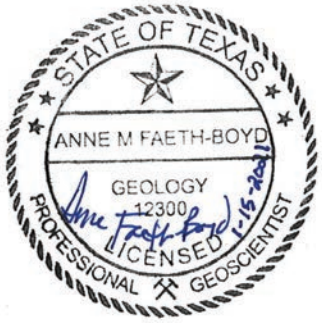
REPORT

2020 Second Semiannual Groundwater Monitoring Report

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

Former Exide Technologies Frisco Recycling Center - Frisco, Texas

TCEQ SWR No. 30516



GOLDER ASSOCIATES INC.
Geoscience Firm Registration
Certificate Number 50369

Submitted to:

Mr. Mack Borchardt
City of Frisco
6101 Frisco Square Boulevard
Frisco, TX 75034

Submitted by:

Golder Associates Inc.
13515 Barrett Parkway Drive, Suite 260
Ballwin, Missouri, USA 63021

+1 314 984-8800

20409062

January 15, 2021

Distribution List

TCEQ Austin - 2 hard copies, 1 electronic copy

TCEQ Region 4 - 1 hard copy

George Purefoy – Frisco City Manager (City of Frisco), 1 electronic copy

Jason Gray – J.D Gray Group (City of Frisco), 1 electronic copy

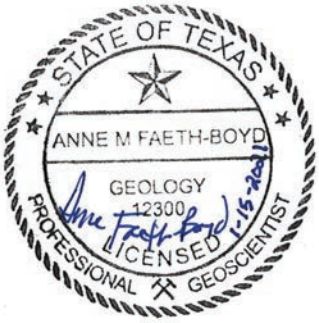
Brad Weaver - JEM Connections LLC (City of Frisco), 1 electronic copy

Table of Contents

TABLES

FIGURES

APPENDICES



1.0 INTRODUCTION

Golder Associates Inc. (Golder) is pleased to submit this report summarizing third and fourth quarter 2020 groundwater monitoring activities for the Class 2 Landfill North Corrective Action Management Unit (hereafter, the Landfill or North CAMU) located at the Former Exide Technologies (Exide) Frisco Recycling Facility Former Operating Plant (FOP) in Frisco, Collin County, Texas. This report summarizes groundwater sampling methods, laboratory analyses and results for groundwater monitoring which was conducted in general accordance with the Revised Class 2 Landfill Groundwater Monitoring Plan (Monitoring Plan), by Pastor, Behling & Wheeler, dated July 31, 2013 [1], the Texas Commission on Environmental Quality (TCEQ) Approval with Modifications, dated April 4, 2014 [2] and subsequent correspondence with the TCEQ.

1.1 Site Description

A location map of the Landfill is provided as Figure 1. The locations of the groundwater monitoring wells in the Landfill vicinity are shown on Figure 2. Initial notification for construction of an on-site Class 2 industrial landfill, including engineering plans and a landfill operations plan, was provided to the Texas Natural Resource Conservation Commission (TNRCC) by GNB Technologies, Inc. in August 1995. TNRCC acknowledgement of receipt and review of the notification was provided in a September 14, 1995, letter. Landfill construction commenced thereafter and FOP 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 FOP [1] and remediation activities at the Undeveloped Buffer Property (UBP) initiated in early 2017. In June 2018, a temporary cover was installed at the Landfill following completion of remediation activities at the UBP.

1.2 Uppermost Groundwater-Bearing Unit

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

1.3 Monitoring Well System

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

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

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

2.0 FIELD SAMPLING ACTIVITIES

2.1 Groundwater Sampling

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

Prior to sampling, monitoring wells were inspected and the condition of the protective covers, concrete pads, riser pipes, and well caps were recorded on monitoring well inspection forms, which are included in Appendix A. Next, monitoring well depths to water and total well depths were noted on field forms which are summarized on Table 1 for the third quarter event and Table 2 for the fourth quarter event. The electronic water level probe was decontaminated with Alconox® solution and a deionized 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 0.3 liters per minute was sustained during purging.

After purging was completed, groundwater samples were collected using a peristaltic pump with new polyethylene tubing. Groundwater sampled for dissolved metals analysis was field filtered using disposable (one-time use) 0.45-micron filters and transferred into laboratory-supplied containers pre-preserved with nitric acid. The turbidity was not above 10 nephelometric turbidity units (NTU) at the time of sampling and no filtering of samples for total metals analysis was required. The monitoring wells were sampled for total metals analysis by filling laboratory-supplied containers pre-preserved with nitric acid directly from the pump discharge tubing. One duplicate sample was collected for Quality Assurance/Quality Control (QA/QC) during the sampling events.

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

Purged groundwater and decontamination water were containerized in 55-gallon steel drums and staged as directed by Exide personnel (at the time of the third quarter sampling event) or City of Frisco employee (at the time of the fourth quarter sampling event). Approximately 15.0 and 14.2 gallons of purged groundwater were containerized during the third and fourth quarter events, respectively. The monitoring wells were locked prior to demobilization from the Site.

2.2 Well Inspection and Purging Summary

2.2.1 Third Quarter Event (August 2020)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either August 26th or August 27th as described in Section 2.1. Each monitoring well was found locked upon arrival. At the time of sampling, the weather was cloudy or sunny with daytime high temperatures in the eighties to nineties degrees Fahrenheit. During the September sampling event, monitoring wells MW-47, MW-41, LMW-21, LMW-5, LMW-17, and PMW-

19R stabilized within four parameter readings and LMW-22, LMW-9R, PMW-20R, LMW-8, and MW-45 stabilized within five parameter readings.

2.2.2 Fourth Quarter Event (December 2020)

Each of the monitoring wells sampled at the Landfill were purged and sampled on either December 7th or December 8th as described in Section 2.1. Each monitoring well was found locked upon arrival. At the time of sampling, the weather was sunny with daytime high temperatures in the fifties and sixties degrees Fahrenheit. During the December sampling, monitoring wells MW-41, LMW-21, LMW-5, LMW-17, and PMW-19R stabilized within four parameter readings. Monitoring wells LMW-22, MW-47, PMW-20R, LMW-8, and MW-45 stabilized within five parameter readings and LMW-9R stabilized within six parameter readings. All wells and well pads appeared to be in good condition at the time of sampling.

3.0 RESULTS

3.1 Groundwater Flow

Monitoring well water level data for the third and fourth quarter events are summarized in Table 1 and Table 2, respectively. In the Landfill area, the potentiometric surfaces shown on Figures 3 and 4 generally slope toward the southwest at a gradient of approximately 0.03 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 past groundwater monitoring events.

3.2 Analytical Results

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

3.3 QA/QC Samples

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

3.4 Data Validation

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

4.0 CLOSING

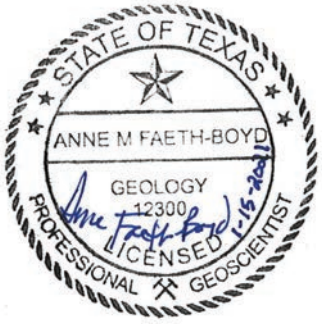
Golder appreciates the opportunity to serve as your consultant on this project. If you have any questions concerning this report or need additional information, please contact the undersigned at 314-984-8800.

Golder Associates Inc.

Emily Forthaus

Emily P. Forthaus
Project Geological Engineer

Anne Faeth-Boyd



Anne M. Faeth-Boyd, P.G.
Associate and Senior Consultant

EPF/AMF

5.0 REFERENCES

[1] Pastor, Behling & Wheeler, LLC. (July 31, 2013). *Revised Class 2 Landfill Groundwater Monitoring Plan*.

[2] Texas Commission on Environmental Quality (April 4, 2014). *Approval with Modifications, Class 2 Landfill Groundwater Monitoring Plan, dated July 31, 2013*.

Tables

TABLE 1
THIRD QUARTER 2020
SUMMARY OF MONITORING WELL DATA
NORTH CAMU
FORMER EXIDE FRISCO RECYCLING FACILITY
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	12.98	647.88	22.55	10 - 20	2	9.57	1.6	1.25
PMW-19R	2/26/2013	678.45	681.79	18.41	663.38	22.70	4 - 19	2	4.29	0.7	0.8
LMW-9R	3/1/2016	661.39	664.31	13.88	650.43	32.94	15 - 30	2	19.06	3.1	1.25
LMW-8	2/4/1995	645.57	648.72	15.23	633.49	24.05	7 - 21.5	2	8.82	1.4	1.00
LMW-22	2/27/2013	643.32	646.99	16.51	630.48	23.15	5 - 20	2	6.64	1.1	1.25
LMW-17	7/24/1995	646.34	648.70	18.01	630.69	25.43	10 - 20	4	7.42	4.8	1.60
LMW-5	2/3/1995	643.27	646.07	15.97	630.10	25.27	7 - 21.5	2	9.30	1.5	1.60
LMW-21	2/27/2013	645.12	648.28	18.43	629.85	28.09	10 - 25	2	9.66	1.6	1.60
PMW-20R	2/26/2013	645.20	648.09	18.31	629.78	28.27	10 - 25	2	9.96	1.6	2.00
MW-41	1/14/2014	639.17	642.17	11.17	631.00	19.15	6 - 16	2	7.98	1.3	1.60
MW-47	5/2/2017	635.65	638.28	7.02	631.26	17.95	7.5 - 15	2	10.93	1.8	1.00
MW-42	1/14/2014	638.71	642.24	7.76	634.48	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	11.27	635.97	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 = $\frac{\pi D^2}{4} * 7.5 * Water\ Column\ Height$, where 7.5 is a factor conversion from cubic feet to gallons, and D is the diameter of the casing.
Groundwater levels measured on August 26, 2020.
AMSL - above mean sea level
BTOC - below top of casing
BGS - below ground surface
NS - not sampled
CAMU - Corrective Action Management Unit

Prepared by: BTT 09/08/2020
Checked by: EPF 09/22/2020
Reviewed by: AMF 12/30/2020

TABLE 2
FOURTH QUARTER 2020
SUMMARY OF MONITORING WELL DATA
NORTH CAMU
FORMER EXIDE FRISCO RECYCLING FACILITY
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	13.14	647.72	22.57	10 - 20	2	9.43	1.5	1.25
PMW-19R	2/26/2013	678.45	681.79	19.23	662.56	22.70	4 - 19	2	3.47	0.6	0.8
LMW-9R	3/1/2016	661.39	664.31	14.91	649.40	32.91	15 - 30	2	18.00	2.9	1.5
LMW-8	2/4/1995	645.57	648.72	15.11	633.61	24.05	7 - 21.5	2	8.94	1.5	1.0
LMW-22	2/27/2013	643.32	646.99	16.58	630.41	23.15	5 - 20	2	6.57	1.1	1.25
LMW-17	7/24/1995	646.34	648.70	18.06	630.64	25.44	10 - 20	4	7.38	4.8	1.6
LMW-5	2/3/1995	643.27	646.07	16.16	629.91	25.25	7 - 21.5	2	9.09	1.5	1.2
LMW-21	2/27/2013	645.12	648.28	18.71	629.57	28.08	10 - 25	2	9.37	1.5	1.2
PMW-20R	2/26/2013	645.20	648.09	18.42	629.67	28.25	10 - 25	2	9.83	1.6	1.6
MW-41	1/14/2014	639.17	642.17	10.49	631.68	19.15	6 - 16	2	8.66	1.4	1.2
MW-47	5/2/2017	635.65	638.28	6.48	631.80	17.93	7.5 - 15	2	11.45	1.9	1.6
MW-42	1/14/2014	638.71	642.24	8.46	633.78	NS	5-15	2	NS	NS	NS
P-1	5/8/1990	645.95	647.24	11.51	635.73	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 $=\frac{\pi D^2}{4} * 7.5 * Water\ Column\ Height$, where 7.5 is a factor conversion from cubic feet to gallons, and D is the diameter of the casing.
Groundwater levels measured on December 7, 2020.
AMSL - above mean sea level
BTOC - below top of casing
BGS - below ground surface
NS - not sampled
CAMU - Corrective Action Management Unit

Prepared by: AMM 12/09/2020
Checked by: EPF 12/10/2020
Reviewed by: AMF 12/20/2020

TABLE 3
THIRD QUARTER 2020
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CLASS 2 LANDFILL NORTH CAMU
FORMER EXIDE FRISCO RECYCLING FACILITY
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				HS20081252-07			HS20081252-05			HS20081252-06			HS20081252-01			HS20081252-08			HS20081252-02		
Date Sampled				8/26/2020			8/26/2020			8/26/2020			8/26/2020			8/26/2020			8/26/2020		
Time Sampled				14:32			13:16			13:49			10:45			15:08			11:20		
Metals (USEPA Method 6020A) Total Recoverable																					
Date Prepared				8/31/2020			8/31/2020			8/31/2020			8/31/2020			8/31/2020			8/31/2020		
Date Analyzed				8/31/2020			8/31/2020			8/31/2020			8/31/2020			8/31/2020			8/31/2020		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Antimony	7440-36-0	0.006	0.006	NS			NS			NS			NS			NS			NS		
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U	0.000400	0.000400	U	0.000400	0.000873	U	0.000400	0.000631	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	***0.00119***	***J***	0.000600	***0.00114***	***J***	0.000600	***0.000851***	***J***	0.000600	0.000600	U	0.000600	***0.00123***	***J***	0.000600	0.000600	U	0.000600
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	0.00110	U	0.00110	***0.00517***		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			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
Metals (USEPA Method 6020A) Dissolved																					
Date Prepared				9/1/2020			9/1/2020			9/1/2020			9/1/2020			9/1/2020			9/1/2020		
Date Analyzed				9/3/2020			9/3/2020			9/3/2020			9/2/2020			9/3/2020			9/3/2020		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Antimony	7440-36-0	0.006	0.006	NS			NS			NS			NS			NS			NS		
Arsenic	7440-38-2	0.01	0.01	0.000400	U	0.000400	0.000400	U	0.000400	***0.000571***	***J***	0.000400	***0.000558***	***J***	0.000400	***0.000595***	***J***	0.000400	***0.000932***	***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	***0.00112***	***J***	0.00110	0.00110	U	0.00110	***0.00531***		0.00110	***0.00120***	***J***	0.00110	0.00110	U	0.00110	***0.00146***	***J***	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
Mercury (USEPA Method 7470A)																					
Date Prepared				N/A			N/A			N/A			N/A			N/A			N/A		
Date Analyzed				N/A			N/A			N/A			N/A			N/A			N/A		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Mercury	7439-97-6	0.002	0.002	NS			NS			NS			NS			NS			NS		
Mercury (USEPA Method 7470A) Dissolved																					
Date Prepared				N/A			N/A			N/A			N/A			N/A			N/A		
Date Analyzed				N/A			N/A			N/A			N/A			N/A			N/A		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Mercury	7439-97-6	0.002	0.002	NS			NS			NS			NS			NS			NS		

Notes
Results in ***bold italics*** denote detections.
Results highlighted in ***yellow*** denote applicable RAL or PCL exceedances.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
N/A - Not Applicable.
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.
Some sample detections were qualified non-detect based on the detection in the associated method blank; see data usability summary in Appendix D for more information.

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

Prepared by: BTT 09/08/2020
Checked by: EPF 12/22/2020
Reviewed by: AMF 12/30/2020

TABLE 3
THIRD QUARTER 2020
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CLASS 2 LANDFILL NORTH CAMU
FORMER EXIDE FRISCO RECYCLING FACILITY
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				HS20081252-10			HS-20081252-03			HS20081252-04			HS19090490-11			HS20081252-09			HS20081252-12		
Date Sampled				8/26/2020			8/26/2020			8/26/2020			8/27/2020			8/26/2020			8/26/2020		
Time Sampled				16:26			12:00			12:40			8:34			15:47			13:16		
Metals (USEPA Method 6020A) Total Recoverable																					
Date Prepared				8/31/2020			8/31/2020			8/31/2020			8/31/2020			8/31/2020			8/31/2020		
Date Analyzed				9/3/2020			8/31/2020			8/31/2020			9/3/2020			8/31/2020			9/3/2020		
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	0.000554	U	0.000400	0.000431	U	0.000400	0.000400	U	0.000400	***0.00932***		0.000400	0.000485	U	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	***0.00126***	***J***	0.000600
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	***0.0126***		0.00110	***0.00138***	***J***	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
Metals (USEPA Method 6020A) Dissolved																					
Date Prepared				9/1/2020			9/1/2020			9/1/2020			9/1/2020			9/1/2020			9/1/2020		
Date Analyzed				9/3/2020			9/3/2020			9/3/2020			9/3/2020			9/3/2020			9/3/2020		
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	***0.000662***	***J***	0.000400	***0.000492***	***J***	0.000400	***0.000515***	***J***	0.000400	***0.00721***		0.000400	***0.000455***	***J***	0.000400	***0.000463***	***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	0.00110	U	0.00110	***0.0109***		0.00110	***0.00138***	***J***	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
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.
Results highlighted in ***yellow*** denote applicable RAL or PCL exceedances.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
N/A - Not Applicable.
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.
Some sample detections were qualified non-detect based on the detection in the associated method blank; see data usability summary in Appendix D for more information.

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

Prepared by: BTT 09/08/2020
Checked by: EPF 12/22/2020
Reviewed by: AMF 12/30/2020

TABLE 4
FOURTH QUARTER 2020
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CLASS 2 LANDFILL NORTH CAMU
FORMER EXIDE FRISCO RECYCLING FACILITY
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				HS20120485-07			HS20120485-05			HS20120485-06			HS20120485-01			HS20120485-08			HS20120485-02		
Date Sampled				12/7/2020			12/7/2020			12/7/2020			12/7/2020			12/7/2020			12/7/2020		
Time Sampled				14:40			13:30			14:03			11:15			15:14			11:50		
Metals (USEPA Method 6020A) Total Recoverable																					
Date Prepared				12/15/2020			12/15/2020			12/15/2020			12/15/2020			12/15/2020			12/15/2020		
Date Analyzed				12/17/2020			12/17/2020			12/17/2020			12/17/2020			12/17/2020			12/16/2020		
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	***0.000681***	***J***	0.000400	***0.00106***	***J***	0.000400	***0.00125***	***J***	0.000400	***0.000907***	***J***	0.000400	***0.00403***		0.000400	***0.00163***	***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	***0.00107***	***J***	0.000600	***0.000725***	***J***	0.000600	***0.00635***		0.000600	0.000600	U	0.000600	***0.000835***	***J***	0.000600	***0.000659***	***J***	0.000600
Selenium	7782-49-2	0.05	0.05	0.00110	U	0.00110	***0.00164***	***J***	0.00110	***0.00411***		0.00110	***0.00188***	***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				12/11/2020			12/11/2020			12/11/2020			12/11/2020			12/11/2020			12/11/2020		
Date Analyzed				12/16/2020			12/16/2020			12/16/2020			12/16/2020			12/16/2020			12/16/2020		
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	***0.000414***	***J***	0.000400	***0.000626***	***J***	0.000400	***0.000814***	***J***	0.000400	***0.000574***	***J***	0.000400	***0.000960***	***J***	0.000400	***0.000974***	***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	***0.000740***	***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	0.00110	U	0.00110	0.00110	U	0.00110	***0.00285***		0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
Mercury (USEPA Method 7470A)																					
Date Prepared				N/A			N/A			N/A			N/A			N/A			N/A		
Date Analyzed				N/A			N/A			N/A			N/A			N/A			N/A		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Mercury	7439-97-6	0.002	0.002	NS			NS			NS			NS			NS			NS		
Mercury (USEPA Method 7470A) Dissolved																					
Date Prepared				N/A			N/A			N/A			N/A			N/A			N/A		
Date Analyzed				N/A			N/A			N/A			N/A			N/A			N/A		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Mercury	7439-97-6	0.002	0.002	NS			NS			NS			NS			NS			NS		

Notes
Results in ***bold italics*** denote detections.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
N/A - Not Applicable.
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 Method Detection Limit (SDL).
J - Result is an estimated value.

Prepared by: PBS 12/22/2020
Checked by: EPF 12/22/2020
Reviewed by: AMF 12/30/2020

TABLE 4
FOURTH QUARTER 2020
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CLASS 2 LANDFILL NORTH CAMU
FORMER EXIDE FRISCO RECYCLING FACILITY
FRISCO, TEXAS

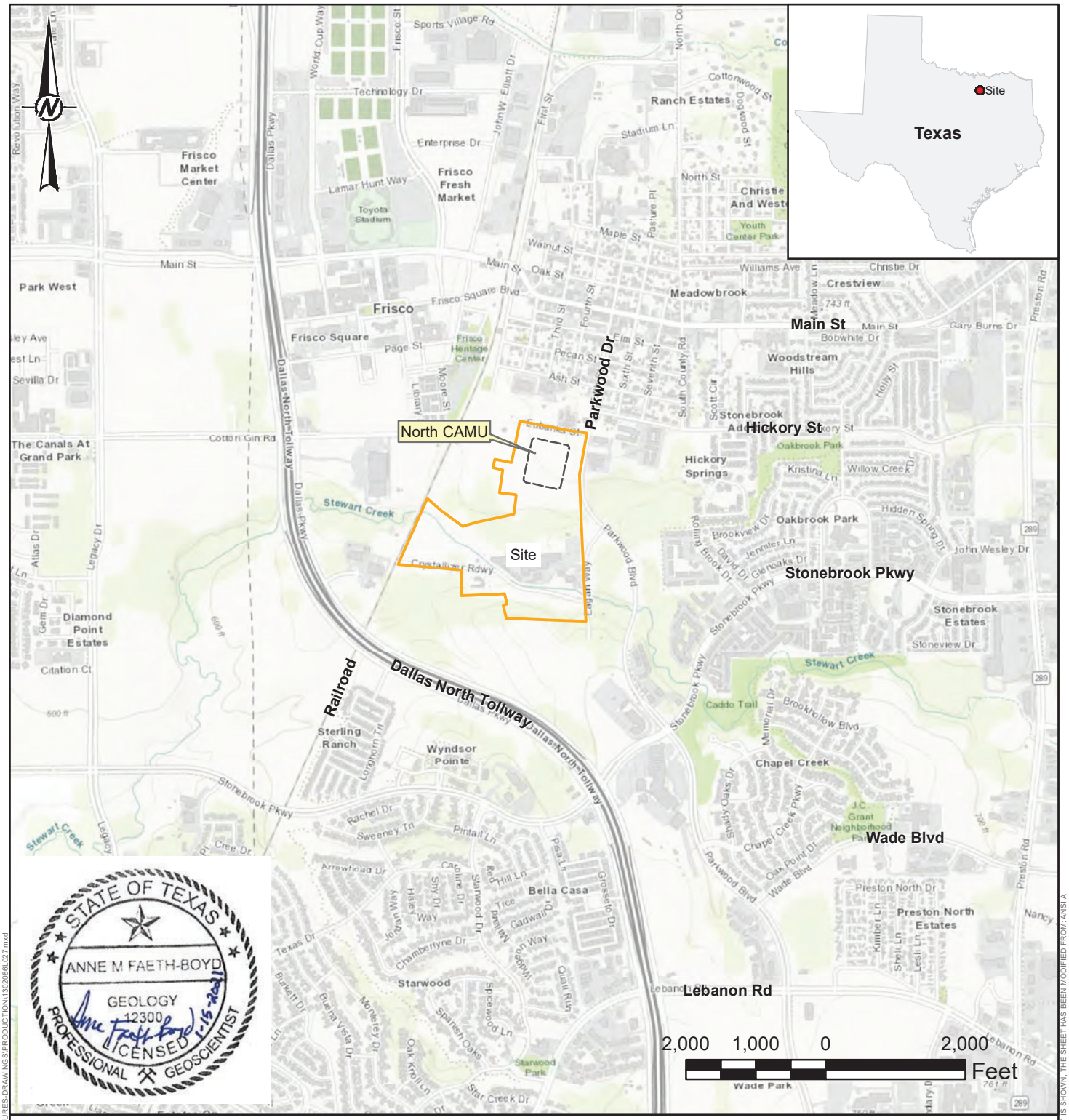
Monitoring Well				LMW-9R		SDL	LMW-8		SDL	LMW-17		SDL	LMW-22		SDL	MW-47		SDL	DUP-01		SDL
Lab Sample ID				HS20120485-10			HS20120485-03			HS20120485-04			HS20120485-11			HS20120485-09			HS20120485-12		
Date Sampled				12/7/2020			12/7/2020			12/7/2020			12/8/2020			12/7/2020			12/7/2020		
Time Sampled				16:40			12:10			12:55			9:16			15:55			13:30		
Metals (USEPA Method 6020A) Total Recoverable																					
Date Prepared				12/15/2020			12/15/2020			12/15/2020			12/15/2020			12/15/2020			12/15/2020		
Date Analyzed				12/17/2020			12/16/2020			12/16/2020			12/17/2020			12/17/2020			12/17/2020		
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	***0.00198***	***J***	0.000400	***0.00142***	***J***	0.000400	***0.000663***	***J***	0.000400	***0.00855***		0.000400	***0.000676***	***J***	0.000400	***0.000655***	***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	***0.000670***	***J***	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	***0.00311***		0.00110	***0.00695***		0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
Metals (USEPA Method 6020A) Dissolved																					
Date Prepared				12/11/2020			12/11/2020			12/11/2020			12/11/2020			12/11/2020			12/11/2020		
Date Analyzed				12/16/2020			12/16/2020			12/16/2020			12/16/2020			12/16/2020			12/16/2020		
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	***0.00210***		0.000400	***0.000894***	***J***	0.000400	***0.000675***	***J***	0.000400	***0.00750***		0.000400	***0.000588***	***J***	0.000400	***0.000650***	***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	***0.00102***	***J***	0.000600
Selenium	7782-49-2	0.05	0.05	***0.00313***		0.00110	***0.00748***		0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110	0.00110	U	0.00110
Silver	7440-22-4	0.12	0.37	NS			NS			NS			NS			NS			NS		
Zinc	7440-66-6	7.3	22	NS			NS			NS			NS			NS			NS		
Mercury (USEPA Method 7470A)																					
Date Prepared				N/A			N/A			N/A			N/A			N/A			N/A		
Date Analyzed				N/A			N/A			N/A			N/A			N/A			N/A		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Mercury	7439-97-6	0.002	0.002	NS			NS			NS			NS			NS			NS		
Mercury (USEPA Method 7470A) Dissolved																					
Date Prepared				N/A			N/A			N/A			N/A			N/A			N/A		
Date Analyzed				N/A			N/A			N/A			N/A			N/A			N/A		
Analyte	**CAS No.**	**RAL[1] (mg/L)**	**PCL[2] (mg/L)**	**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**			**(mg/L)**		
Mercury	7439-97-6	0.002	0.002	NS			NS			NS			NS			NS			NS		

Notes
Results in ***bold italics*** denote detections.
USEPA - United States Environmental Protection Agency.
RAL - Residential Assessment Level.
PCL - Protective Concentration Level.
SDL - Sample Detection Limit.
TRRP - Texas Risk Reduction Program.
N/A - Not Applicable.
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 Method Detection Limit (SDL).
J - Result is an estimated value.

Prepared by: PBS 12/22/2020
Checked by: EPF 12/22/2020
Reviewed by: AMF 12/30/2020

Figures



LEGEND

Former Operating Plant Property Boundary

NOTES:

1. CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

REFERENCE

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

CLIENT
FRISCO COMMUNITY DEVELOPMENT CORPORATION
FRISCO, TX

PROJECT
NORTH CAMU GROUNDWATER MONITORING

TITLE
SITE LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	12/17/2020
PREPARED	EFT
DESIGN	EPF
REVIEW	EPF
APPROVED	AMF

PROJECT No.	CONTROL	Rev.	FIGURE
20409062	1302086L027.mxd	0	1

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

Path: G:\Projects\130\Projects\1302086-05 - Exide North CAMU GW and French Drain\800 - FIGURES-DRAWINGS\PRODUCTION\1302086L027.mxd

LEGEND

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

STATE OF TEXAS
ANNE M FAETH-BOYD
GEOLOGY
12300
LICENSED
PROFESSIONAL GEOSCIENTIST

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, AEROGRID, IGN, 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
MONITORING WELL LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	12/17/2020
PREPARED	EFT
DESIGN	EPF
REVIEW	EPF
APPROVED	AMF

PROJECT No. 20409062 | CONTROL 1302086L028.mxd | Rev. 0 | FIGURE 2

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

Path: G:\Projects\1302086-05 - Exide North CAMU GW and French Drain\800 - FIGURES-DRAWINGS\PRODUCTION\1302086L028.mxd

LEGEND

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

STATE OF TEXAS
ANNE M FAETH-BOYD
GEOLOGY
12300
LICENSED
PROFESSIONAL GEOSCIENTIST
1-15-2021

NOTES

1. GROUNDWATER ELEVATIONS MEASURED AUGUST 26, 2020.
2. MSL = MEAN SEA LEVEL
3. CONTOUR INTERVAL = 5 FEET
4. LMW-9 COLLAPSED AND WAS REPLACED WITH LMW-9R IN MARCH 2016 AND LMW-9 WAS SUBSEQUENTLY ABANDONED IN MAY 2017.
5. CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

REFERENCE

1. AERIAL IMAGERY - SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.
2. 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
AUGUST 2020

CONSULTANT
GOLDER

YYYY-MM-DD	01/08/2021
PREPARED	EFT
DESIGN	EPF
REVIEW	EPF
APPROVED	AMF

PROJECT No.	CONTROL	Rev.	FIGURE
20409062	1302086L033.mxd	0	3

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

Path: \\STL-1-V-FS1\Common\Projects\130 Projects\1302086-06 - Exide North CAMU GW and French Drain\800 - FIGURES-DRAWINGS\PRODUCTION\1302086L033.mxd

LEGEND

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

STATE OF TEXAS
ANNE M FAETH-BOYD
GEOLOGY
12300
LICENSED
PROFESSIONAL GEOSCIENTIST
1-15-2021

NOTES

1. GROUNDWATER ELEVATIONS MEASURED DECEMBER 7, 2020.
2. MSL = MEAN SEA LEVEL
3. CONTOUR INTERVAL = 5 FEET
4. LMW-9 COLLAPSED AND WAS REPLACED WITH LMW-9R IN MARCH 2016 AND LMW-9 WAS SUBSEQUENTLY ABANDONED IN MAY 2017.
5. CAMU – CORRECTIVE ACTION MANAGEMENT UNIT

REFERENCE

1. AERIAL IMAGERY - SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.
2. 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
DECEMBER 2020

CONSULTANT
GOLDER

YYYY-MM-DD	01/08/2021
PREPARED	EFT
DESIGN	EPF
REVIEW	EPF
APPROVED	AMF

PROJECT No.	CONTROL	Rev.	FIGURE
20409062	1302086L034.mxd	0	4

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

Path: \\STL-1-V-FS1\Common\Projects\130 Projects\1302086-06 - Exide North CAMU GW and French Drain\800 - FIGURES-DRAWINGS\PRODUCTION\1302086L034.mxd

APPENDIX A

Monitoring Well Inspection Forms

GOLDER

Monitoring Well Inspection Form

Project Name: Exide North CAMU GW Monitoring **Location:** Frisco, TX **Project No.:** 130-2086-05

Well No.	Date of Inspection	Is Well Easilly Identified (name written on casing) Y /N	Is Surface Completion in Good Condition Y /N	Is Well Outer Casing In Good Condition Y /N	Is Well Inner Casing In Good Condition Y /N	Is Well Secured, ie Locked Y /N	By	Action Required
MW-45	8-26-20	Y	Y	Y	Y	Y	JTB	N/A
PMW-19R		Y	Y	Y	Y	Y		
LMW-8		Y	Y	Y	Y	Y		
LMW-17		Y	Y	Y	Y	Y		
LMW-5		Y	Y	Y	Y	Y		
LMW-21		Y	Y	Y	Y	Y		
PMW-20R		Y	Y	Y	Y	Y		
MW-47		Y	Y	Y	Y	Y		
MW-41		Y	Y	Y	Y	Y		
LMW-9R		Y	Y	Y	Y	Y		
LMW-22		Y	Y	Y	Y	Y		

GOLDER

Monitoring Well Inspection Form

Project Name: North CAMU GW Monitoring **Location:** Frisco, TX **Project No.:** 20409062

Well No.	Date of Inspection	Is Well Easilly Identified (name written on casing) Y /N	Is Surface Completion in Good Condition Y /N	Is Well Outer Casing In Good Condition Y /N	Is Well Inner Casing In Good Condition Y /N	Is Well Secured, ie Locked Y /N	By	Action Required
MW-45	12-7-20	Y	Y	Y	Y	Y	JTB	N/A
PMW-19R		Y	Y	Y	Y	Y		
LMW-8		Y	Y	Y	Y	Y		
LMW-17		Y	Y	Y	Y	Y		
LMW-5		Y	Y	Y	Y	Y		
LMW-21		Y	Y	Y	Y	Y		
PMW-20R		Y	Y	Y	Y	Y		
MW-47		Y	Y	Y	Y	Y		
MW-41		Y	Y	Y	Y	Y		
LMW-9R		Y	Y	Y	Y	Y		
LMW-22		Y	Y	Y	Y	Y		

APPENDIX B

Groundwater Sampling Forms

GROUNDWATER SAMPLE COLLECTION FORM

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 88° Weather cloudy, [redacted] JTB

SAMPLE INFORMATION

Sample Location LMW-22 Sample No. LMW-22

Sample Date 8-27-20 Time 0834 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 0809 @200 mL/min

Water Level Before Purging: 16.51 FT BTOC TD: 23.15 FT BTOC

Well Volume: 6.64 FT x 0.163 gal/FT = 1.08 gallons

Volume Water Removed Before Sampling: 1.25 gallons

Water Level Before Sampling: _____ FT BTOC

Water Level After Sampling: _____ FT BTOC

Appearance of Sample: _____

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	0814	0819	0824	0829	0834
Volume Discharge	gals	0.25	0.50	0.75	1.00	1.25
pH	Standard	6.86	6.91	6.93	6.93	6.92
Spec. Cond.	mS/CM	1.234	1.079	1.029	1.036	1.041
Turbidity	NTU	4.71	3.29	3.36	3.34	3.34
Temperature	°C	20.17	20.29	20.31	20.31	20.29
Pump Rate	mL/min	200	200	200	200	200
Water Level	FT BTOC	16.82	16.87	16.91	16.92	16.91

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

[x] Peristaltic Pump, Submersible Pump, Hand Pump

Air-Lift Pump

Other _____

GROUNDWATER SAMPLE COLLECTION FORM

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 88° Weather cloudy

SAMPLE INFORMATION

Sample Location LMW-9R Sample No. LMW-9R

Sample Date 8-26-20 Time 1626 Sample By VTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1601 @ 200 mL/min

Water Level Before Purging: 13.88 FT BTOC TD: 32.94 FT BTOC

Well Volume: 19.06 FT x 0.163 gal/FT = 3.11 gallons

Volume Water Removed Before Sampling: 1.25 gallons

Water Level Before Sampling: 14.29 FT BTOC

Water Level After Sampling: 14.28 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1606	1611	1616	1621	1626
Volume Discharge	gals	0.25	0.50	0.75	1.00	1.25
pH	Standard	6.41	6.71	6.82	6.84	6.83
Spec. Cond.	mS/CM	2.716	2.467	2.131	2.139	2.141
Turbidity	NTU	14.2	12.1	9.31	9.71	9.68
Temperature	°C	20.61	20.81	20.82	20.86	20.87
Pump Rate	mL/min	200	200	200	200	200
Water Level	FT BTOC	14.21	14.26	14.30	14.29	14.29

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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 88° Weather cloudy

SAMPLE INFORMATION

Sample Location MW-47 Sample No. MW-47

Sample Date 8-26-20 Time 1547 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1527 @ 250 mL/min

Water Level Before Purging: 7.02 FT BTOC TD: 17.95 FT BTOC

Well Volume: 10.93 FT x 0.163 gal/FT = 1.78 gallons

Volume Water Removed Before Sampling: 1.00 gallons

Water Level Before Sampling: 7.46 FT BTOC

Water Level After Sampling: 7.47 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1532	1537	1542		1547
Volume Discharge	gals	0.25	0.50	0.75		1.00
pH	Standard	6.82	6.86	6.87		6.84
Spec. Cond.	mS/CM	1.269	1.310	1.312		1.316
Turbidity	NTU	8.62	7.12	7.17		7.19
Temperature	°C	20.31	20.29	20.28		20.29
Pump Rate	mL/min	250	250	250		250
Water Level	FT BTOC	7.39	7.46	7.47		7.46

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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 90° Weather P. cloudy

SAMPLE INFORMATION

Sample Location MW-41 Sample No. MW-41

Sample Date 8-26-20 Time 1508 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1448 @ 300 mL/min

Water Level Before Purging: 11.17 FT BTOC TD: 19.15 FT BTOC

Well Volume: 7.98 FT x 0.163 gal/FT = 1.30 gallons

Volume Water Removed Before Sampling: 1.60 gallons

Water Level Before Sampling: 11.53 FT BTOC

Water Level After Sampling: 11.52 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1453	1458	1503		1508
Volume Discharge	gals	0.40	0.80	1.20		1.60
pH	Standard	6.77	6.79	6.79		6.78
Spec. Cond.	mS/CM	1.126	1.139	1.141		1.141
Turbidity	NTU	6.16	5.92	5.94		5.95
Temperature	°C	20.62	20.66	20.67		20.67
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	11.42	11.49	11.53		11.52

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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 94° Weather SUNNY

SAMPLE INFORMATION

Sample Location PMW-20R Sample No. PMW-20R

Sample Date 8-26-20 Time 1432 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1407 @ 300 mL/min

Water Level Before Purging: 18.31 FT BTOC TD: 28.27 FT BTOC

Well Volume: 9.96 FT x 0.163 gal/FT = 1.62 gallons

Volume Water Removed Before Sampling: 2.00 gallons

Water Level Before Sampling: 18.78 FT BTOC

Water Level After Sampling: 18.78 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1412	1417	1422	1427	1432
Volume Discharge	gals	0.40	0.80	1.20	1.60	2.00
pH	Standard	6.86	6.84	6.82	6.81	6.82
Spec. Cond.	mS/CM	1.129	1.136	1.141	1.132	1.133
Turbidity	NTU	12.2	9.36	8.74	8.79	8.91
Temperature	°C	21.34	21.46	21.47	21.49	21.48
Pump Rate	mL/min	300	300	300	300	300
Water Level	FT BTOC	18.67	18.79	18.81	18.79	18.78

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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 94° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-21 Sample No. LMW-21

Sample Date 8-26-20 Time 1349 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1329 @ 300 mL/min

Water Level Before Purging: 18.43 FT BTOC TD: 28.09 FT BTOC

Well Volume: 9.66 FT x 0.163 gal/FT = 1.60 gallons

Volume Water Removed Before Sampling: 1.60 gallons

Water Level Before Sampling: 18.72 FT BTOC

Water Level After Sampling: 18.73 FT BTOC

Appearance of Sample: clear no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1334	1339	1344		1349
Volume Discharge	gals	0.40	0.80	1.20		1.60
pH	Standard	6.56	6.61	6.62		6.61
Spec. Cond.	mS/CM	1.579	1.591	1.596		1.594
Turbidity	NTU	34.1	8.6	8.9		6.7
Temperature	°C	21.71	21.74	21.75		21.73
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	18.67	18.71	18.71		18.72

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	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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 94° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-5 Sample No. LMW-5/DUP-01

Sample Date 8-26-20 Time 1316 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1256 @ 300 mL/min

Water Level Before Purging: 15.97 FT BTOC TD: 25.27 FT BTOC

Well Volume: 9.30 FT x 0.163 gal/FT = 1.52 gallons

Volume Water Removed Before Sampling: 1.60 gallons

Water Level Before Sampling: 16.36 FT BTOC

Water Level After Sampling: 16.36 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1301	1306	1311		1316
Volume Discharge	gals	0.40	0.80	1.20		1.60
pH	Standard	6.93	6.96	6.97		6.97
Spec. Cond.	mS/CM	0.717	0.729	0.732		0.731
Turbidity	NTU	6.92	7.17	7.21		7.16
Temperature	°C	20.61	20.74	20.77		20.76
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	16.26	16.33	16.35		16.36

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	NO	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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 93° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-17 Sample No. LMW-17

Sample Date 8-26-20 Time 1240 Sample By JRB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1220 @ 300 mL/min

Water Level Before Purging: 18.01 FT BTOC TD: 25.43 FT BTOC

Well Volume: 7.42 FT x 0.653 gal/FT = 1.21 gallons

Volume Water Removed Before Sampling: 1.60 gallons

Water Level Before Sampling: 18.42 FT BTOC

Water Level After Sampling: 18.43 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1225	1230	1235		1240
Volume Discharge	gals	0.40	0.80	1.20		1.60
pH	Standard	6.71	6.74	6.71		6.71
Spec. Cond.	mS/CM	0.771	0.762	0.761		0.764
Turbidity	NTU	JB 6.71	JB 6.39	JB 6.42		JB 6.41
Temperature	°C	20.91	21.06	21.09		21.11
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	18.34	18.41	18.43		18.42

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	ND	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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 92° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-8 Sample No. LMW-8

Sample Date 8-26-20 Time 1200 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1135 @ 200 mL/min

Water Level Before Purging: 15.23 FT BTOC TD: 24.05 FT BTOC

Well Volume: 8.82 FT x 0.163 gal/FT = 1.44 gallons

Volume Water Removed Before Sampling: 1.00 gallons

Water Level Before Sampling: 15.70 FT BTOC

Water Level After Sampling: 15.72 FT BTOC

Appearance of Sample: clear, no odor JB

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1140	1145	1150	1155	1200
Volume Discharge	gals	0.20	0.40	0.60	0.80	1.00
pH	Standard	6.56	6.62	6.64	6.63	6.62
Spec. Cond.	mS/CM	0.621	0.629	0.674	0.671	0.675
Turbidity	NTU	7.41	4.61	3.23	JB 3.27	3.26
Temperature	°C	18.92	19.16	19.22	19.21	19.20
Pump Rate	mL/min	200	200	200	200	200
Water Level	FT BTOC	15.61	15.67	15.69	15.71	15.70

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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 91° Weather SUNNY

SAMPLE INFORMATION

Sample Location PMW-19R Sample No. PMW-19R

Sample Date 8-26-20 Time 1120 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1100 @ 100 mL/min

Water Level Before Purging: 18.41 FT BTOC TD: 22.70 FT BTOC

Well Volume: 4.29 FT x 0.163 gal/FT = 0.70 gallons

Volume Water Removed Before Sampling: 0.8 gallons

Water Level Before Sampling: 18.68 FT BTOC

Water Level After Sampling: 18.71 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1105	1110	1115		1120
Volume Discharge	gals	0.2	0.4	0.6		0.8
pH	Standard	6.74	6.77	6.78		6.78
Spec. Cond.	S/CM	1496	1472	1475		1476
Turbidity	NTU	6.72	4.21	4.26		4.28
Temperature	°C	19.41	19.31	19.33		19.34
Pump Rate	mL/min	200	200	200		200
Water Level	FT BTOC	18.67	18.69	18.68		18.69

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

GOLDER

Project Ref: Exide North CAMU Groundwater Monitoring **Project No. :** 130-2086-05

WEATHER CONDITIONS

Temperature 82° Weather SUNNY

SAMPLE INFORMATION

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

Sample Date 8-26-20 Time 1045 Sample By JB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1020 @ 250 mL/min

Water Level Before Purging: 12.98 FT BTOC TD: 22.55 FT BTOC

Well Volume: 9.57 FT x 0.163 gal/FT = 1.56 gallons

Volume Water Removed Before Sampling: 1.25 gallons

Water Level Before Sampling: ~~13.25~~ 13.47 FT BTOC

Water Level After Sampling: 13.49 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1025	1030	1035	1040	1045
Volume Discharge	gals	0.25	0.50	0.75	1.0	1.25
pH	Standard	7.06	7.12	7.13	7.13	7.12
Spec. Cond.	mS/CM	0.469	0.512	0.529	0.531	0.526
Turbidity	NTU	6.74	3.81	4.62	4.09	4.12
Temperature	°C	20.61	20.72	20.73	20.71	20.71
Pump Rate	mL/min	250	250	250	250	250
Water Level	FT BTOC	13.29	13.41	13.46	13.~~4~~49 JB	13.49

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	ND	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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 65° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-22 Sample No. LMW-22

Sample Date 12-8-20 Time 0916 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @0851 Water Level Before Purging: 16.58 FT BTOC TD: 23.15 FT BTOC

Well Volume: 6.57 FT x 0.163 gal/FT = 1.0 gallons

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

Water Level Before Sampling: 16.72 FT BTOC

Water Level After Sampling: 16.71 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	0856	0901	0906	0911	0916
Volume Discharge	gals	.25	.50	.75	1.0	1.25
pH	Standard	6.74	6.79	6.89	6.91	6.90
Spec. Cond.	mS/CM	1.134	1.141	1.142	1.140	1.143
Turbidity	NTU	7.21	6.34	6.39	6.41	6.36
Temperature	°C	19.31	19.46	19.47	19.51	19.50
Pump Rate	mL/min	200	200	200	200	200
Water Level	FT BTOC	16.67	16.71	16.72	16.72	16.71

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 65° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-9R Sample No. LMW-9R

Sample Date 12-7-20 Time 1640 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1610 Water Level Before Purging: 14.91 FT BTOC TD: 32.92 FT BTOC

Well Volume: 18.01 FT x 0.163 gal/FT = 2.9 gallons

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

Water Level Before Sampling: 15.22 FT BTOC

Water Level After Sampling: 15.22 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement		Sample
Time	hhmm	1615	1620	1625	1630	1635	1640
Volume Discharge	gals	.25	.50	.75	1.0	1.25	1.5
pH	Standard	6.34	6.47	6.51	6.61	6.64	6.65
Spec. Cond.	mS/CM	2.741	2.829	2.674	2.679	2.671	2.670
Turbidity	NTU	4.34	5.16	5.17	5.21	5.29	5.26
Temperature	°C	20.41	20.46	20.41	20.42	20.44	20.44
Pump Rate	mL/min	200	200	200	200	200	200
Water Level	FT BTOC	14.99	15.16	15.19	15.21	15.22	15.22

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 60° Weather SUNNY

SAMPLE INFORMATION

Sample Location MW-47 Sample No. MW-47

Sample Date 12-7-20 Time 1555 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @1530 Water Level Before Purging: 6.48 FT BTOC TD: 17.94 FT BTOC

Well Volume: 11.46 FT x 0.163 gal/FT = 1.86 gallons

@250 mL/min Volume Water Removed Before Sampling: 1.6 gallons

Water Level Before Sampling: 6.81 FT BTOC

Water Level After Sampling: 6.82 FT BTOC

Appearance of Sample: Clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1535	1540	1545	1550	1555
Volume Discharge	gals	0.3	0.6	0.9	1.2	1.6
pH	Standard	6.71	6.79	6.83	6.81	6.82
Spec. Cond.	mS/CM	1.471	1.491	1.476	1.477	1.481
Turbidity	NTU	7.61	7.21	7.21	7.26	7.31
Temperature	°C	19.91	19.46	19.52	19.56	19.61
Pump Rate	mL/min	250	250	250	250	250
Water Level	FT BTOC	6.71	6.74	6.79	6.81	6.82

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 60° Weather SUNNY

SAMPLE INFORMATION

Sample Location MW-41 Sample No. MW-41

Sample Date 12-7-20 Time 1514 Sample By JDB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1454 Water Level Before Purging: 10.49 FT BTOC TD: 19.15 FT BTOC

Well Volume: 8.66 FT x 0.163 gal/FT = 1.4 gallons

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

Water Level Before Sampling: 10.69 FT BTOC

Water Level After Sampling: 16.70 FT BTOC

Appearance of Sample: Clear, No odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1459	1504	1509		1514
Volume Discharge	gals	0.3	0.6	0.9		1.2
pH	Standard	6.81	6.82	6.84		6.86
Spec. Cond.	mS/CM	1.174	1.179	1.162		1.167
Turbidity	NTU	8.21	8.34	8.41		8.46
Temperature	°C	19.21	19.34	19.39		19.41
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	10.62	10.67	10.69		10.70

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	ND	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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 60° Weather SUNNY

SAMPLE INFORMATION

Sample Location PMW-20R Sample No. PMW-20R

Sample Date 12-7-20 Time 1440 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @1415 Water Level Before Purging: 18.42 FT BTOC TD: 28.26 FT BTOC

Well Volume: 9.84 FT x 0.163 gal/FT = 1.6 gallons

@ 300 mL/min Volume Water Removed Before Sampling: 1.6 gallons

Water Level Before Sampling: 18.69 FT BTOC

Water Level After Sampling: 18.71 FT BTOC

Appearance of Sample: Clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1420	1425	1430	1435	1440
Volume Discharge	gals	0.3	0.6	0.9	1.2	1.6
pH	Standard	6.72	6.79	6.81	6.77	6.76
Spec. Cond.	mS/CM	1,072	1,061	1,066	1,071	1,067
Turbidity	NTU	4.32	4.61	4.66	4.63	4.64
Temperature	°C	20.17	20.21	20.31	20.36	20.41
Pump Rate	mL/min	300	300	300	300	300
Water Level	FT BTOC	18.61	18.67	18.65	18.69	18.71

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 60° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-21 Sample No. LMW-21

Sample Date 12-7-20 Time 1403 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1343 Water Level Before Purging: 18.71 FT BTOC TD: 28.07 FT BTOC

Well Volume: 9.36 FT x 0.163 gal/FT = 1.5 gallons

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

Water Level Before Sampling: 18.97 FT BTOC

Water Level After Sampling: 18.99 FT BTOC

Appearance of Sample: Clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1348	1353	1358		1403
Volume Discharge	gals	0.3	0.6	0.9		1.2
pH	Standard	6.71	6.77	6.79		6.77
Spec. Cond.	mS/CM	1.429	1.417	1.419		1.417
Turbidity	NTU	8.29	7.71	7.77		7.79
Temperature	°C	20.61	20.71	20.73		20.72
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	18.92	18.96	18.97		18.99

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 60° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-5 Sample No. LMW-5/DUP-01

Sample Date 12-7-20 Time 1330 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1310 Water Level Before Purging: 16.16 FT BTOC TD: 25.26 FT BTOC

Well Volume: 9.10 FT x 0.163 gal/FT = 1.48 gallons

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

Water Level Before Sampling: 16.39 FT BTOC

Water Level After Sampling: 16.42 FT BTOC

Appearance of Sample: clear no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1315	1320	1325		1330
Volume Discharge	gals	0.3	0.6	0.9		1.2
pH	Standard	7.12	7.04	7.05		7.04
Spec. Cond.	mS/CM	0.812	0.816	0.821		0.822
Turbidity	NTU	7.21	7.19	7.07		7.08
Temperature	°C	19.71	19.62	19.61		19.62
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	16.31	16.34	16.39		16.42

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	NO	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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 55° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-17 Sample No. LMW-17

Sample Date 12-7-20 Time 1255 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1235 Water Level Before Purging: 18.06 FT BTOC TD: 25.44 FT BTOC

Well Volume: 7.38 FT x 0.653 gal/FT = 4.8 gallons

@ 300 mL/min Volume Water Removed Before Sampling: 1.6 gallons

Water Level Before Sampling: 18.32 FT BTOC

Water Level After Sampling: 18.32 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1240	1245	1250		1255
Volume Discharge	gals	0.6	0.9	1.2		1.6
pH	Standard	7.21	7.07	7.12		7.13
Spec. Cond.	mS/CM	0.796	0.812	0.816		0813
Turbidity	NTU	3.21	3.06	3.07		3.09
Temperature	°C	19.86	19.94	19.96		19.97
Pump Rate	mL/min	300	300	300		300
Water Level	FT BTOC	18.22	18.31	18.32		18.32

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 50° Weather SUNNY

SAMPLE INFORMATION

Sample Location LMW-8 Sample No. LMW-8

Sample Date 12-7-20 Time 1210 Sample By JDB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1145 Water Level Before Purging: 15.11 FT BTOC TD: 24.05 FT BTOC

Well Volume: 8.94 FT x 0.163 gal/FT = 1.45 gallons

@ 200 mL/min Volume Water Removed Before Sampling: 1.00 gallons

Water Level Before Sampling: SB 1.00 15.51 FT BTOC

Water Level After Sampling: 15.52 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1150	1155	1200	1205	1210
Volume Discharge	gals	0.2	0.4	0.6	0.8	1.00
pH	Standard	6.71	6.63	6.61	6.61	6.59
Spec. Cond.	mS/CM	0.634	0.710	0.716	0.709	0.701
Turbidity	NTU	9.21	8.62	7.29	7.26	7.31
Temperature	°C	18.91	18.71	18.72	18.77	18.78
Pump Rate	mL/min	200	200	200	200	200
Water Level	FT BTOC	15.34	15.43	15.47	15.51	15.52

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 50° Weather SUNNY

SAMPLE INFORMATION

Sample Location PMW-19R Sample No. PMW-19R

Sample Date 12-7-20 Time 1150 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @1130 Water Level Before Purging: 19.23 FT BTOC TD: 22.69 FT BTOC

Well Volume: 3.46 FT x 0.163 gal/FT = 0.5 gallons

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

Water Level Before Sampling: 19.51 FT BTOC

Water Level After Sampling: 19.53 FT BTOC

Appearance of Sample: Clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1135	1140	1145		1150
Volume Discharge	gals	0.2	0.4	0.6		0.8
pH	Standard	6.79	6.77	6.76		6.76
Spec. Cond.	mS/CM	1.472	1.461	1.471		1.472
Turbidity	NTU	16.21	14.21	14.29		14.06
Temperature	°C	19.29	19.92	19.86		19.89
Pump Rate	mL/min	200	200	200		200
Water Level	FT BTOC	19.42	19.47	19.51		19.53

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

GOLDER

Project Ref: North CAMU Groundwater Monitoring **Project No. :** 20409062

WEATHER CONDITIONS

Temperature 45° Weather SUNNY

SAMPLE INFORMATION

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

Sample Date 12-7-20 Time 1115 Sample By JTB

Sample Method Peristaltic Pump Sample Type Grab

Begin Purge @ 1050 Water Level Before Purging: 13.14 FT BTOC TD: 22.57 FT BTOC

Well Volume: 9.43 FT x 0.163 gal/FT = 1.5 gallons

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

Water Level Before Sampling: 13.44 FT BTOC

Water Level After Sampling: 13.46 FT BTOC

Appearance of Sample: clear, no odor

FIELD MEASUREMENTS

Parameter	Units	Measurement	Measurement	Measurement	Measurement	Sample
Time	hhmm	1055	1100	1105	1110	1115
Volume Discharge	gals	.25	.50	.75	1.0	1.25
pH	Standard	7.06	7.03	7.01	7.06	7.05
Spec. Cond.	mS/CM	0.617	0.634	0.642	0.638	0.637
Turbidity	NTU	3.74	5.12	5.27	5.11	5.34
Temperature	°C	19.31	19.41	19.43	19.46	19.44
Pump Rate	mL/min	250	250	250	250	250
Water Level	FT BTOC	13.29	13.41	13.42	13.44	13.46

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	ND	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 04, 2020

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

Work Order: **HS20081252**

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

Dear Emily White,

ALS Environmental received 12 sample(s) on Aug 28, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates	**TRRP Laboratory Data Package Cover Page**
Project:	Exide North CAMU Groundwater Quarterly	
WorkOrder:	**HS20081252**	

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

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

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates	**TRRP Laboratory Data Package Cover Page**
Project:	Exide North CAMU Groundwater Quarterly	
WorkOrder:	**HS20081252**	

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: 09/04/2020				
Project Name: Exide North CAMU Groundwater Quarterly			Laboratory Job Number: HS20081252				
Reviewer Name: Dane Wacasey			Prep Batch Number: 156856,156866,156906				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 09/04/2020				
Project Name: Exide North CAMU Groundwater Quarterly			Laboratory Job Number: HS20081252				
Reviewer Name: Dane Wacasey			Prep Batch Number: 156856,156866,156906				
#[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: 09/04/2020
Project Name: Exide North CAMU Groundwater Quarterly	Laboratory Job Number: HS20081252
Reviewer Name: Dane Wacasey	Prep Batch Number: 156856,156866,156906

ER#[5]	Description
1	See Run Log and CCB Exceptions Report.

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

FORM 13 - ANALYSIS RUN LOG

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252
Start Date: 31-Aug-2020 End Date: 31-Aug-2020

Run ID:ICPMS06_367741
Instrument:ICPMS06
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	31-Aug-2020 13:00	038_ICV.d	AS CD PB SE
LLICV2	1	31-Aug-2020 13:01	039LCV2.d	AS CD PB SE
LLICV5	1	31-Aug-2020 13:03	040LCV5.d	AS CD PB SE
ICB	1	31-Aug-2020 13:05	041_ICB.d	AS CD PB SE
ICSA	1	31-Aug-2020 13:07	042ICSA.d	AS CD PB SE
ICSAB	1	31-Aug-2020 13:09	043ICSB.d	AS CD PB SE
CCV 1	1	31-Aug-2020 13:32	053_CCV.d	AS CD PB SE
CCB 1	1	31-Aug-2020 13:34	054_CCB.d	AS CD PB SE
CCV 2	1	31-Aug-2020 13:55	065_CCV.d	AS CD PB SE
CCB 2	1	31-Aug-2020 13:56	066_CCB.d	AS CD PB SE
CCV 3	1	31-Aug-2020 14:22	077_CCV.d	AS CD PB SE
CCB 3	1	31-Aug-2020 14:24	078_CCB.d	AS CD PB SE
CCV 4	1	31-Aug-2020 14:44	085_CCV.d	AS CD PB SE
CCB 4	1	31-Aug-2020 14:46	086_CCB.d	AS CD PB SE
CCV 5	1	31-Aug-2020 15:23	095_CCV.d	AS CD PB SE
CCB 5	1	31-Aug-2020 15:31	097_CCB.d	AS CD PB SE
CCV 6	1	31-Aug-2020 16:03	108_CCV.d	AS CD PB SE
CCB 6	1	31-Aug-2020 16:05	109_CCB.d	AS CD PB SE
CCB 7	1	31-Aug-2020 16:40	118_CCB.d	AS CD PB SE
CCV 7	1	31-Aug-2020 17:09	119_CCV.d	AS CD PB SE
CCV 8	1	31-Aug-2020 17:31	130_CCV.d	AS CD PB SE
CCB 8	1	31-Aug-2020 17:32	131_CCB.d	AS CD PB SE
CCB 9	1	31-Aug-2020 17:41	132_CCB.d	AS CD PB SE
CCV 9	1	31-Aug-2020 18:04	143_CCV.d	AS CD PB SE
CCB 10	1	31-Aug-2020 18:06	144_CCB.d	AS CD PB SE
CCV 10	1	31-Aug-2020 21:54	149_CCV.d	AS CD PB SE
CCB 11	1	31-Aug-2020 21:56	150_CCB.d	AS CD PB SE
MBLK-156856	1	31-Aug-2020 21:58	151SMPL.d	AS CD PB SE
LCS-156856	1	31-Aug-2020 22:00	152SMPL.d	AS CD PB SE
MW-45	1	31-Aug-2020 22:02	153SMPL.d	AS CD PB SE
MW-45SD	5	31-Aug-2020 22:04	154SMPL.d	AS CD PB SE
MW-45MSD	1	31-Aug-2020 22:07	156SMPL.d	AS CD PB SE
MW-45PDS	1	31-Aug-2020 22:09	157SMPL.d	AS CD PB SE
CCV 11	1	31-Aug-2020 22:11	158_CCV.d	AS CD PB SE
CCB 12	1	31-Aug-2020 22:13	159_CCB.d	AS CD PB SE
PMW-19R	1	31-Aug-2020 22:15	160SMPL.d	AS CD PB SE
LMW-8	1	31-Aug-2020 22:17	161SMPL.d	AS CD PB SE
LMW-17	1	31-Aug-2020 22:19	162SMPL.d	AS CD PB SE
LMW-5	1	31-Aug-2020 22:20	163SMPL.d	AS CD PB SE
LMW-21	1	31-Aug-2020 22:22	164SMPL.d	AS CD PB SE
PMW-20R	1	31-Aug-2020 22:24	165SMPL.d	AS CD PB SE
MW-41	1	31-Aug-2020 22:26	166SMPL.d	AS CD PB SE
MW-47	1	31-Aug-2020 22:28	167SMPL.d	AS CD PB SE
CCV 12	1	31-Aug-2020 22:34	170_CCV.d	AS CD PB SE
CCB 13	1	31-Aug-2020 22:36	171_CCB.d	AS CD PB SE
CCV 13	1	31-Aug-2020 22:56	182_CCV.d	AS CD PB SE
CCB 14	1	31-Aug-2020 22:58	183_CCB.d	AS CD PB SE
CCV 14	1	31-Aug-2020 23:06	187_CCV.d	AS CD PB SE
CCB 15	1	31-Aug-2020 23:08	188_CCB.d	AS CD PB SE
LLCCV2	1	31-Aug-2020 23:12	190LCV2.d	AS CD PB SE
LLCCV5	1	31-Aug-2020 23:13	191LCV5.d	AS CD PB SE

CCB EXCEPTIONS REPORT

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

Run ID:ICPMS06_367741
Instrument:ICPMS06
Method:SW6020

CCB 11 Date: 31-Aug-2020 21:56 Seq: 5722110 D/F: 1 Units: ug/L

Analyte	Result	MDL	Report Limit
Arsenic	0.475	0.4	2

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Work Order: HS20081252

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20081252-01	MW-45	Groundwater		26-Aug-2020 10:45	28-Aug-2020 10:30	☐
HS20081252-02	PMW-19R	Groundwater		26-Aug-2020 11:20	28-Aug-2020 10:30	☐
HS20081252-03	LMW-8	Groundwater		26-Aug-2020 12:00	28-Aug-2020 10:30	☐
HS20081252-04	LMW-17	Groundwater		26-Aug-2020 12:40	28-Aug-2020 10:30	☐
HS20081252-05	LMW-5	Groundwater		26-Aug-2020 13:16	28-Aug-2020 10:30	☐
HS20081252-06	LMW-21	Groundwater		26-Aug-2020 13:49	28-Aug-2020 10:30	☐
HS20081252-07	PMW-20R	Groundwater		26-Aug-2020 14:32	28-Aug-2020 10:30	☐
HS20081252-08	MW-41	Groundwater		26-Aug-2020 15:08	28-Aug-2020 10:30	☐
HS20081252-09	MW-47	Groundwater		26-Aug-2020 15:47	28-Aug-2020 10:30	☐
HS20081252-10	LMW-9R	Groundwater		26-Aug-2020 16:26	28-Aug-2020 10:30	☐
HS20081252-11	LMW-22	Groundwater		27-Aug-2020 08:34	28-Aug-2020 10:30	☐
HS20081252-12	DUP-01	Groundwater		26-Aug-2020 13:16	28-Aug-2020 10:30	☐

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: MW-45
Collection Date: 26-Aug-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	31-Aug-2020 22:02
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:02
Lead	U		0.000600	0.00200	mg/L	1	31-Aug-2020 22:02
Selenium	**0.00143**	J	**0.00110**	**0.00200**	**mg/L**	1	31-Aug-2020 22:02
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000558**	J	**0.000400**	**0.00200**	**mg/L**	1	02-Sep-2020 23:56
Cadmium	U		0.000200	0.00200	mg/L	1	02-Sep-2020 23:56
Lead	U		0.000600	0.00200	mg/L	1	02-Sep-2020 23:56
Selenium	**0.00120**	J	**0.00110**	**0.00200**	**mg/L**	1	02-Sep-2020 23:56

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: PMW-19R
Collection Date: 26-Aug-2020 11:20

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	**0.000631**	J	**0.000400**	**0.00200**	**mg/L**	1	31-Aug-2020 22:15
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:15
Lead	U		0.000600	0.00200	mg/L	1	31-Aug-2020 22:15
Selenium	U		0.00110	0.00200	mg/L	1	31-Aug-2020 22:15
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000932**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:09
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:09
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:09
Selenium	**0.00146**	J	**0.00110**	**0.00200**	**mg/L**	1	03-Sep-2020 00:09

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: LMW-8
Collection Date: 26-Aug-2020 12:00

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	**0.000431**	J	**0.000400**	**0.00200**	**mg/L**	1	31-Aug-2020 22:17
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:17
Lead	U		0.000600	0.00200	mg/L	1	31-Aug-2020 22:17
Selenium	**0.0126**		**0.00110**	**0.00200**	**mg/L**	1	31-Aug-2020 22:17
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000492**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:11
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:11
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:11
Selenium	**0.0109**		**0.00110**	**0.00200**	**mg/L**	1	03-Sep-2020 00:11

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: LMW-17
Collection Date: 26-Aug-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	31-Aug-2020 22:19
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:19
Lead	U		0.000600	0.00200	mg/L	1	31-Aug-2020 22:19
Selenium	**0.00138**	J	**0.00110**	**0.00200**	**mg/L**	1	31-Aug-2020 22:19
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000515**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:13
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:13
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:13
Selenium	**0.00138**	J	**0.00110**	**0.00200**	**mg/L**	1	03-Sep-2020 00:13

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: LMW-5
Collection Date: 26-Aug-2020 13:16

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	31-Aug-2020 22:20
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:20
Lead	**0.00114**	J	**0.000600**	**0.00200**	**mg/L**	1	31-Aug-2020 22:20
Selenium	U		0.00110	0.00200	mg/L	1	31-Aug-2020 22:20
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	03-Sep-2020 00:15
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:15
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:15
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 00:15

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: LMW-21
Collection Date: 26-Aug-2020 13:49

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	31-Aug-2020 22:22
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:22
Lead	**0.000851**	J	**0.000600**	**0.00200**	**mg/L**	1	31-Aug-2020 22:22
Selenium	**0.00517**		**0.00110**	**0.00200**	**mg/L**	1	31-Aug-2020 22:22
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000571**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:17
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:17
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:17
Selenium	**0.00531**		**0.00110**	**0.00200**	**mg/L**	1	03-Sep-2020 00:17

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: PMW-20R
Collection Date: 26-Aug-2020 14:32

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	31-Aug-2020 22:24
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:24
Lead	**0.00119**	J	**0.000600**	**0.00200**	**mg/L**	1	31-Aug-2020 22:24
Selenium	U		0.00110	0.00200	mg/L	1	31-Aug-2020 22:24
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	03-Sep-2020 00:19
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:19
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:19
Selenium	**0.00112**	J	**0.00110**	**0.00200**	**mg/L**	1	03-Sep-2020 00:19

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: MW-41
Collection Date: 26-Aug-2020 15:08

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	**0.000873**	J	**0.000400**	**0.00200**	**mg/L**	1	31-Aug-2020 22:26
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:26
Lead	**0.00123**	J	**0.000600**	**0.00200**	**mg/L**	1	31-Aug-2020 22:26
Selenium	U		0.00110	0.00200	mg/L	1	31-Aug-2020 22:26
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000595**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:21
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:21
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:21
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 00:21

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: MW-47
Collection Date: 26-Aug-2020 15:47

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	**0.000485**	J	**0.000400**	**0.00200**	**mg/L**	1	31-Aug-2020 22:28
Cadmium	U		0.000200	0.00200	mg/L	1	31-Aug-2020 22:28
Lead	U		0.000600	0.00200	mg/L	1	31-Aug-2020 22:28
Selenium	U		0.00110	0.00200	mg/L	1	31-Aug-2020 22:28
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000455**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:23
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:23
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:23
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 00:23

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: LMW-9R
Collection Date: 26-Aug-2020 16:26

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	**0.000554**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 21:35
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 21:35
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 21:35
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 21:35
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000662**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:25
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:25
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:25
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 00:25

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: LMW-22
Collection Date: 27-Aug-2020 08:34

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	**0.00932**		**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 21:43
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 21:43
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 21:43
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 21:43
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.00721**		**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:27
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:27
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:27
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 00:27

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

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Sample ID: DUP-01
Collection Date: 26-Aug-2020 13:16

ANALYTICAL REPORT
WorkOrder:HS20081252
Lab ID:HS20081252-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 31-Aug-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	03-Sep-2020 21:45
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 21:45
Lead	**0.00126**	J	**0.000600**	**0.00200**	**mg/L**	1	03-Sep-2020 21:45
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 21:45
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 01-Sep-2020		Analyst: JHD
Arsenic	**0.000463**	J	**0.000400**	**0.00200**	**mg/L**	1	03-Sep-2020 00:33
Cadmium	U		0.000200	0.00200	mg/L	1	03-Sep-2020 00:33
Lead	U		0.000600	0.00200	mg/L	1	03-Sep-2020 00:33
Selenium	U		0.00110	0.00200	mg/L	1	03-Sep-2020 00:33

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

Weight / Prep Log

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

Batch ID: 156856 **Start Date:** 31 Aug 2020 09:00 **End Date:** 31 Aug 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20081252-01		10 (mL)	10 (mL)	1
HS20081252-02		10 (mL)	10 (mL)	1
HS20081252-03		10 (mL)	10 (mL)	1
HS20081252-04		10 (mL)	10 (mL)	1
HS20081252-05		10 (mL)	10 (mL)	1
HS20081252-06		10 (mL)	10 (mL)	1
HS20081252-07		10 (mL)	10 (mL)	1
HS20081252-08		10 (mL)	10 (mL)	1
HS20081252-09		10 (mL)	10 (mL)	1

Batch ID: 156866 **Start Date:** 31 Aug 2020 12:00 **End Date:** 31 Aug 2020 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20081252-10		10 (mL)	10 (mL)	1
HS20081252-11		10 (mL)	10 (mL)	1
HS20081252-12		10 (mL)	10 (mL)	1

Batch ID: 156906 **Start Date:** 01 Sep 2020 10:00 **End Date:** 01 Sep 2020 14:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20081252-01		10 (mL)	10 (mL)	1
HS20081252-02		10 (mL)	10 (mL)	1
HS20081252-03		10 (mL)	10 (mL)	1
HS20081252-04		10 (mL)	10 (mL)	1
HS20081252-05		10 (mL)	10 (mL)	1
HS20081252-06		10 (mL)	10 (mL)	1
HS20081252-07		10 (mL)	10 (mL)	1
HS20081252-08		10 (mL)	10 (mL)	1
HS20081252-09		10 (mL)	10 (mL)	1
HS20081252-10		10 (mL)	10 (mL)	1
HS20081252-11		10 (mL)	10 (mL)	1
HS20081252-12		10 (mL)	10 (mL)	1

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 156856 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20081252-01	MW-45	26 Aug 2020 10:45		31 Aug 2020 13:00	31 Aug 2020 22:02	1
HS20081252-02	PMW-19R	26 Aug 2020 11:20		31 Aug 2020 13:00	31 Aug 2020 22:15	1
HS20081252-03	LMW-8	26 Aug 2020 12:00		31 Aug 2020 13:00	31 Aug 2020 22:17	1
HS20081252-04	LMW-17	26 Aug 2020 12:40		31 Aug 2020 13:00	31 Aug 2020 22:19	1
HS20081252-05	LMW-5	26 Aug 2020 13:16		31 Aug 2020 13:00	31 Aug 2020 22:20	1
HS20081252-06	LMW-21	26 Aug 2020 13:49		31 Aug 2020 13:00	31 Aug 2020 22:22	1
HS20081252-07	PMW-20R	26 Aug 2020 14:32		31 Aug 2020 13:00	31 Aug 2020 22:24	1
HS20081252-08	MW-41	26 Aug 2020 15:08		31 Aug 2020 13:00	31 Aug 2020 22:26	1
HS20081252-09	MW-47	26 Aug 2020 15:47		31 Aug 2020 13:00	31 Aug 2020 22:28	1
Batch ID: 156866 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20081252-10	LMW-9R	26 Aug 2020 16:26		31 Aug 2020 15:00	03 Sep 2020 21:35	1
HS20081252-11	LMW-22	27 Aug 2020 08:34		31 Aug 2020 15:00	03 Sep 2020 21:43	1
HS20081252-12	DUP-01	26 Aug 2020 13:16		31 Aug 2020 15:00	03 Sep 2020 21:45	1
Batch ID: 156906 (0)	**Test Name :** DISSOLVED METALS BY SW6020A				**Matrix:** Groundwater	
HS20081252-01	MW-45	26 Aug 2020 10:45		01 Sep 2020 14:00	02 Sep 2020 23:56	1
HS20081252-02	PMW-19R	26 Aug 2020 11:20		01 Sep 2020 14:00	03 Sep 2020 00:09	1
HS20081252-03	LMW-8	26 Aug 2020 12:00		01 Sep 2020 14:00	03 Sep 2020 00:11	1
HS20081252-04	LMW-17	26 Aug 2020 12:40		01 Sep 2020 14:00	03 Sep 2020 00:13	1
HS20081252-05	LMW-5	26 Aug 2020 13:16		01 Sep 2020 14:00	03 Sep 2020 00:15	1
HS20081252-06	LMW-21	26 Aug 2020 13:49		01 Sep 2020 14:00	03 Sep 2020 00:17	1
HS20081252-07	PMW-20R	26 Aug 2020 14:32		01 Sep 2020 14:00	03 Sep 2020 00:19	1
HS20081252-08	MW-41	26 Aug 2020 15:08		01 Sep 2020 14:00	03 Sep 2020 00:21	1
HS20081252-09	MW-47	26 Aug 2020 15:47		01 Sep 2020 14:00	03 Sep 2020 00:23	1
HS20081252-10	LMW-9R	26 Aug 2020 16:26		01 Sep 2020 14:00	03 Sep 2020 00:25	1
HS20081252-11	LMW-22	27 Aug 2020 08:34		01 Sep 2020 14:00	03 Sep 2020 00:27	1
HS20081252-12	DUP-01	26 Aug 2020 13:16		01 Sep 2020 14:00	03 Sep 2020 00:33	1

WorkOrder: HS20081252
InstrumentID: ICPMS06
Test Code: ICP_DISS
Test Number: SW6020 (dissolved)
Test Name: Dissolved Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.000928	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000488	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.000946	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00253	0.00110	0.00200

WorkOrder: HS20081252
InstrumentID: ICPMS06
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.000928	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000488	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.000946	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00253	0.00110	0.00200

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

QC BATCH REPORT

Batch ID: 156856 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-156856** Units: **mg/L** Analysis Date: **31-Aug-2020 21:58**
Client ID: Run ID: **ICPMS06_367741** SeqNo: **5722111** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.000408	0.00200								J
Cadmium	U	0.00200								
Lead	U	0.00200								
Selenium	U	0.00200								

LCS Sample ID: **LCS-156856** Units: **mg/L** Analysis Date: **31-Aug-2020 22:00**
Client ID: Run ID: **ICPMS06_367741** SeqNo: **5722066** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05002	0.00200	0.05	0	100	80 - 120				
Cadmium	0.04863	0.00200	0.05	0	97.3	80 - 120				
Lead	0.04536	0.00200	0.05	0	90.7	80 - 120				
Selenium	0.0507	0.00200	0.05	0	101	80 - 120				

MS Sample ID: **HS20081252-01MS** Units: **mg/L** Analysis Date: **01-Sep-2020 12:56**
Client ID: **MW-45** Run ID: **ICPMS06_367812** SeqNo: **5722731** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0517	0.00200	0.05	0	103	80 - 120				
Cadmium	0.04887	0.00200	0.05	0	97.7	80 - 120				
Lead	0.05019	0.00200	0.05	0	100	80 - 120				
Selenium	0.05405	0.00200	0.05	0.001433	105	80 - 120				

MSD Sample ID: **HS20081252-01MSD** Units: **mg/L** Analysis Date: **31-Aug-2020 22:07**
Client ID: **MW-45** Run ID: **ICPMS06_367741** SeqNo: **5722070** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04956	0.00200	0.05	0	99.1	80 - 120	0.0517	4.23	20	
Cadmium	0.046	0.00200	0.05	0	92.0	80 - 120	0.04887	6.05	20	
Lead	0.04699	0.00200	0.05	0	94.0	80 - 120	0.05019	6.59	20	
Selenium	0.05102	0.00200	0.05	0.001433	99.2	80 - 120	0.05405	5.76	20	

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

QC BATCH REPORT

Batch ID: 156856 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS20081252-01PDS** Units: **mg/L** Analysis Date: **31-Aug-2020 22:09**
Client ID: **MW-45** Run ID: **ICPMS06_367741** SeqNo: **5722071** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1102	0.00200	0.1	0.000374	110	75 - 125				
Cadmium	0.1053	0.00200	0.1	-0.000005	105	75 - 125				
Lead	0.1054	0.00200	0.1	0.000138	105	75 - 125				
Selenium	0.1115	0.00200	0.1	0.001433	110	75 - 125				

SD Sample ID: **HS20081252-01SD** Units: **mg/L** Analysis Date: **31-Aug-2020 22:04**
Client ID: **MW-45** Run ID: **ICPMS06_367741** SeqNo: **5722068** PrepDate: **31-Aug-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000374	0	10	
Cadmium	U	0.0100					-0.000005	0	10	
Lead	U	0.0100					0.000138	0	10	
Selenium	U	0.0100					0.001433	0	10	

The following samples were analyzed in this batch:

HS20081252-01	HS20081252-02	HS20081252-03	HS20081252-04
HS20081252-05	HS20081252-06	HS20081252-07	HS20081252-08
HS20081252-09			

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

QC BATCH REPORT

Batch ID: 156866 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-156866** Units: **mg/L** Analysis Date: **04-Sep-2020 13:35**
Client ID: Run ID: **ICPMS06_368031** SeqNo: **5727312** PrepDate: **31-Aug-2020** 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-156866** Units: **mg/L** Analysis Date: **03-Sep-2020 20:46**
Client ID: Run ID: **ICPMS06_367963** SeqNo: **5726112** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05042	0.00200	0.05	0	101	80 - 120				
Cadmium	0.05215	0.00200	0.05	0	104	80 - 120				
Lead	0.04956	0.00200	0.05	0	99.1	80 - 120				
Selenium	0.0513	0.00200	0.05	0	103	80 - 120				

MS Sample ID: **HS20081272-04MS** Units: **mg/L** Analysis Date: **04-Sep-2020 13:37**
Client ID: Run ID: **ICPMS06_368031** SeqNo: **5727313** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05165	0.00200	0.05	0.000583	102	80 - 120				
Cadmium	0.0503	0.00200	0.05	0.000011	101	80 - 120				
Lead	0.05003	0.00200	0.05	0.000215	99.6	80 - 120				
Selenium	0.05053	0.00200	0.05	0.001439	98.2	80 - 120				

MSD Sample ID: **HS20081272-04MSD** Units: **mg/L** Analysis Date: **03-Sep-2020 20:54**
Client ID: Run ID: **ICPMS06_367963** SeqNo: **5726116** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04835	0.00200	0.05	0.000583	95.5	80 - 120	0.05165	6.6	20	
Cadmium	0.04674	0.00200	0.05	0	93.5	80 - 120	0.0503	7.35	20	
Lead	0.04754	0.00200	0.05	0	95.1	80 - 120	0.05003	5.11	20	
Selenium	0.04643	0.00200	0.05	0.001439	90.0	80 - 120	0.05053	8.47	20	

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

QC BATCH REPORT

Batch ID: 156866 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS20081272-04PDS** Units: **mg/L** Analysis Date: **03-Sep-2020 20:56**
Client ID: Run ID: **ICPMS06_367963** SeqNo: **5726117** PrepDate: **31-Aug-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1003	0.00200	0.1	0.000583	99.7	75 - 125				
Cadmium	0.09598	0.00200	0.1	0.000011	96.0	75 - 125				
Lead	0.09815	0.00200	0.1	0.000215	97.9	75 - 125				
Selenium	0.09718	0.00200	0.1	0.001439	95.7	75 - 125				

SD Sample ID: **HS20081272-04SD** Units: **mg/L** Analysis Date: **03-Sep-2020 20:50**
Client ID: Run ID: **ICPMS06_367963** SeqNo: **5726114** PrepDate: **31-Aug-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000583	0	10	
Cadmium	U	0.0100					0.000011	0	10	
Lead	U	0.0100					0.000215	0	10	
Selenium	U	0.0100					0.001439	0	10	

The following samples were analyzed in this batch: HS20081252-10 HS20081252-11 HS20081252-12

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

QC BATCH REPORT

Batch ID: 156906 (0) **Instrument:** ICPMS06 **Method:** DISSOLVED METALS BY SW6020A (DISSOLVED)

MBLK Sample ID: **MBLK-156906** Units: **mg/L** Analysis Date: **03-Sep-2020 14:14**
Client ID: Run ID: **ICPMS06_367963** SeqNo: **5725654** PrepDate: **01-Sep-2020** 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-156906** Units: **mg/L** Analysis Date: **02-Sep-2020 23:54**
Client ID: Run ID: **ICPMS06_367868** SeqNo: **5724528** PrepDate: **01-Sep-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04797	0.00200	0.05	0	95.9	80 - 120				
Cadmium	0.04978	0.00200	0.05	0	99.6	80 - 120				
Lead	0.04914	0.00200	0.05	0	98.3	80 - 120				
Selenium	0.04961	0.00200	0.05	0	99.2	80 - 120				

MS Sample ID: **HS20081252-01MS** Units: **mg/L** Analysis Date: **03-Sep-2020 00:00**
Client ID: **MW-45** Run ID: **ICPMS06_367868** SeqNo: **5724532** PrepDate: **01-Sep-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04985	0.00200	0.05	0.000558	98.6	75 - 125				
Cadmium	0.05069	0.00200	0.05	0.000009	101	75 - 125				
Lead	0.05145	0.00200	0.05	0.000175	103	75 - 125				
Selenium	0.05112	0.00200	0.05	0.001204	99.8	75 - 125				

MSD Sample ID: **HS20081252-01MSD** Units: **mg/L** Analysis Date: **03-Sep-2020 00:02**
Client ID: **MW-45** Run ID: **ICPMS06_367868** SeqNo: **5724533** PrepDate: **01-Sep-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05053	0.00200	0.05	0.000558	100.0	75 - 125	0.04985	1.37	20	
Cadmium	0.05001	0.00200	0.05	0.000009	100.0	75 - 125	0.05069	1.35	20	
Lead	0.05218	0.00200	0.05	0.000175	104	75 - 125	0.05145	1.41	20	
Selenium	0.0516	0.00200	0.05	0.001204	101	75 - 125	0.05112	0.923	20	

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: HS20081252

QC BATCH REPORT

Batch ID: 156906 (0) **Instrument:** ICPMS06 **Method:** DISSOLVED METALS BY SW6020A (DISSOLVED)

PDS Sample ID: **HS20081252-01PDS** Units: **mg/L** Analysis Date: **03-Sep-2020 00:04**
Client ID: **MW-45** Run ID: **ICPMS06_367868** SeqNo: **5724534** PrepDate: **01-Sep-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1008	0.00200	0.1	0.000558	100	75 - 125				
Cadmium	0.1028	0.00200	0.1	0.000009	103	75 - 125				
Lead	0.1039	0.00200	0.1	0.000175	104	75 - 125				
Selenium	0.1036	0.00200	0.1	0.001204	102	75 - 125				

SD Sample ID: **HS20081252-01SD** Units: **mg/L** Analysis Date: **02-Sep-2020 23:58**
Client ID: **MW-45** Run ID: **ICPMS06_367868** SeqNo: **5724530** PrepDate: **01-Sep-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000558	0	10	
Cadmium	U	0.0100					0.000009	0	10	
Lead	U	0.0100					0.000175	0	10	
Selenium	U	0.0100					0.001204	0	10	

The following samples were analyzed in this batch:

HS20081252-01	HS20081252-02	HS20081252-03	HS20081252-04
HS20081252-05	HS20081252-06	HS20081252-07	HS20081252-08
HS20081252-09	HS20081252-10	HS20081252-11	HS20081252-12

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
WorkOrder: **HS20081252**

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 Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

Client: Golder Associates
Project: Exide North CAMU Groundwater Quarterly
Work Order: HS20081252

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20081252-01	MW-45	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-01	MW-45	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-02	PMW-19R	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-02	PMW-19R	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-03	LMW-8	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-03	LMW-8	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-04	LMW-17	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-04	LMW-17	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-05	LMW-5	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-05	LMW-5	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-06	LMW-21	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-06	LMW-21	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-07	PMW-20R	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-07	PMW-20R	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-08	MW-41	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-08	MW-41	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-09	MW-47	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-09	MW-47	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-10	LMW-9R	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-10	LMW-9R	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-11	LMW-22	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-11	LMW-22	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-12	DUP-01	Login	8/28/2020 5:15:50 PM	PMG	Disposed
HS20081252-12	DUP-01	Login	8/28/2020 5:15:50 PM	PMG	Disposed

Sample Receipt Checklist

Work Order ID: HS20081252 **Date/Time Received:** **28-Aug-2020 10:30**

Client Name: Golder St Louis **Received by:** **Paresh M. Giga**

Completed By:	/S/ Paresh M. Giga	28-Aug-2020 17:25	**Reviewed by:**	/S/ Dane J. Wacasey	31-Aug-2020 13:27
	eSignature	Date/Time		eSignature	Date/Time

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:224856/224855
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3°C U/C	IR31	
Cooler(s)/Kit(s):	46309		
Date/Time sample(s) sent to storage:	8/282020 17:40		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Salt Lake City +1 801 266 7700

Chain of Custody Form

COC ID: 224856

Customer Information		Project Information		ALS Project Manager:	ALS Work Order #:
Purchase Order	130-2036-01	Project Name	Exide North CAMU GW Quarterly		
Work Order		Project Number	130-2036-01		
Company Name	Golder Associates	Bill To Company	Golder Associates		
Send Report To	Emily White	Invoice Attn	Accounts Payable		
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit		
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021		
Phone	(314) 984-8800	Phone	(314) 984-8800		
Fax		Fax			
e-Mail Address	Emily_White@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.coJ		

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)); FdH
C: MS/MSD
D:
E:
F:
G:
H:
I:

HS20081252
Golder Associates
Exide North CAMU Groundwater Quarterly

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-45	8-26-20	1045	Groundwa	2,8	4	X	X	X								
2	PMW-19R	8-26-20	1120	Groundwa	2,8	2	X	X									
3	LMW-8	8-26-20	1200	Groundwa	2,8	2	X	X									
4	LMW-17	8-26-20	1240	Groundwa	2,8	2	X	X									
5	LMW-5	8-26-20	1316	Groundwa	2,8	2	X	X									
6	LMW-21	8-26-20	1349	Groundwa	2,8	2	X	X									
7	PMW-20R	8-26-20	1432	Groundwa	2,8	2	X	X									
8	MW-41	8-26-20	1508	Groundwa	2,8	2	X	X									
9	MW-47	8-26-20	1547	Groundwa	2,8	2	X	X									
0	LMW-9R	8-26-20	1626	Groundwa	2,8	2	X	X									

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Date: 8-27-20 Time: Received by:

Relinquished by: Date: Time: Received by (Laboratory): 8/28/2020 10:30

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.
4630	0.1°C
	1.3°
	+3

QC Package: (Check One Box Below)
☐ Level II: Std QC
☐ Level III Std QC/Raw Data
☐ Level IV QC/Raw Data
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

COC ID: 224855

ALS Project Manager:		ALS Work Order #:	

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	130-2086-01	Project Name	Exide North CAMU GW Quarterly	A	ICP_TVI (6020A - Total As, Cd, Pb, Se (QTY))
Work Order		Project Number	130-2086-01	B	ICP_DISS (6020A - Dissolved As, Cd, Pb, Se (QTY))-FldFl
Company Name	Golder Associates	Bill To Company	Golder Associates	C	MS/MSD
Send Report To	Emily White	Invoice Attn	Accounts Payable	D	
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit	E	
				F	
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021	G	
Phone	(314) 984-8800	Phone	(314) 984-8800	H	
Fax		Fax		I	
e-Mail Address	Emily_White@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.com		

HS20081252
Golder Associates
Exide North CAMU Groundwater Quarterly

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-22	8-27-20	0834	Groundwa	2,8	2	X	X									
2	DUP-01	8-26-20	1316	Groundwa	2,8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAYDON

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other: _____

Results Due Date:

Relinquished by: John Braydon Date: 8-27-20 Time: Received by:

Relinquished by: Date: Time: Received by (Laboratory): 8/28/2020 10:30

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

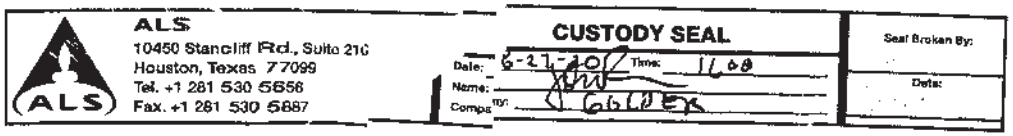
Notes:

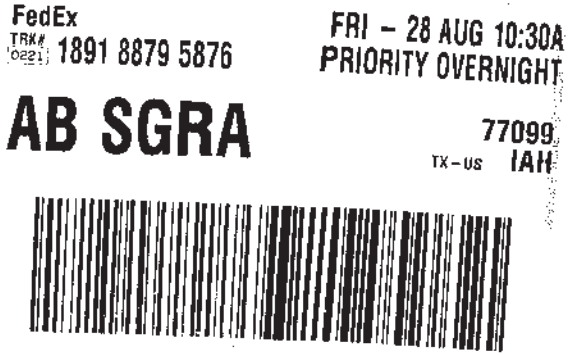
Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 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.


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 6-27-20
Time: 1600
Name:
Comp:
Seal Broken By:
Date:


FedEx
TRK# 0221 1891 8879 5876
FRI - 28 AUG 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH

46309

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

December 19, 2020

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

Work Order: **HS20120485**

Laboratory Results for: **Exide North CAMU GW Quarterly**

Dear Emily Forthaus,

ALS Environmental received 12 sample(s) on Dec 09, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates	**TRRP Laboratory Data Package Cover Page**
Project:	Exide North CAMU GW Quarterly	
WorkOrder:	**HS20120485**	

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

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

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates
Project:	Exide North CAMU GW Quarterly
WorkOrder:	**HS20120485**

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:12/19/2020				
Project Name: Exide North CAMU GW Quarterly			Laboratory Job Number: HS20120485				
Reviewer Name: Dane Wacasey			Prep Batch Number: 160624,160724,160725				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supportin9 Data							
Laboratory Name: ALS Laboratory Group			LRC Date:12/19/2020				
Project Name: Exide North CAMU GW Quarterly			Laboratory Job Number: HS20120485				
Reviewer Name: Dane Wacasey			Prep Batch Number: 160624,160724,160725				
#[1]	A[2]	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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

Laboratory Review Checklist: Exception Reports		
Laboratory Name: ALS Laboratory Group		LRC Date:12/19/2020
Project Name: Exide North CAMU GW Quarterly		Laboratory Job Number: HS20120485
Reviewer Name: Dane Wacasey		Prep Batch Number: 160624,160724,160725
ER#[5]	**Description**	
	No Exceptions	

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Work Order: HS20120485

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120485-01	MW-45	Groundwater		07-Dec-2020 11:15	09-Dec-2020 10:50	☐
HS20120485-02	PMW-19R	Groundwater		07-Dec-2020 11:50	09-Dec-2020 10:50	☐
HS20120485-03	LMW-8	Groundwater		07-Dec-2020 12:10	09-Dec-2020 10:50	☐
HS20120485-04	LMW-17	Groundwater		07-Dec-2020 12:55	09-Dec-2020 10:50	☐
HS20120485-05	LMW-5	Groundwater		07-Dec-2020 13:30	09-Dec-2020 10:50	☐
HS20120485-06	LMW-21	Groundwater		07-Dec-2020 14:03	09-Dec-2020 10:50	☐
HS20120485-07	PMW-20R	Groundwater		07-Dec-2020 14:40	09-Dec-2020 10:50	☐
HS20120485-08	MW-41	Groundwater		07-Dec-2020 15:14	09-Dec-2020 10:50	☐
HS20120485-09	MW-47	Groundwater		07-Dec-2020 15:55	09-Dec-2020 10:50	☐
HS20120485-10	LMW-9R	Groundwater		07-Dec-2020 16:40	09-Dec-2020 10:50	☐
HS20120485-11	LMW-22	Groundwater		08-Dec-2020 09:16	09-Dec-2020 10:50	☐
HS20120485-12	DUP-01	Groundwater		07-Dec-2020 13:30	09-Dec-2020 10:50	☐

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: MW-45
Collection Date: 07-Dec-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.000907**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 17:53
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 17:53
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2020 17:53
Selenium	**0.00188**	J	**0.00110**	**0.00200**	**mg/L**	1	17-Dec-2020 17:53
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000574**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 21:26
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 21:26
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 21:26
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 21:26

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: PMW-19R
Collection Date: 07-Dec-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: ALR
Arsenic	**0.00163**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 20:27
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 20:27
Lead	**0.000659**	J	**0.000600**	**0.00200**	**mg/L**	1	16-Dec-2020 20:27
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 20:27
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000974**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 21:51
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 21:51
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 21:51
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 21:51

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: LMW-8
Collection Date: 07-Dec-2020 12:10

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: ALR
Arsenic	**0.00142**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 20:29
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 20:29
Lead	**0.000670**	J	**0.000600**	**0.00200**	**mg/L**	1	16-Dec-2020 20:29
Selenium	**0.00695**		**0.00110**	**0.00200**	**mg/L**	1	16-Dec-2020 20:29
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000894**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 21:53
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 21:53
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 21:53
Selenium	**0.00748**		**0.00110**	**0.00200**	**mg/L**	1	16-Dec-2020 21:53

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: LMW-17
Collection Date: 07-Dec-2020 12:55

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: ALR
Arsenic	**0.000663**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 20:31
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 20:31
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 20:31
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 20:31
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000675**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 21:55
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 21:55
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 21:55
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 21:55

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: LMW-5
Collection Date: 07-Dec-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.00106**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:03
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:03
Lead	**0.000725**	J	**0.000600**	**0.00200**	**mg/L**	1	17-Dec-2020 18:03
Selenium	**0.00164**	J	**0.00110**	**0.00200**	**mg/L**	1	17-Dec-2020 18:03
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000626**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 21:57
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 21:57
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 21:57
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 21:57

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: LMW-21
Collection Date: 07-Dec-2020 14:03

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.00125**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:11
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:11
Lead	**0.00635**		**0.000600**	**0.00200**	**mg/L**	1	17-Dec-2020 18:11
Selenium	**0.00411**		**0.00110**	**0.00200**	**mg/L**	1	17-Dec-2020 18:11
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000814**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:03
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:03
Lead	**0.000740**	J	**0.000600**	**0.00200**	**mg/L**	1	16-Dec-2020 22:03
Selenium	**0.00285**		**0.00110**	**0.00200**	**mg/L**	1	16-Dec-2020 22:03

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: PMW-20R
Collection Date: 07-Dec-2020 14:40

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.000681**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:13
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:13
Lead	**0.00107**	J	**0.000600**	**0.00200**	**mg/L**	1	17-Dec-2020 18:13
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2020 18:13
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000414**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:05
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:05
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 22:05
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 22:05

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: MW-41
Collection Date: 07-Dec-2020 15:14

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.00403**		**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:15
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:15
Lead	**0.000835**	J	**0.000600**	**0.00200**	**mg/L**	1	17-Dec-2020 18:15
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2020 18:15
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000960**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:07
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:07
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 22:07
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 22:07

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: MW-47
Collection Date: 07-Dec-2020 15:55

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.000676**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:17
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:17
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2020 18:17
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2020 18:17
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000588**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:09
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:09
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 22:09
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 22:09

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: LMW-9R
Collection Date: 07-Dec-2020 16:40

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.00198**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:19
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:19
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2020 18:19
Selenium	**0.00311**		**0.00110**	**0.00200**	**mg/L**	1	17-Dec-2020 18:19
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.00210**		**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:11
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:11
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 22:11
Selenium	**0.00313**		**0.00110**	**0.00200**	**mg/L**	1	16-Dec-2020 22:11

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: LMW-22
Collection Date: 08-Dec-2020 09:16

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.00855**		**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:21
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:21
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2020 18:21
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2020 18:21
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.00750**		**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:13
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:13
Lead	U		0.000600	0.00200	mg/L	1	16-Dec-2020 22:13
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 22:13

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

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
Sample ID: DUP-01
Collection Date: 07-Dec-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20120485
Lab ID:HS20120485-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 15-Dec-2020		Analyst: JHD
Arsenic	**0.000655**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Dec-2020 18:23
Cadmium	U		0.000200	0.00200	mg/L	1	17-Dec-2020 18:23
Lead	U		0.000600	0.00200	mg/L	1	17-Dec-2020 18:23
Selenium	U		0.00110	0.00200	mg/L	1	17-Dec-2020 18:23
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 11-Dec-2020		Analyst: JHD
Arsenic	**0.000650**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Dec-2020 22:15
Cadmium	U		0.000200	0.00200	mg/L	1	16-Dec-2020 22:15
Lead	**0.00102**	J	**0.000600**	**0.00200**	**mg/L**	1	16-Dec-2020 22:15
Selenium	U		0.00110	0.00200	mg/L	1	16-Dec-2020 22:15

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

Weight / Prep Log

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

Batch ID: 160624 **Start Date:** 11 Dec 2020 13:00 **End Date:** 11 Dec 2020 15:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120485-01		10 (mL)	10 (mL)	1
HS20120485-02		10 (mL)	10 (mL)	1
HS20120485-03		10 (mL)	10 (mL)	1
HS20120485-04		10 (mL)	10 (mL)	1
HS20120485-05		10 (mL)	10 (mL)	1
HS20120485-06		10 (mL)	10 (mL)	1
HS20120485-07		10 (mL)	10 (mL)	1
HS20120485-08		10 (mL)	10 (mL)	1
HS20120485-09		10 (mL)	10 (mL)	1
HS20120485-10		10 (mL)	10 (mL)	1
HS20120485-11		10 (mL)	10 (mL)	1
HS20120485-12		10 (mL)	10 (mL)	1

Batch ID: 160724 **Start Date:** 15 Dec 2020 09:00 **End Date:** 15 Dec 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120485-02		10 (mL)	10 (mL)	1
HS20120485-03		10 (mL)	10 (mL)	1
HS20120485-04		10 (mL)	10 (mL)	1

Batch ID: 160725 **Start Date:** 15 Dec 2020 09:00 **End Date:** 15 Dec 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120485-01		10 (mL)	10 (mL)	1
HS20120485-05		10 (mL)	10 (mL)	1
HS20120485-06		10 (mL)	10 (mL)	1
HS20120485-07		10 (mL)	10 (mL)	1
HS20120485-08		10 (mL)	10 (mL)	1
HS20120485-09		10 (mL)	10 (mL)	1
HS20120485-10		10 (mL)	10 (mL)	1
HS20120485-11		10 (mL)	10 (mL)	1
HS20120485-12		10 (mL)	10 (mL)	1

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160624 (0)	**Test Name :** DISSOLVED METALS BY SW6020A				**Matrix:** Groundwater	
HS20120485-01	MW-45	07 Dec 2020 11:15		11 Dec 2020 15:00	16 Dec 2020 21:26	1
HS20120485-02	PMW-19R	07 Dec 2020 11:50		11 Dec 2020 15:00	16 Dec 2020 21:51	1
HS20120485-03	LMW-8	07 Dec 2020 12:10		11 Dec 2020 15:00	16 Dec 2020 21:53	1
HS20120485-04	LMW-17	07 Dec 2020 12:55		11 Dec 2020 15:00	16 Dec 2020 21:55	1
HS20120485-05	LMW-5	07 Dec 2020 13:30		11 Dec 2020 15:00	16 Dec 2020 21:57	1
HS20120485-06	LMW-21	07 Dec 2020 14:03		11 Dec 2020 15:00	16 Dec 2020 22:03	1
HS20120485-07	PMW-20R	07 Dec 2020 14:40		11 Dec 2020 15:00	16 Dec 2020 22:05	1
HS20120485-08	MW-41	07 Dec 2020 15:14		11 Dec 2020 15:00	16 Dec 2020 22:07	1
HS20120485-09	MW-47	07 Dec 2020 15:55		11 Dec 2020 15:00	16 Dec 2020 22:09	1
HS20120485-10	LMW-9R	07 Dec 2020 16:40		11 Dec 2020 15:00	16 Dec 2020 22:11	1
HS20120485-11	LMW-22	08 Dec 2020 09:16		11 Dec 2020 15:00	16 Dec 2020 22:13	1
HS20120485-12	DUP-01	07 Dec 2020 13:30		11 Dec 2020 15:00	16 Dec 2020 22:15	1
Batch ID: 160724 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20120485-02	PMW-19R	07 Dec 2020 11:50		15 Dec 2020 13:00	16 Dec 2020 20:27	1
HS20120485-03	LMW-8	07 Dec 2020 12:10		15 Dec 2020 13:00	16 Dec 2020 20:29	1
HS20120485-04	LMW-17	07 Dec 2020 12:55		15 Dec 2020 13:00	16 Dec 2020 20:31	1
Batch ID: 160725 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20120485-01	MW-45	07 Dec 2020 11:15		15 Dec 2020 13:00	17 Dec 2020 17:53	1
HS20120485-05	LMW-5	07 Dec 2020 13:30		15 Dec 2020 13:00	17 Dec 2020 18:03	1
HS20120485-06	LMW-21	07 Dec 2020 14:03		15 Dec 2020 13:00	17 Dec 2020 18:11	1
HS20120485-07	PMW-20R	07 Dec 2020 14:40		15 Dec 2020 13:00	17 Dec 2020 18:13	1
HS20120485-08	MW-41	07 Dec 2020 15:14		15 Dec 2020 13:00	17 Dec 2020 18:15	1
HS20120485-09	MW-47	07 Dec 2020 15:55		15 Dec 2020 13:00	17 Dec 2020 18:17	1
HS20120485-10	LMW-9R	07 Dec 2020 16:40		15 Dec 2020 13:00	17 Dec 2020 18:19	1
HS20120485-11	LMW-22	08 Dec 2020 09:16		15 Dec 2020 13:00	17 Dec 2020 18:21	1
HS20120485-12	DUP-01	07 Dec 2020 13:30		15 Dec 2020 13:00	17 Dec 2020 18:23	1

WorkOrder: HS20120485
InstrumentID: ICPMS06
Test Code: ICP_DISS
Test Number: SW6020 (dissolved)
Test Name: Dissolved Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.00102	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000436	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.000935	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00247	0.00110	0.00200

WorkOrder: HS20120485
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.000837	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000431	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.00117	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00204	0.00110	0.00200

WorkOrder: HS20120485
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.00119	0.000400	0.00200
A	Cadmium	7440-43-9	0.000500	0.000487	0.000200	0.00200
A	Lead	7439-92-1	0.00100	0.000968	0.000600	0.00200
A	Selenium	7782-49-2	0.00250	0.00224	0.00110	0.00200

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

QC BATCH REPORT

Batch ID: 160624 (0) **Instrument: ICPMS06** **Method: DISSOLVED METALS BY SW6020A (DISSOLVED)**

MBLK Sample ID: **MBLKF2-160624** Units: **mg/L** Analysis Date: **16-Dec-2020 21:14**
Client ID: Run ID: **ICPMS06_374788** SeqNo: **5884814** PrepDate: **11-Dec-2020** 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: **MBLKF1-160624** Units: **mg/L** Analysis Date: **16-Dec-2020 21:12**
Client ID: Run ID: **ICPMS06_374788** SeqNo: **5884813** PrepDate: **11-Dec-2020** 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-160624** Units: **mg/L** Analysis Date: **16-Dec-2020 21:10**
Client ID: Run ID: **ICPMS06_374788** SeqNo: **5884812** PrepDate: **11-Dec-2020** 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-160624** Units: **mg/L** Analysis Date: **16-Dec-2020 21:16**
Client ID: Run ID: **ICPMS06_374788** SeqNo: **5884815** PrepDate: **11-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05482	0.00200	0.05	0	110	80 - 120				
Cadmium	0.05467	0.00200	0.05	0	109	80 - 120				
Lead	0.05197	0.00200	0.05	0	104	80 - 120				
Selenium	0.05654	0.00200	0.05	0	113	80 - 120				

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

QC BATCH REPORT

Batch ID: 160624 (0) **Instrument:** ICPMS06 **Method:** DISSOLVED METALS BY SW6020A (DISSOLVED)

MS Sample ID: **HS20120485-01MS** Units: **mg/L** Analysis Date: **16-Dec-2020 21:30**
Client ID: **MW-45** Run ID: **ICPMS06_374788** SeqNo: **5888683** PrepDate: **11-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05389	0.00200	0.05	0.000574	107	75 - 125				
Cadmium	0.0521	0.00200	0.05	0.000009	104	75 - 125				
Lead	0.04962	0.00200	0.05	0.000013	99.2	75 - 125				
Selenium	0.05478	0.00200	0.05	0.000845	108	75 - 125				

MSD Sample ID: **HS20120485-01MSD** Units: **mg/L** Analysis Date: **16-Dec-2020 21:31**
Client ID: **MW-45** Run ID: **ICPMS06_374788** SeqNo: **5888684** PrepDate: **11-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05348	0.00200	0.05	0.000574	106	75 - 125	0.05389	0.766	20	
Cadmium	0.05112	0.00200	0.05	0.000009	102	75 - 125	0.0521	1.89	20	
Lead	0.0496	0.00200	0.05	0.000013	99.2	75 - 125	0.04962	0.0282	20	
Selenium	0.05518	0.00200	0.05	0.000845	109	75 - 125	0.05478	0.711	20	

PDS Sample ID: **HS20120485-01PDS** Units: **mg/L** Analysis Date: **16-Dec-2020 21:33**
Client ID: **MW-45** Run ID: **ICPMS06_374788** SeqNo: **5888685** PrepDate: **11-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.122	0.00200	0.1	0.000574	121	75 - 125				
Cadmium	0.119	0.00200	0.1	0.000009	119	75 - 125				
Lead	0.1176	0.00200	0.1	0.000013	118	75 - 125				
Selenium	0.1246	0.00200	0.1	0.000845	124	75 - 125				

SD Sample ID: **HS20120485-01SD** Units: **mg/L** Analysis Date: **16-Dec-2020 21:28**
Client ID: **MW-45** Run ID: **ICPMS06_374788** SeqNo: **5888682** PrepDate: **11-Dec-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000574	0	10	
Cadmium	U	0.0100					0.000009	0	10	
Lead	U	0.0100					0.000013	0	10	
Selenium	U	0.0100					0.000845	0	10	

The following samples were analyzed in this batch:

HS20120485-01	HS20120485-02	HS20120485-03	HS20120485-04
HS20120485-05	HS20120485-06	HS20120485-07	HS20120485-08
HS20120485-09	HS20120485-10	HS20120485-11	HS20120485-12

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

QC BATCH REPORT

Batch ID: 160724 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-160724** Units: **mg/L** Analysis Date: **16-Dec-2020 18:04**
Client ID: Run ID: **ICPMS04_374814** SeqNo: **5884624** PrepDate: **15-Dec-2020** 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-160724** Units: **mg/L** Analysis Date: **16-Dec-2020 18:06**
Client ID: Run ID: **ICPMS04_374814** SeqNo: **5884625** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04908	0.00200	0.05	0	98.2	80 - 120				
Cadmium	0.04972	0.00200	0.05	0	99.4	80 - 120				
Lead	0.04941	0.00200	0.05	0	98.8	80 - 120				
Selenium	0.04914	0.00200	0.05	0	98.3	80 - 120				

MS Sample ID: **HS20120147-84MS** Units: **mg/L** Analysis Date: **16-Dec-2020 18:26**
Client ID: Run ID: **ICPMS04_374814** SeqNo: **5884634** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05159	0.00200	0.05	0.000798	102	80 - 120				
Cadmium	0.0506	0.00200	0.05	0.000009	101	80 - 120				
Lead	0.04904	0.00200	0.05	0.000033	98.0	80 - 120				
Selenium	0.04918	0.00200	0.05	-0.00059	99.5	80 - 120				

MSD Sample ID: **HS20120147-84MSD** Units: **mg/L** Analysis Date: **16-Dec-2020 18:28**
Client ID: Run ID: **ICPMS04_374814** SeqNo: **5884635** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05399	0.00200	0.05	0.000798	106	80 - 120	0.05159	4.54	20	
Cadmium	0.0513	0.00200	0.05	0.000009	103	80 - 120	0.0506	1.37	20	
Lead	0.05058	0.00200	0.05	0.000033	101	80 - 120	0.04904	3.11	20	
Selenium	0.05175	0.00200	0.05	-0.00059	105	80 - 120	0.04918	5.1	20	

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

QC BATCH REPORT

Batch ID: 160724 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS20120147-84PDS** Units: **mg/L** Analysis Date: **16-Dec-2020 18:30**
Client ID: Run ID: **ICPMS04_374814** SeqNo: **5884636** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1224	0.00200	0.1	0.000798	122	75 - 125				
Cadmium	0.1202	0.00200	0.1	0.000009	120	75 - 125				
Lead	0.118	0.00200	0.1	0.000033	118	75 - 125				
Selenium	0.1195	0.00200	0.1	-0.00059	120	75 - 125				

SD Sample ID: **HS20120147-84SD** Units: **mg/L** Analysis Date: **16-Dec-2020 18:24**
Client ID: Run ID: **ICPMS04_374814** SeqNo: **5884633** PrepDate: **15-Dec-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000798	0	10	
Cadmium	U	0.0100					0.000009	0	10	
Lead	U	0.0100					0.000033	0	10	
Selenium	U	0.0100					-0.00059	0	10	

The following samples were analyzed in this batch: HS20120485-02 HS20120485-03 HS20120485-04

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

QC BATCH REPORT

Batch ID: 160725 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-160725** Units: **mg/L** Analysis Date: **17-Dec-2020 17:40**
Client ID: Run ID: **ICPMS05_374858** SeqNo: **5886687** PrepDate: **15-Dec-2020** 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-160725** Units: **mg/L** Analysis Date: **17-Dec-2020 22:18**
Client ID: Run ID: **ICPMS05_374858** SeqNo: **5886853** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05917	0.00200	0.05	0	118	80 - 120				
Cadmium	0.05409	0.00200	0.05	0	108	80 - 120				
Lead	0.04785	0.00200	0.05	0	95.7	80 - 120				

LCS Sample ID: **LCS-160725** Units: **mg/L** Analysis Date: **17-Dec-2020 17:42**
Client ID: Run ID: **ICPMS05_374858** SeqNo: **5886688** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05226	0.00200	0.05	0	105	80 - 120				

MS Sample ID: **HS20120485-01MS** Units: **mg/L** Analysis Date: **17-Dec-2020 17:57**
Client ID: **MW-45** Run ID: **ICPMS05_374858** SeqNo: **5886695** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05532	0.00200	0.05	0.000907	109	80 - 120				
Cadmium	0.04965	0.00200	0.05	0.000091	99.1	80 - 120				
Lead	0.04916	0.00200	0.05	0.000281	97.8	80 - 120				
Selenium	0.05984	0.00200	0.05	0.001883	116	80 - 120				

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: HS20120485

QC BATCH REPORT

Batch ID: 160725 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MSD Sample ID: **HS20120485-01MSD** Units: **mg/L** Analysis Date: **17-Dec-2020 17:59**
Client ID: **MW-45** Run ID: **ICPMS05_374858** SeqNo: **5886696** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05786	0.00200	0.05	0.000907	114	80 - 120	0.05532	4.49	20	
Cadmium	0.05301	0.00200	0.05	0.000091	106	80 - 120	0.04965	6.56	20	
Lead	0.05379	0.00200	0.05	0.000281	107	80 - 120	0.04916	9	20	

MSD Sample ID: **HS20120485-01MSD** Units: **mg/L** Analysis Date: **17-Dec-2020 22:20**
Client ID: **MW-45** Run ID: **ICPMS05_374858** SeqNo: **5886854** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05994	0.00200	0.05	0.001883	116	80 - 120	0.05984	0.172	20	

PDS Sample ID: **HS20120485-01PDS** Units: **mg/L** Analysis Date: **17-Dec-2020 18:01**
Client ID: **MW-45** Run ID: **ICPMS05_374858** SeqNo: **5886697** PrepDate: **15-Dec-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1188	0.00200	0.1	0.000907	118	75 - 125				
Cadmium	0.1083	0.00200	0.1	0.000091	108	75 - 125				
Lead	0.1084	0.00200	0.1	0.000281	108	75 - 125				

SD Sample ID: **HS20120485-01SD** Units: **mg/L** Analysis Date: **17-Dec-2020 17:55**
Client ID: **MW-45** Run ID: **ICPMS05_374858** SeqNo: **5886694** PrepDate: **15-Dec-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000907	0	10	
Cadmium	U	0.0100					0.000091	0	10	
Lead	U	0.0100					0.000281	0	10	
Selenium	U	0.0100					0.001883	0	10	

The following samples were analyzed in this batch: HS20120485-01 HS20120485-05 HS20120485-06 HS20120485-07 HS20120485-08 HS20120485-09 HS20120485-10 HS20120485-11 HS20120485-12

Client: Golder Associates
Project: Exide North CAMU GW Quarterly
WorkOrder: **HS20120485**

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 Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

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

Sample Receipt Checklist

Work Order ID: HS20120485 **Date/Time Received:** **09-Dec-2020 10:50**

Client Name: Golder St Louis **Received by:** **Jared R. Makan**

Completed By:	/S/ Pablo Marinez	10-Dec-2020 09:42	**Reviewed by:**	/S/ Corey Grandits	15-Dec-2020 11:47
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **WATER** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:229527/229526
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.4C UC/C	IR 25
Cooler(s)/Kit(s):	45058	
Date/Time sample(s) sent to storage:	12/10/20 9:50	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐
pH adjusted?	Yes ☑	No ☐	N/A ☐
pH adjusted by:	Pablo Marinez		

Login Notes: MW-45 - Bottle 4 of 4 - Sample Label missing ID & Collection Date/Time, logged per CoC LMW-22 Metals pH >2 (7) Preserved with 0.5 HNO3 on 12/9/20 @ 12:30pm by SM
Lot # 313107008 After Preservation pH >2 (1)

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 229527

HS20120485

WV

Golder Associates

Exide North CAMU GW Quarterly

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	130-2086-01	Project Name	Exide North CAMU GW Quarterly	A	ICP_TW (6020A - Total As, Cd, Pb, Se (QTY))
Work Order		Project Number	130-2086-01	B	ICP_DISS (6020A - Dissolved As, Cd, Pb, Se (QTY))-FldFl
Company Name	Golder Associates	Bill To Company	Golder Associates	C	MS/MSD
Send Report To	Emily White	Invoice Attn	Accounts Payable	D	
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit	E	
				F	
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021	G	
Phone	(314) 984-8800	Phone	(314) 984-8800	H	
Fax		Fax		I	
e-Mail Address	Emily_White@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.com		

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-45	12-7-20	1115	Groundwa	2,8	4	X	X	X								
2	PMW-19R	12-7-20	1150	Groundwa	2,8	2	X	X									
3	LMW-8	12-7-20	1210	Groundwa	2,8	2	X	X									
4	LMW-17	12-7-20	1255	Groundwa	2,8	2	X	X									
5	LMW-5	12-7-20	1330	Groundwa	2,8	2	X	X									
6	LMW-21	12-7-20	1403	Groundwa	2,8	2	X	X									
7	PMW-20R	12-7-20	1440	Groundwa	2,8	2	X	X									
8	MW-41	12-7-20	1514	Groundwa	2,8	2	X	X									
9	MW-47	12-7-20	1555	Groundwa	2,8	2	X	X									
10	LMW-9R	12-7-20	1640	Groundwa	2,8	2	X	X									

Sampler(s) Please Print & Sign: JOHN BEAUPRE

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Date: 12-8-20 Time: 1800 Received by:

Relinquished by: Date: Time: Received by (Laboratory): JM PM 12.9.20 10:50

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.
45058	0.4C
	1R25

QC Package: (Check One Box Below)

☐ Level II Std QC ☐ Level III Std QC/Raw Data ☐ Level IV SW846/CLP ☐ Other

☒ TRRP Checklist ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

CFU

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.

Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 229526

HS20120485

Golder Associates

Exide North CAMU GW Quarterly

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	130-2086-01	Project Name	Exide North CAMU GW Quarterly	A	ICP_TW (6020A - Total As, Cd, Pb, Se (QTY))
Work Order		Project Number	130-2086-01	B	ICP_DISS (6020A - Dissolved As, Cd, Pb, Se (QTY))-FldFl
Company Name	Golder Associates	Bill To Company	Golder Associates	C	MS/MSD
Send Report To	Emily White	Invoice Attn	Accounts Payable	D	
Address	13515 Barrett Parkway Drive, Suit	Address	13515 Barrett Parkway Drive, Suit	E	
				F	
City/State/Zip	Ballwin, MO 63021	City/State/Zip	Ballwin MO 63021	G	
Phone	(314) 984-8800	Phone	(314) 984-8800	H	
Fax		Fax		I	
e-Mail Address	Emily_White@golder.com	e-Mail Address	USAccountsPayableInvoices@golder.co		

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-22	12-8-20	0916	Groundwa	2,8	2	X	X									
2	DUP-01	12-7-20	1330	Groundwa	2,8	2	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN O'BRAYTON

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Date: 12-8-20 Time: 1800 Received by:

Relinquished by: Date: Time: Received by (Laboratory): 12-9-20 10:50

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.
4505E	

QC Package: (Check One Box Below)

☐ Level II Std QC ☒ TRRP Checklist

☐ Level III Std QC/Raw Data ☐ TRRP Level IV

☐ Level IV SW846/CLP

☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 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.

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5856
Fax. +1 281 530 5887

45058

CUSTODY SEAL

Date: 12-8-20 Time: 1806
Name: JTB
Company: GOLDER

Seal Broken By:
Date: 12/09/20

45058 DEC 0 9 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

45058

ORIGIN ID:SGRA (314) 304-1326
JOHN BRYTON
GOLDER ASSOCIATES
7471 5TH STREET

FRISCO, TX 75034
UNITED STATES US

SHIP DATE: 30NOV20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3E11
DIMS: 14x11x10 IN.

TO **CLIENT SERVICES**
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5856
REF: EXIDE NORTH CAMU GW QTY - BO 75128 - DW

RMA:

FedEx Express

FedEx
TRK# (0221) 1891 8883 1640

WED - 09 DEC 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH

#3071378 12/08 5GDJ2/9196/8766

APPENDIX D

Data Usability Summaries

DATA USABILITY SUMMARY
ALS WORK ORDERS: HS20081252

PROJECT NO: 20409062

CLIENT: City of Frisco Community Development Corporation

SAMPLE DATES: August 26 and 27, 2020

LABORATORY: ALS Group

WORK ORDERS: HS20081252

INTENDED USE: Second Semiannual 2020 Groundwater Monitoring Report

SITE: Former Exide Frisco Recycling Center Former Operating Plant, 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 arsenic, cadmium, lead, and selenium. See Table 1 for the sample list.

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

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

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

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

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

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

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

Criteria used for this data usability review are as follows:

- Precision: ±MQL difference or 30% relative percent difference (RPD) for laboratory duplicates and ± 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. No data were qualified due to exceedance of quality control criteria.

Reviewer:	Emily Forthaus	12/15/2020
Senior Reviewer:	Brenda Basile	12/27/2020
Senior Reviewer:	Anne Faeth-Boyd	12/30/2020

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 results needed qualification based on total versus dissolved criteria.

Field and Laboratory Blanks

No field blanks were collected.

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

Laboratory Control Sample

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

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

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

Field Duplicate Precision

One field duplicate was collected with these samples (LMW-5/DUP-01). Field duplicate results are presented in Table 5. Duplicate precision was within the TRRP-13 recommended criteria of 30 RPD or less than two times the MQL.

Detectability Check Standards (DCS)

DCS data were provided in the laboratory report. DCS results support the sample detection limits 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
HS20081252-01	MW-45	8/26/2020	✓	Matrix Spike/Matrix Spike Duplicate
HS20081252-02	PMW-19R	8/26/2020	✓	
HS20081252-03	LMW-8	8/26/2020	✓	
HS20081252-04	LMW-17	8/26/2020	✓	
HS20081252-05	LMW-5	8/26/2020	✓	
HS20081252-06	LMW-21	8/26/2020	✓	
HS20081252-07	PMW-20R	8/26/2020	✓	
HS20081252-08	MW-41	8/26/2020	✓	
HS20081252-09	MW-47	8/26/2020	✓	
HS20081252-10	LMW-9R	8/26/2020	✓	
HS20081252-11	LMW-22	8/27/2020	✓	
HS20081252-12	DUP-01	8/26/2020	✓	Field duplicate of LMW-5

TABLE 2 - QUALIFIED DATA

Field Sample ID	Lab Sample ID	Analyte	Result	Units	Qualifier	Explanation
PMW-19R	HS20081252-02	Arsenic, total	0.000631	mg/L	U	Analyte detected in method blank, reported as non-detect at laboratory detected value (laboratory J-flag removed)
LMW-8	HS20081252-03	Arsenic, total	0.000431	mg/L	U	Analyte detected in method blank, reported as non-detect at laboratory detected value (laboratory J-flag removed)
MW-41	HS20081252-08	Arsenic, total	0.000873	mg/L	U	Analyte detected in method blank, reported as non-detect at laboratory detected value (laboratory J-flag removed)
MW-47	HS20081252-09	Arsenic, total	0.000485	mg/L	U	Analyte detected in method blank, reported as non-detect at laboratory detected value (laboratory J-flag removed)
LMW-9R	HS20081252-10	Arsenic, total	0.000554	mg/L	U	Analyte detected in method blank, reported as non-detect at laboratory detected value (laboratory J-flag removed)

Notes:
J - Estimated data; data are qualified due to exceedance of one or more quality control criteria. The reported sample concentration is the approximate concentration of the analyte in the sample.
U - Analyte not detected at associated concentration (column labeled as "Result").
mg/L - milligrams per liter

TABLE 3 - TOTAL VERSUS DISSOLVED COMPARISON

Sample	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Precision (RPD)	MQL	Qualification
MW-45	Arsenic	<0.000400	0.000558	33	0.0020	None; difference less than 2 times the MQL
PMW-19R	Arsenic	0.000631	0.000932	39	0.0020	None; difference less than 2 times the MQL
PMW-19R	Selenium	<0.00110	0.00146	37	0.0020	None; difference less than 2 times the MQL
LMW-8	Arsenic	0.000431	0.000492	13	0.0020	None; less than 30% RPD
LMW-17	Arsenic	<0.000400	0.000515	25	0.0020	None; less than 30% RPD
LMW-17	Selenium	0.00138	0.00138	0.0	0.0020	None; less than 30% RPD
LMW-21	Arsenic	<0.000400	0.000571	35	0.0020	None; difference less than 2 times the MQL
LMW-21	Selenium	0.00517	0.00531	2.7	0.0020	None; less than 30% RPD
PMW-20R	Selenium	<0.00110	0.00112	1.8	0.0020	None; less than 30% RPD
LMW-9R	Arsenic	0.000554	0.000662	18	0.0020	None; less than 30% RPD
DUP-01	Arsenic	<0.000400	0.000463	15	0.0020	None; less than 30% RPD

Notes:
No qualification necessary if the difference between dissolved and total did not exceed the analytical method error (i.e., + 2x MQL difference (if either result is less than 5x MQL) or 30% RPD).
mg/L - milligrams per liter
RPD - relative percent difference
MQL - Method quantitation limit

TABLE 4 - BLANK DETECTIONS

Lab Sample ID	Analyte	Result	Qualified Concentration	Units	Explanation
ICPMS06_367741 CCB 11	Arsenic	0.000475	0.0024	mg/L	None analyte not detected
MBLK-156856	Arsenic	0.000408	0.0020	mg/L	U: total arsenic detected in samples HS20081252-02, -03, -08, -09, -10

Notes:
U - Not detected; the analyte was detected <5x the concentration in an associated blank.
mg/L - milligrams per liter

TABLE 5 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD[a]	Qualifier	Qualifier Added
LMW-5/DUP-01	Arsenic, dissolved	0.000400 U	0.000463 J	15	A	None
	Lead, total	0.00114 J	0.00126 J	10	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: HS20120485

PROJECT NO: 20409062

CLIENT: City of Frisco Community Development Corporation

SAMPLE DATES: December 7-8, 2020

LABORATORY: ALS Group

WORK ORDERS: HS20120485

INTENDED USE: Second Semiannual 2020 Groundwater Monitoring Report

SITE: Former Exide Frisco Recycling Center Former Operating Plant, 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 arsenic, cadmium, lead, and selenium. See Table 1 for the sample list.

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

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

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

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

TABLE 1
CROSS REFERENCE OF FIELD SAMPLE IDENTIFICATIONS AND LABORATORY IDENTIFICATIONS

Lab Sample Identification	Field Sample Identification	Sample Date	Total/Dissolved Metals	Comments
HS20120485-01	MW-45	12/07/2020	✓	Matrix Spike/Matrix Spike Duplicate
HS20120485-02	PMW-19R	12/07/2020	✓	
HS20120485-03	LMW-8	12/07/2020	✓	
HS20120485-04	LMW-17	12/07/2020	✓	
HS20120485-05	LMW-5	12/07/2020	✓	
HS20120485-06	LMW-21	12/07/2020	✓	
HS20120485-07	PMW-20R	12/07/2020	✓	
HS20120485-08	MW-41	12/07/2020	✓	
HS20120485-09	MW-47	12/07/2020	✓	
HS20120485-10	LMW-9R	12/07/2020	✓	
HS20120485-11	LMW-22	12/08/2020	✓	
HS20120485-12	DUP-01	12/07/2020	✓	Field duplicate of LMW-5

TABLE 2 - QUALIFIED DATA

Field Sample ID	Lab Sample ID	Analyte	Result	Units	Qualifier	Explanation
No qualifications necessary.						

GOLDER

TABLE 3 - TOTAL VERSUS DISSOLVED COMPARISON

Sample	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Precision (RPD)	MQL	Qualification
LMW-8	Selenium	0.00695	0.00748	7.3	0.0020	None; less than 30% RPD
LMW-17	Arsenic	0.000663	0.000675	1.8	0.0020	None; less than 30% RPD
LMW-9R	Arsenic	0.00198	0.00210	5.9	0.0020	None; less than 30% RPD
LMW-9R	Selenium	0.00311	0.00313	0.64	0.0020	None; less than 30% RPD
DUP-01	Lead	<0.000600	0.00102	52	0.0020	None; Difference is <2X MCL

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]	MQL	Qualifier	Qualifier Added
LMW-5/DUP-01	Arsenic, total	0.00106 J	0.000655 J	47	0.0020	A	None; absolute difference <2X MQL
	Arsenic, dissolved	0.000626 J	0.000650 J	3.8	0.0020	A	None; absolute difference <2X MQL
	Lead, total	0.000725 J	0.000600 U	19	0.0020	A	None; absolute difference <2X MQL
	Lead, dissolved	0.000600 U	0.00102 J	52	0.0020	A	None; absolute difference <2X MQL
	Selenium, total	0.00164 J	0.00110 U	39	0.0020	A	None; absolute difference <2X MQL

Notes:

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

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.

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

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

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

Criteria used for this data usability review are as follows:

- Precision: ±MQL difference or 30% relative percent difference (RPD) for laboratory duplicates and ± 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. No data were qualified due to quality control exceedances (Table 2).

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. No data were qualified due to exceedance of quality control criteria.

Reviewer:	Emily Forthaus	12/22/2020
Senior Reviewer:	Brenda Basile	12/27/2020
Senior Reviewer:	Anne Faeth-Boyd	12/30/2020

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 results needed qualification based on total versus dissolved criteria.

Field and Laboratory Blanks

No field blanks were collected.

Method and continuing calibration blank data provided by the laboratory were evaluated. Data are qualified if the sample concentration is within five times the blank concentration. 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 results needed qualification based on blanks.

Laboratory Control Sample

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

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

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

Field Duplicate Precision

One field duplicate was collected with these samples (LMW-5/DUP-01). Field duplicate results are presented in Table 4. Duplicate precision was within the TRRP-13 recommended criteria of 30 RPD or less than two times the MQL.

Detectability Check Standards (DCS)

DCS data were provided in the laboratory report. DCS results support the sample detection limits 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.

golder.com