW-41	28 Nov 2022 14:40		05 Dec 2022 09:00	06 Dec 2022 00:39	1
HS22111582-09	MW-47	28 Nov 2022 15:25		05 Dec 2022 09:00	06 Dec 2022 00:41	1
HS22111582-10	LMW-9R	28 Nov 2022 16:05		05 Dec 2022 09:00	06 Dec 2022 00:43	1
HS22111582-11	LMW-22	29 Nov 2022 08:35		05 Dec 2022 09:00	06 Dec 2022 00:44	1
HS22111582-12	DUP-01	28 Nov 2022 12:35		05 Dec 2022 09:00	06 Dec 2022 00:50	1

WorkOrder: HS22111582

InstrumentID: ICPMS07

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	0.00125	0.00119	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000605	0.000200	0.00200
A	Lead	7439-92-1	0.00125	0.00108	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00329	0.00110	0.00200

WorkOrder: HS22111582

InstrumentID: ICPMS07

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	0.00125	0.00119	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000605	0.000200	0.00200
A	Lead	7439-92-1	0.00125	0.00108	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00329	0.00110	0.00200

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

QC BATCH REPORT

Batch ID: 186873 (0)		Instrument: ICPMS07		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-186873	Units: mg/L		Analysis Date: 03-Dec-2022 00:39					
Client ID:	Run ID: ICPMS07_423044		SeqNo: 7013796		PrepDate: 02-Dec-2022		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-186873	Units: mg/L		Analysis Date: 03-Dec-2022 00:41					
Client ID:	Run ID: ICPMS07_423044		SeqNo: 7013797		PrepDate: 02-Dec-2022		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05459	0.00200	0.05	0	109	80 - 120			
Cadmium	0.05329	0.00200	0.05	0	107	80 - 120			
Lead	0.0476	0.00200	0.05	0	95.2	80 - 120			
Selenium	0.05696	0.00200	0.05	0	114	80 - 120			

MS	Sample ID: HS22111582-01MS	Units: mg/L		Analysis Date: 03-Dec-2022 00:46					
Client ID: MW-45	Run ID: ICPMS07_423044		SeqNo: 7013800		PrepDate: 02-Dec-2022		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05617	0.00200	0.05	0.000673	111	80 - 120			
Cadmium	0.05548	0.00200	0.05	0.000135	111	80 - 120			
Lead	0.05093	0.00200	0.05	0.000572	101	80 - 120			
Selenium	0.0574	0.00200	0.05	0.000662	113	80 - 120			

MSD	Sample ID: HS22111582-01MSD	Units: mg/L		Analysis Date: 03-Dec-2022 00:48					
Client ID: MW-45	Run ID: ICPMS07_423044		SeqNo: 7013801		PrepDate: 02-Dec-2022		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05677	0.00200	0.05	0.000673	112	80 - 120	0.05617	1.07	20
Cadmium	0.05432	0.00200	0.05	0.000135	108	80 - 120	0.05548	2.13	20
Lead	0.04952	0.00200	0.05	0.000572	97.9	80 - 120	0.05093	2.81	20
Selenium	0.05795	0.00200	0.05	0.000662	115	80 - 120	0.0574	0.947	20

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

QC BATCH REPORT

Batch ID: 186873 (0)		Instrument: ICPMS07		Method: ICP-MS METALS BY SW6020A					
PDS		Sample ID: HS22111582-01PDS		Units: mg/L		Analysis Date: 03-Dec-2022 00:50			
Client ID: MW-45		Run ID: ICPMS07_423044		SeqNo: 7013802		PrepDate: 02-Dec-2022		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.1085	0.00200	0.1	0.000673	108	75 - 125			
Cadmium	0.1026	0.00200	0.1	0.000135	102	75 - 125			
Lead	0.103	0.00200	0.1	0.000572	102	75 - 125			
Selenium	0.1062	0.00200	0.1	0.000662	106	75 - 125			

SD		Sample ID: HS22111582-01SD		Units: mg/L		Analysis Date: 03-Dec-2022 00:44			
Client ID: MW-45		Run ID: ICPMS07_423044		SeqNo: 7013799		PrepDate: 02-Dec-2022		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Arsenic	U	0.0100					0.000673	0	10
Cadmium	U	0.0100					0.000135	0	10
Lead	U	0.0100					0.000572	0	10
Selenium	U	0.0100					0.000662	0	10

The following samples were analyzed in this batch:

HS22111582-01	HS22111582-02	HS22111582-03	HS22111582-04
HS22111582-05	HS22111582-06	HS22111582-07	HS22111582-08
HS22111582-09	HS22111582-10	HS22111582-11	HS22111582-12

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

QC BATCH REPORT

Batch ID: 186948 (0)		Instrument: ICPMS07		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MBLK	Sample ID: MBLKF1-186948	Units: mg/L		Analysis Date: 06-Dec-2022 00:11					
Client ID:	Run ID: ICPMS07_423199		SeqNo: 7015868		PrepDate: 05-Dec-2022		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-186948	Units: mg/L		Analysis Date: 06-Dec-2022 00:09					
Client ID:	Run ID: ICPMS07_423199		SeqNo: 7015867		PrepDate: 05-Dec-2022		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-186948	Units: mg/L		Analysis Date: 06-Dec-2022 00:13					
Client ID:	Run ID: ICPMS07_423199		SeqNo: 7015869		PrepDate: 05-Dec-2022		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05171	0.00200	0.05	0	103	80 - 120			
Cadmium	0.05223	0.00200	0.05	0	104	80 - 120			
Lead	0.0469	0.00200	0.05	0	93.8	80 - 120			
Selenium	0.05285	0.00200	0.05	0	106	80 - 120			

MS	Sample ID: HS22111582-01MS	Units: mg/L		Analysis Date: 06-Dec-2022 00:18					
Client ID: MW-45	Run ID: ICPMS07_423199		SeqNo: 7015872		PrepDate: 05-Dec-2022		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Arsenic	0.05674	0.00200	0.05	0.000257	113	75 - 125			
Cadmium	0.05316	0.00200	0.05	0.00001	106	75 - 125			
Lead	0.0496	0.00200	0.05	0.000058	99.1	75 - 125			
Selenium	0.05559	0.00200	0.05	0.001517	108	75 - 125			

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

QC BATCH REPORT

Batch ID: 186948 (0)		Instrument: ICPMS07		Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
MSD		Sample ID: HS22111582-01MSD		Units: mg/L		Analysis Date: 06-Dec-2022 00:20			
Client ID: MW-45		Run ID: ICPMS07_423199		SeqNo: 7015873		PrepDate: 05-Dec-2022		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Arsenic	0.05732	0.00200	0.05	0.000257	114	75 - 125	0.05674	1.02	20
Cadmium	0.05554	0.00200	0.05	0.00001	111	75 - 125	0.05316	4.38	20
Lead	0.05138	0.00200	0.05	0.000058	103	75 - 125	0.0496	3.52	20
Selenium	0.05863	0.00200	0.05	0.001517	114	75 - 125	0.05559	5.32	20
PDS		Sample ID: HS22111582-01PDS		Units: mg/L		Analysis Date: 06-Dec-2022 00:22			
Client ID: MW-45		Run ID: ICPMS07_423199		SeqNo: 7015874		PrepDate: 05-Dec-2022		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Cadmium	0.1237	0.00200	0.1	0.00001	124	75 - 125			
Lead	0.1234	0.00200	0.1	0.000058	123	75 - 125			
Selenium	0.1262	0.00200	0.1	0.001517	125	75 - 125			
SD		Sample ID: HS22111582-01SD		Units: mg/L		Analysis Date: 06-Dec-2022 00:16			
Client ID: MW-45		Run ID: ICPMS07_423199		SeqNo: 7015871		PrepDate: 05-Dec-2022		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Arsenic	U	0.0100					0.000257	0	10
Cadmium	U	0.0100					0.00001	0	10
Lead	U	0.0100					0.000058	0	10
Selenium	U	0.0100					0.001517	0	10
The following samples were analyzed in this batch:									
HS22111582-01		HS22111582-02		HS22111582-03		HS22111582-04			
HS22111582-05		HS22111582-06		HS22111582-07		HS22111582-08			
HS22111582-09		HS22111582-10		HS22111582-11		HS22111582-12			

Client: WSP Golder
Project: Frisco CDC GW North CAMU
WorkOrder: HS22111582

**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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS22111582

Date/Time Received: 29-Nov-2022 15:20

Client Name: Golder St Louis

Received by: Corey Grandits

Completed By: <u>/S/ Paresh M. Giga</u>	29-Nov-2022 15:39	Reviewed by: <u>/S/ Dane J. Wacasey</u>	06-Dec-2022 18:22
eSignature	Date/Time	eSignature	Date/Time

Matrices: **GW**Carrier name: **Client**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	2 Page(s)
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	COC IDs:286011
Samplers name present on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	1.6C/1.1C U/C IR31		
Cooler(s)/Kit(s):	49030		
Date/Time sample(s) sent to storage:	11/29/22 15:50		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



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+1 513 733 5336

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Fort Collins, CO
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Chain of Custody Form

Page 1 of 2

COC ID: 286011

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Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:		ALS Work Order #:	
Customer Information		Project Information	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW Qty
Work Order		Project Number	20409062.01
Company Name	WSP Golder	Bill To Company	WSP Golder
Send Report To	Rahel Pommerenke	Invoice Attn	Accounts Payable WSP
Address	701 Emerson Road Suite 250	Address	701 Emerson Road Suite 250
City/State/Zip	Creve Coeur, MO 63141	City/State/Zip	Creve Coeur MO 63141
Phone	(314) 394-6125	Phone	(314) 984-8800
Fax		Fax	
e-Mail Address	Rahel_Pommerenke@golder.com	e-Mail Address	USENVAccountspayable@wsp.com

Parameter/Method Request for Analysis	
A	ICP_TW (6020A - Total As, Cd, Pb, Se (QTY))
B	ICP_DISS (6020A - Dissolved As, Cd, Pb, Se (QTY))-FidFI
C	MS/MSD
D	
E	
F	
G	
H	
I	
J	

HS22111582

WSP Golder
Frisco CDC GW North CAMU



No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-45	11-28-22	1020	Groundwa	2,8	4	X	X	X								
2	PMW-19R	11-28-22	1055	Groundwa	2,8	2	X	X									
3	LMW-8	11-28-22	1130	Groundwa	2,8	2	X	X									
4	LMW-17	11-28-22	1205	Groundwa	2,8	2	X	X									
5	LMW-5	11-28-22	1235	Groundwa	2,8	2	X	X									
6	LMW-21	11-28-22	1325	Groundwa	2,8	2	X	X									
7	PMW-20R	11-28-22	1400	Groundwa	2,8	2	X	X									
8	MW-41	11-28-22	1440	Groundwa	2,8	2	X	X									
9	MW-47	11-28-22	1525	Groundwa	2,8	2	X	X									
10	LMW-9R	11-28-22	1605	Groundwa	2,8	2	X	X									

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)				Results Due Date:	
JOHN BEATON <i>John</i>		HAND DELIVERED		<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					
Relinquished by:	Date: 11-29-22	Time: 1520	Received by:	Notes: Frisco CDC North CAMU GW					
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID: 14630					
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp: 1.60					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	QC Package: (Check One Box Below)					
				<input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> Level IV SW846/CLP <input checked="" 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				<input type="checkbox"/> TRRP Checklist <input type="checkbox"/> TRRP Level IV					

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

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COC ID: 286010

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Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	20409062.01	Project Name	Frisco CDC North CAMU GW Qty	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))-FidFI
Company Name	WSP Golder	Bill To Company	WSP Golder	C	MS/MSD
Send Report To	Rahel Pommerenke	Invoice Attn	Accounts Payable WSP	D	
Address	701 Emerson Road Suite 250	Address	701 Emerson Road Suite 250	E	
City/State/Zip	Creve Coeur, MO 63141	City/State/Zip	Creve Coeur MO 63141	F	
Phone	(314) 394-6125	Phone	(314) 984-8800	G	
Fax		Fax		H	
e-Mail Address	Rahel_Pommerenke@golder.com	e-Mail Address	USENVAccountsPayable@wsp.com	I	
				J	

HS22111582

WSP Golder
Frisco CDC GW North CAMU



No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-22	11-29-22	0835	Groundwa	2,8	2	X	X									
2	DUP-01	11-28-22	1235	Groundwa	2,8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>JOHN BEATTY</i>		Shipment Method HAND DELIVERED		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: <i>[Signature]</i>	Date: 11-29-22	Time: 1520	Received by:	Notes: Frisco CDC North CAMU GW			
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>COREY A 11-24-22 1520</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std. QC	<input checked="" type="checkbox"/> TRRP Checklist
						<input type="checkbox"/> Level III Std. QC/Raw Data	<input type="checkbox"/> TRRP Level IV
						<input type="checkbox"/> Level IV SW846/CLP	
						<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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APPENDIX D

Data Usability Summaries



DATA USABILITY SUMMARY

ALS WORK ORDERS: HS22091030

PROJECT NO: GL2040906205

CLIENT: Frisco Community
Development Corporation

SAMPLE DATES: September 19 and 20, 2022

LABORATORY: ALS Group

WORK ORDERS: HS22091030

INTENDED USE: Second Semiannual 2022 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.

WSP 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). WSP 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, WSP 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	01/12/2023
Senior Reviewer:	Brenda Basile	01/19/2023

QUALITY CONTROL PARAMETERS AND OUTCOMES

Data Completeness

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

Chain-of-Custody

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

Sample Condition

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

Field Procedures

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

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

Results Reporting Procedures

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

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

Field and Laboratory Blanks

No field blanks were collected.

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

WSP 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 within the acceptance criteria of 30 RPD or less than two times the MQL (Table 4). 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
HS22091030-1	MW-45	9/19/2022	✓	Matrix Spike/Matrix Spike Duplicate
HS22091030-02	PMW-19R	9/19/2022	✓	
HS22091030-03	LMW-8	9/19/2022	✓	
HS22091030-04	LMW-17	9/19/2022	✓	
HS22091030-05	LMW-5	9/19/2022	✓	
HS22091030-06	LMW-21	9/19/2022	✓	
HS22091030-07	PMW-20R	9/19/2022	✓	
HS22091030-08	MW-41	9/19/2022	✓	
HS22091030-09	MW-47	9/19/2022	✓	
HS22091030-10	LMW-9R	9/19/2022	✓	
HS22091030-11	LMW-22	9/20/2022	✓	
HS22091030-12	DUP-01	9/19/2022	✓	Field duplicate of LMW-5

TABLE 2 - QUALIFIED DATA

Field Sample ID	Lab Sample ID	Analyte	Result	Units	Qualifier	Explanation
LMW-8	HS22091030-03	Selenium, total	0.00123	mg/L	J	Dissolved and total concentration precision
LMW-8	HS22091030-03	Selenium, dissolved	0.00604	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	0.00180	0.00186	3.3	0.00200	None
LMW-8	Selenium	0.00123	0.00604	132	0.00200	J
LMW-17	Selenium	0.00110	0.00197	57	0.00200	None
PMW-20R	Selenium	0.00134	0.00192	36	0.00200	None
LMW-47	Selenium	0.00252	0.00292	15	0.00200	None
LMW-9R	Arsenic	0.00189	0.00192	1.6	0.00200	None

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, dissolved	0.000446 J	0.000457 J	2.4	A	None
	Arsenic, total	0.000537 J	0.000524 J	2.5	A	None

Notes:

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

A - Acceptable Data

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

NA - Not applicable

MQL - Method quantitation limit

SDL - Sample detection limit

mg/L - milligrams per liter

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

U - not detected; analyte was detected below SDL.



DATA USABILITY SUMMARY

ALS WORK ORDERS: HS22111582

PROJECT NO: GL2040906205

CLIENT: Frisco Community
Development Corporation

SAMPLE DATES: November 28, 2022

LABORATORY: ALS Group

WORK ORDERS: HS22111582

INTENDED USE: Second Semiannual 2022 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.

WSP 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
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- 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	01/12/2023
Senior Reviewer:	Brenda Basile	01/19/2023

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. No data qualified due to dissolved concentrations higher than total concentrations outside of criteria.

Field and Laboratory Blanks

No field blanks were collected.

Method blank and continuing calibration blank data provided by the laboratory were evaluated. Sample data associated with method blank data are qualified if the sample concentration is within five times the blank concentration. Sample data associated with continuing calibration blank data are qualified if the analyte is detected above the MDL and the sample concentration is detected. If data is qualified as estimated based on accuracy or precision criteria that was not met, the data is qualified with both a J-flag and a U-flag. Arsenic and cadmium were detected in laboratory continuing calibration blanks. Cadmium was not detected in the associated field samples. Arsenic detections are listed on Table 4. Concentrations within two times the blank concentration are qualified as non-detect as shown in Table 2.

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 within the acceptance criteria of 30 RPD or less than two times the MQL (Table 5). 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
HS22111582-01	MW-45	11/28/2022	✓	Matrix Spike/Matrix Spike Duplicate
HS22111582-02	PMW-19R	11/28/2022	✓	
HS22111582-03	LMW-8	11/28/2022	✓	
HS22111582-04	LMW-17	11/28/2022	✓	
HS22111582-05	LMW-5	11/28/2022	✓	
HS22111582-06	LMW-21	11/28/2022	✓	
HS22111582-07	PMW-20R	11/28/2022	✓	
HS22111582-08	MW-41	11/28/2022	✓	
HS22111582-09	MW-47	11/28/2022	✓	
HS22111582-10	LMW-9R	11/28/2022	✓	
HS22111582-11	LMW-22	11/28/2022	✓	
HS22111582-12	DUP-01	11/28/2022	✓	Field duplicate of LMW-5

TABLE 2 - QUALIFIED DATA

Field Sample ID	Lab Sample ID	Analyte	Result	Units	Qualifier	Explanation
MW-45	HS22111582-01	Arsenic, total	0.000673	mg/L	U	Analyte detected in laboratory quality control blank
PMW-19R	HS22111582-02	Arsenic, total	0.000408	mg/L	U	Analyte detected in laboratory quality control blank
LMW-8	HS22111582-03	Arsenic, total	0.000502	mg/L	U	Analyte detected in laboratory quality control blank
LMW-5	HS22111582-05	Arsenic, total	0.00101	mg/L	U	Analyte detected in laboratory quality control blank
LMW-21	HS22111582-06	Arsenic, total	0.000649	mg/L	U	Analyte detected in laboratory quality control blank
PMW-20R	HS22111582-07	Arsenic, total	0.00057	mg/L	U	Analyte detected in laboratory quality control blank
MW-41	HS22111582-08	Arsenic, total	0.000971	mg/L	U	Analyte detected in laboratory quality control blank
MW-47	HS22111582-09	Arsenic, total	0.000589	mg/L	U	Analyte detected in laboratory quality control blank
LMW-22	HS22111582-11	Arsenic, total	0.00122	mg/L	U	Analyte detected in laboratory quality control blank
Dup-01	HS22111582-12	Arsenic, total	0.000904	mg/L	U	Analyte detected in laboratory quality control blank

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	0.00152	32	0.00200	None
LMW-17	Selenium	0.00473	0.00538	13	0.00200	None
LMW-21	Selenium	0.00452	0.00496	9.3	0.00200	None
PMW-20R	Selenium	0.00149	0.00219	38	0.00200	None
LMW-9R	Selenium	0.00301	0.00338	12	0.00200	None
LMW-22	Selenium	0.00143	0.00242	51	0.00200	None

Notes:

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

mg/L - milligrams per liter

RPD - relative percent difference

MQL - Method quantitation limit

TABLE 4 - BLANK DETECTIONS

Lab Sample ID	Analyte	Result	Qualified Concentration	Units	Explanation
ICPMS07_423044 CCB-24	Arsenic, total	0.000503	0.00106	mg/L	Analyte detected in laboratory quality control blank
ICPMS07_423044 CCB-25	Arsenic, total	0.000569	0.00114	mg/L	Analyte detected in laboratory quality control blank
ICPMS07_423044 CCB-26	Arsenic, total	0.000649	0.00130	mg/L	Analyte detected in laboratory quality control blank
ICPMS07_423044 CCB-27	Arsenic, total	0.000503	0.00106	mg/L	Analyte detected in laboratory quality control blank

Notes:

U - Not detected; the analyte was detected <2x the concentration in an associated blank.

mg/L - milligrams per liter

TABLE 5 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD ^a	Qualifier	Qualifier Added
LMW-5/DUP-01	Arsenic, dissolved	0.000664 J	0.000856 J	25	A	None

Notes:

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

A - Acceptable Data

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

NA - Not applicable

MQL - Method quantitation limit

SDL - Sample detection limit

mg/L - milligrams per liter

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

U - not detected; analyte was detected below SDL.

wsp