2020 CCR Annual Groundwater Monitoring and Corrective Action Report

Mount Storm Power Station
Phase A Landfill

Prepared for:

Virginia Electric and Power Company

(d/b/a Dominion Energy Virginia)

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EXECUTIVE SUMMARY

This *2020 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Mt. Storm Power Station (Station) Phase A Landfill (Unit) located in Mt. Storm, West Virginia. The Unit is an active industrial landfill that accepts CCR and is therefore considered an existing unit under Title 40 Code of Federal Regulations (CFR) Part 257.50 *et seq.* [*Disposal of Coal Combustion Residuals* (CCR) *from Electric Utilities* (Final Rule; Federal Register Vol. 80, No. 74, 21302-21501 on April 17, 2015, as amended)]. Pursuant to the CCR Rule, Dominion Energy is required to complete an *Annual Groundwater Monitoring and Corrective Action Report* (Report) by January 31 annually.

The Report documents the status of the CCR groundwater monitoring program for the Unit, summarizes key actions completed, describes issues encountered, actions taken to resolve identified concerns, and projected key activities for calendar year 2020. More specifically, this Report describes the results of the CCR Rule Assessment Monitoring Program (AMP) activities performed in 2020 to comply with CCR Rule requirements, and the progression of future sampling activities pursuant to the CCR Rule and the Unit's *Groundwater Monitoring Plan* (GMP).

In accordance with 40 CFR Part 257.90(e)(6), the following information is being provided as an overview of the current status of groundwater monitoring and corrective action for the Unit:

i. *At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.*
   - At the start of 2020, the Unit was operating under the assessment monitoring program in §257.95.

ii. *At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.*
   - At the end of 2020, the Unit was operating under the assessment monitoring program in §257.95.

iii. *If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to §257.94(e).*

   (A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase
   - In 2020, there were statistically significant increases identified over background for the following appendix III constituents at the following wells during the second semi-annual 2019 event and the first semi-annual 2020 event:
     - Chloride – well MW-8, MWFGDW6
     - pH – wells MW-8, MW-10, MWFGDW6
     - Sulfate – MWFGDW2

   (B) Provide the date when the assessment program was initiated for the CCR unit.

- The Unit initiated the assessment monitoring program on April 20, 2018.

iv. *If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to §257.95(g)*

(A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase

- In 2020, there were no statistically significant increases over the groundwater protection standard.

(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit

- Not applicable

(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit

- Not applicable

(D) Provide the date when the assessment of corrective measures was completed for the CCR unit

- Not applicable

v. *Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of the remedy selection*

- Not applicable

vi. *Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period*

- Not applicable

Based on the 2020 sampling and data analysis results, Golder recommends that Dominion Energy continue to maintain an Assessment Monitoring Program at this Unit.

1.0 INTRODUCTION

This *2020 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Mt. Storm Power Station (Station) Phase A Industrial Landfill (Unit), located in Mt. Storm, West Virginia. The existing Unit is subject to the groundwater monitoring requirements in Title 40 Code of Federal Regulations (CFR) Part 257.50 *et seq.* [Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule; Federal Register Vol. 80, No. 74, 21302-21501 on April 17, 2015, as amended)] (EPA, 2015, 2016, 2018, 2020a, 2020b). Pursuant to the CCR Rule, no later than January 31 annually, the owner or operator of a CCR Unit must prepare an annual groundwater monitoring and corrective action report for the CCR Unit documenting the status of groundwater monitoring and corrective action programs for the preceding year.

Golder Associates Inc. (Golder) has prepared this Report for the Unit on behalf of Dominion Energy in accordance with CCR Rule Part 257.90(e). This Report presents relevant data evaluations from the second semi-annual 2019 event that were completed in 2020, provides the monitoring data and required data evaluations for the first semi-annual CCR monitoring compliance event performed in April 2020, and provides the monitoring data for the second semi-annual CCR monitoring compliance event performed in October 2020.

1.1 Site Location

The Station is located at 436 Dominion Boulevard in Mt. Storm, West Virginia approximately 40 miles south-southwest of Cumberland, Maryland. The Unit is located approximately 2,500 feet to the west of the Station on the east side of West Virginia Highway 93 (Power Station Highway). A Site Location Map is presented as Drawing 1.

1.2 Site History

The Station and adjoining 1,200-acre Mt. Storm Lake were constructed in 1965. Currently, the CCR generated by the 1,600-megawatt Station is disposed of in the Unit and the adjacent Phase B Landfill, which is addressed in a separate report. The Phase A Landfill was permitted in 1993 as a 191-acre unit for disposal of flue-gas desulfurization (FGD) solids. Groundwater monitoring at the Unit, required under the CCR Rule, was initiated in 2016.

1.3 Key Actions

Key actions for this Unit to date are as follows:

- Permitted for management of CCR by the West Virginia Department of Environmental Protection (DEP) under Solid Waste/National Discharge Elimination System (NPDES) permit No. WV0110256;

- Initiated the Detection Monitoring Program (DMP) on March 15, 2016, with the collection of eight baseline/background samples and completed the background monitoring activities on August 23, 2017, pursuant to the CCR Rule [257.94(b)];
- Conducted the initial DMP compliance sampling event between October 4 and October 16, 2017 and completed the sample analyses on October 23, 2017, pursuant to the CCR Rule [257.94];
- Placed a copy of the Unit's Groundwater Monitoring Plan (GMP) documenting the design information for the monitoring wells pursuant to the CCR Rule [257.91(e)(1)] in the Station's operating record on October 17, 2017 (AECOM, 2017a), pursuant to the CCR Rule [257.105(h)(2)];
- Certified the groundwater monitoring system pursuant to the CCR Rule [257.91(e)(1) and posted the Certification in the Station's operating record on October 17, 2017, pursuant to the CCR Rule [257.105(h)(3)];
- Certified the selection of a statistical method pursuant to the CCR Rule [257.93(f)(6)] and posted the Certification in the Station's operating record on October 17, 2017, pursuant to the CCR Rule [257.105(h)(4)];
- Placed a notification of a Statistically Significant Increase (SSI) over the Unit's background concentrations under the DMP in the Station's operating record on January 21, 2018;
- Conducted the initial Assessment Monitoring Program (AMP) compliance sampling event on March 19, 2018, and completed the sample analyses on April 20, 2018, pursuant to the CCR Rule [257.95(b)];
- Established groundwater protection standards (GWPS) for detected constituents in Appendix IV of Part 257 on October 17, 2018, pursuant to the CCR Rule [257.95(d)(2)];
- Conducted the first semi-annual 2020 AMP compliance sampling event on April 14, 2020, and completed the sample analyses on June 19, 2020, pursuant to the CCR Rule [257.95(d)(1)];
- Updated background concentrations for Appendix III and IV on September 17, 2020; and
- Conducted the second semi-annual 2020 AMP compliance sampling event on October 13, 2020, and completed the sample analyses on December 24, 2020, pursuant to the CCR Rule [257.95(d)(1)].

1.4 Monitoring Program Concerns

There were no monitoring program concerns identified during the semi-annual AMP compliance events conducted in 2020.

2.0 SITE INFORMATION

The first power generation turbine at the Station went online in September 1965 and was followed by the second turbine in June 1966. The third turbine went online December 1973. The Station is a coal-fired power station with a generating capacity of approximately 1,600 megawatts. The Unit is located on the Station property to the southwest of the power generation facility on the southern side of West Virginia Route 48. The Unit encompasses an approximate permitted area of 191 acres. The Unit is regulated under the provisions of NPDES permit No. WV0110256.

As part of the Station operations, Dominion Energy operates the Unit for storage of flue-gas desulfurization (FGD) solids. The Unit was subject to the groundwater monitoring provisions of the CCR Rule by October 17, 2017.

2.1 Monitoring Well Network

The Unit's GMP (AECOM, 2017a) details the design of the CCR Rule groundwater monitoring network. As presented in the GMP, the monitoring network is comprised of two (2) upgradient/background wells (MW-22 and MWFGDW-2) and four (4) downgradient monitoring wells (MW-5, MW-8, MW-10, and MWFGDW-6) designed to monitor the uppermost aquifer beneath the Unit. Three (3) additional wells (MWFGDW-3, MWFGDW-4, and MWFGDW-5) are used as observation wells for groundwater elevation, as necessary. The groundwater monitoring well locations relative to the Unit are shown on Drawing 2.

2.1.1 Monitoring Well Installation and Decommissioning Activities

No groundwater monitoring wells associated with the CCR compliance well network were installed or decommissioned in calendar year 2020.

2.2 Geology and Hydrogeology

A summary of the geology and hydrogeology for the Unit is presented in the following sections.

2.2.1 Geology

As presented on the West Virginia geologic map, the Station is located within the high plateau region of the Appalachian High Plateau physiographic province (Cardwell, 1968). The high plateau area is underlain by Paleozoic sedimentary rocks (Ordovician to Mississippian age) and the rocks are folded into a sequence of north-easterly trending parallel anticlines and synclines. Locally the area is referred to as the Allegheny Mountains. The Station is located on the eastern limb of the Blackwater Anticline which parallels the Little Blackwater River.

The area is underlain by formations of the Pennsylvanian-age Conemaugh and Allegheny Groups, which include, in descending order:

- Conemaugh Group
  - Buffalo Sandstone
  - Brush Creek shale and sandstone
  - Upper and Lower Mahoning Sandstones
  - Uffington Shale
- Allegheny Group
  - Upper Freeport Coal
  - Bolivar Claystone
  - Upper Freeport Sandstone
  - Lower Freeport Coal

The near surface geology is comprised of unconsolidated colluvium sediments that locally overlie decomposed (saprolitic) sandstone and shale transitioning to fractured competent sandstone and shale interbedded with coal beds. At the Station, the upper Brush Creek and Mahoning coal beds of the Conemaugh Group are absent, while the Upper Freeport and Lower Freeport coal beds of the Allegheny Group are present. The Upper Freeport coal bed is reported to have been mined using a combination of open pit and longwall mining technology, while the Lower Freeport coal bed is reported to be unmined.

2.2.2 Hydrogeology

The uppermost aquifer beneath the Unit is present within the weathered sedimentary rocks and colluvial deposits, generally within 9 to 30 feet below ground surface (bgs). The uppermost aquifer is unconfined and extends vertically into the lowered fractured bedrock formations with the uppermost shale formation acting as an aquitard. The groundwater gradient and approximate groundwater flow direction in the uppermost aquifer beneath the Unit are towards the east.

2.2.3 Potentiometric Surface Evaluation

Historical static water level data for the Unit are summarized in Table 1. Consistent with the requirements of the CCR Rule, the rate and direction of groundwater flow within the uppermost aquifer beneath the Unit was determined after each sampling event. The Potentiometric Surface Maps presented as Drawings 2 and 3 were prepared using static water level data obtained during the first and second semi-annual 2020 AMP events on April 13 and October 12, 2020, respectively. The interpreted data indicates that the hydraulic gradient and estimated

groundwater flow direction remains consistent with previous interpretations. Based on network review and regulatory requirements, Golder believes that the groundwater monitoring wells continue to be operated and maintained so that they perform to the design specifications in the Groundwater Monitoring System Certification for the Unit (AECOM, 2017b) consistent with 40CFR Part 257.91(e)(2) of the CCR Rule.

Using the groundwater contours presented as an overlay on Drawings 2 and 3, the average hydraulic gradient for the uppermost aquifer in the study area was calculated for each monitoring event using the following equations.

The average hydraulic gradient along the ideal flow line beneath the Unit was calculated using the following equations:

$$i = {}^{h_L}\!/_{L}$$

Where: i = hydraulic gradient (unitless)
h_L = head loss (elevation difference in feet)
L = length (horizontal distance in feet)

The groundwater flow rate was calculated using the following formula:

$$V = {}^{ki}\!/_{\theta}$$

Where: V= Groundwater Velocity (cm/s)
k = hydraulic conductivity (cm/s)
i = hydraulic gradient (unitless)
θ = assumed porosity (unitless)

Using the estimated effective porosity value of 10% for the weathered and fractured bedrock comprising the uppermost aquifer, the estimated average hydraulic conductivity values for the different matrices of 1.17E-05 centimeters per second (geometric average of available slug test data), and the calculated gradient, the average rate of groundwater flow (*Vgw*) for the saprolite comprising the uppermost aquifer beneath the Unit was calculated and is summarized in the following table.

Groundwater Flow	Hydraulic Conductivity (k, cm/s)	Contour lines (feet amsl)	Flow Length (feet)	Average Gradient (i)	Assumed Porosity (Ø)	Estimated Groundwater Velocity	
						(cm/s)	(feet/year)
1st Semi-Annual Assessment Monitoring Program Event (April 2020)							
Vgw	1.17E-05	3500-3300	3,564	0.056	0.10	6.6E-06	6.8
2nd Semi-Annual Assessment Monitoring Program Event (October 2020)							
Vgw	1.17E-05	3500-3300	3,594	0.056	0.10	6.6E-06	6.8

As presented, the estimated average groundwater flow rate in the uppermost aquifer beneath the Unit is approximately 6.8 feet per year. The calculated flow rate for the events conducted in 2020 is consistent with previous calculations for the Unit.

3.0 FIELD ACTIVITIES

Pursuant to the requirements in 40 CFR 257.95(d)(1) two semi-annual AMP events were completed for the Unit for the constituents and parameters listed in Appendix III and Appendix IV of the CCR Rule. Summaries of the AMP sampling events are presented below.

Monitoring Event	Sample Dates	Final Laboratory Package Receipt Date
1st Semi-Annual Assessment Monitoring Program Event	April 14, 2020	June 19, 2020
2nd Semi-Annual Assessment Monitoring Program Event	October 13, 2020	December 24, 2020

During each of the AMP sampling events, the compliance monitoring wells were sampled in accordance with the procedures presented in the Station's GMP (AECOM, 2017a).

Samples collected during each of the sampling events were shipped via FedEx on ice in secured coolers under chain-of-custody control to Eurofins TestAmerica Laboratories Inc. (TestAmerica) in North Canton, Ohio (#210). Total dissolved solids and radium samples were then shipped to the Pittsburgh, Pennsylvania (#142) and St. Louis, Missouri (#381) locations of TestAmerica for analysis. The three TestAmerica locations are West Virginia Department of Environmental Protection accredited laboratories for CCR Rule Appendix III and IV constituents analyzed.

4.0 LABORATORY ANALYTICAL RESULTS

Laboratory analytical results from the AMP sampling events conducted in 2020 are summarized in the following sections.

4.1 1st Semi-Annual Assessment Monitoring Program Event

The groundwater samples collected during the first semi-annual AMP event were analyzed by TestAmerica for the presence of concentrations of the constituents and parameters listed in Appendix III and Appendix IV of the CCR Rule. The laboratory certificates of analysis, chain-of-custody forms, and field logs for the sampling event are presented in Appendix A. A summary of the CCR sampling data for the Unit is included in Table 3.

4.2 2nd Semi-Annual Assessment Monitoring Program Event

The groundwater samples collected during the second semi-annual AMP event were analyzed by TestAmerica for the presence of concentrations of the constituents and parameters listed in Appendix III of the CCR rule and previously detected CCR Rule Appendix IV constituents. The current list of Appendix IV detects is as follows:

- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Selenium
- Thallium
- Total Radium

Pursuant to CCR Rule §257.95(b), all Appendix IV constituents were sampled during the first semi-annual event. However due to laboratory oversight, mercury analysis for all samples for the first semi-annual AMP event were analyzed past the method holding time. Due to this, and despite mercury not being a previously detected constituent for Appendix IV, mercury was sampled for during the second semi-annual AMP event to confirm the out of hold results. The non-detects were confirmed and mercury has not been added to the current list of Appendix IV detects.

The laboratory certificates of analysis, chain-of-custody forms, and field logs for the sampling event are presented in Appendix B. A summary of the CCR sampling data for the Unit is included in Table 4.

5.0 DATA QUALITY VALIDATION

The Quality Assurance (QA) and quality control (QC) data provided by the laboratory for the AMP sampling events were reviewed to ensure that the analytical results met the project's data quality objectives as outlined in the Station's GMP (AECOM, 2017a). The review process was performed in general accordance with procedures outlined in the following guidance documents:

- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA, 2017); and
- *Evaluation of Radiochemical Data Usability.* 1997. Department of Energy (DOE; Paar, J.G. *et al,* April 1997); and
- Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites (DOE, 2017).

5.1 1st Semi-Annual Compliance Event Findings

The laboratory and field QA/QC data for the first semi-annual 2020 compliance monitoring event samples collected April 14, 2020, were reviewed in accordance with United States Environmental Protection Agency (EPA) and DOE Protocol. Field QA/QC samples for this event included a field blank and a duplicate sample that was collected from compliance well MW-22 that were collected at the Unit on April 14, 2020. These QA/QC samples were analyzed for the same constituents as the groundwater samples. Based on review of the laboratory-provided QC data and EPA/DOE guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. It is noted that due to laboratory oversight, mercury analysis for all samples were analyzed 9 days past the method holding time. All of the mercury results have been qualified as non-detect estimated (UJ). A copy of the data validation record is presented in Appendix A.

5.2 2nd Semi-Annual Compliance Event Findings

The laboratory and field QA/QC data for the second semi-annual 2020 compliance monitoring event samples collected October 13, 2020, were reviewed in accordance with EPA and DOE Protocol. Field QA/QC samples for this event included a field blank and a duplicate sample that was collected from compliance well MW-22 that were collected at the Unit on October 13, 2020. These QA/QC samples were analyzed for the same constituents as the groundwater samples. Based on review of the laboratory-provided QC data and EPA/DOE guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. A copy of the data validation record is presented in Appendix B.

6.0 STATISTICAL EVALUATION OF GROUNDWATER DATA

Per 40 CFR Part 257.94(e)(1), the Unit advanced into the AMP in March 2018. Consistent with the CCR Rule requirements the 2020 monitoring results were compared to Facility background concentrations and GWPS established on October 17, 2018, and updated on September 17, 2020.

6.1 2nd Semi-Annual 2019 Assessment Monitoring Data Evaluations

Pursuant to 40 CFR Subpart 257.95(e,f,g), the results from the Unit's monitoring wells were compared to established background concentrations and SSIs were identified over the Unit's background for the second semi-annual AMP sampling event. Concentrations above background are identified in Table 2.

There were no GWPS exceedances identified for the second semi-annual 2019 AMP sampling event.

6.2 1st Semi-Annual 2020 Assessment Monitoring Data Evaluations

Pursuant to 40 CFR Subpart 257.95(e,f,g), the results from the Unit's monitoring wells were compared to updated background concentrations and SSIs were identified over the Unit's background for the first semi-annual AMP sampling event. Concentrations above background are identified in Table 3.

There were no GWPS exceedances identified for the first semi-annual 2020 AMP sampling event.

6.3 2nd Semi-Annual 2020 Assessment Monitoring Data Evaluations

The data for the second semi-annual AMP sampling event are being evaluated against the established GWPS for the Unit and the Facility background concentrations in accordance with the CCR Rule timeframes. The results from those evaluations will be presented in the *2021 Annual Groundwater Monitoring and Corrective Action Report*.

7.0 CONCLUSIONS

7.1 Findings

The first semi-annual 2020 AMP compliance sampling event was completed on April 14, 2020, with sample analyses completed on June 19, 2020. The second semi-annual 2020 AMP compliance sampling event was completed on October 13, 2020, with sample analyses complete on December 24, 2020. These groundwater sampling and analysis activities were conducted in general accordance with the requirements of the Unit's GMP for the CCR network.

Comparisons of the laboratory analytical results from the 2019 second semi-annual and 2020 first semi-annual sampling events to established GWPS identified no GWPS exceedances. Monitoring results from the second semi-annual 2020 AMP event conducted in October 2020 are being evaluated against site-specific GWPS in accordance with the applicable CCR Rule timeframe.

7.2 Planned Activities

Based on the results presented herein, Dominion Energy intends to complete the required data evaluations for the second semi-annual 2020 AMP sampling event within the CCR Rule prescribed timeframe and continue semi-annual groundwater monitoring activities in 2021 that are consistent with the provisions in the CCR Rule [part 257.95 *et. seq*] and the Unit's GMP.

8.0 REFERENCES

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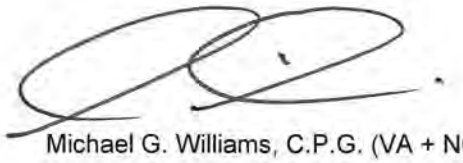
9.0 SIGNATURE SECTION

This *2020 Annual CCR Groundwater Monitoring and Corrective Action Report* (Report) has been prepared by a qualified groundwater scientist on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Mt. Storm Power Station Phase A Industrial Landfill. This Report satisfies the reporting requirements specified in Title 40 Code of Federal Regulations (CFR) Part 257.90(e) *et seq*. [*Disposal of Coal Combustion Residuals* (CCR) *from Electric Utilities* (CCR Rule; Federal Register Vol. 80, No. 74, 21302-21501 on April 17, 2015, as amended)].

Signature

Name & Title



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https://golderassociates.sharepoint.com/sites/124100/project files/6 deliverables/phase a/2021-01-31 msps phase a ccr amr/2021-01-29 mount storm phase a ccr amr.docx

TABLES

TABLE 1

SUMMARY OF HISTORICAL CCR STATIC WATER LEVEL DATA
MOUNT STORM POWER STATION PHASE A LANDFILL

Monitoring Well	Top of Casing Elevation (ft ASML)	Date	Depth to Water (feet)	Static Water Level Elevation (ft AMSL)
MW-22	3,569.70	03/15/2016	16.96	3552.74
		06/21/2016	18.72	3550.98
		08/23/2016	19.11	3550.59
		10/12/2016	18.55	3551.15
		04/04/2017	15.97	3553.73
		05/09/2017	15.82	3553.88
		06/20/2017	19.48	3550.22
		08/22/2017	18.79	3550.91
		10/04/2017	22.29	3547.41
		10/12/2017	23.00	3546.70
		03/19/2018	16.85	3552.85
		06/05/2018	15.74	3553.96
		10/29/2018	16.59	3553.11
		4/16/2019	18.40	3551.30
		10/28/2019	24.89	3544.81
		04/13/2020	15.79	3553.91
		10/12/2020	22.61	3547.09
MWFGDW2	3,519.70	03/15/2016	19.48	3500.22
		06/21/2016	22.42	3497.28
		08/23/2016	20.75	3498.95
		10/12/2016	19.54	3500.16
		04/04/2017	18.43	3501.27
		05/09/2017	18.92	3500.78
		06/20/2017	22.70	3497.00
		08/22/2017	23.38	3496.32
		10/12/2017	NM	NM
		03/19/2018	19.21	3500.49
		06/05/2018	28.62	3491.08
		10/29/2018	19.55	3500.15
		04/16/2019	19.59	3500.11
		10/28/2019	20.18	3499.52
		04/13/2020	16.97	3502.73
		10/12/2020	BTOP (>25.00)	<3494.70

TABLE 1

SUMMARY OF HISTORICAL CCR STATIC WATER LEVEL DATA
MOUNT STORM POWER STATION PHASE A LANDFILL

Monitoring Well	Top of Casing Elevation (ft ASML)	Date	Depth to Water (feet)	Static Water Level Elevation (ft AMSL)
MW-5	3,382.09	03/15/2016	36.65	3345.44
		06/21/2016	37.00	3345.09
		08/24/2016	37.42	3344.67
		10/12/2016	37.51	3344.58
		04/04/2017	36.27	3345.82
		05/08/2017	35.28	3346.81
		06/20/2017	37.72	3344.37
		08/23/2017	37.12	3344.97
		10/05/2017	37.71	3344.38
		10/12/2017	37.84	3344.25
		03/19/2018	36.52	3345.57
		06/05/2018	35.59	3346.50
		10/29/2018	36.28	3345.81
		04/15/2019	36.82	3345.27
		10/28/2019	38.45	3343.64
		04/13/2020	36.30	3345.79
		10/12/2020	38.19	3343.90
MW-8	3,391.80	03/15/2016	17.19	3374.61
		06/21/2016	20.38	3371.42
		08/24/2016	24.80	3367.00
		10/12/2016	19.91	3371.89
		04/05/2017	16.76	3375.04
		05/09/2017	16.73	3375.07
		06/21/2017	42.35	3349.45
		08/23/2017	39.92	3351.88
		10/12/2017	NM	NM
		03/19/2018	32.90	3358.90
		06/05/2018	23.89	3367.91
		10/29/2018	18.08	3373.72
		4/15/2019	18.75	3373.05
		10/28/2019	51.11	3340.69
		04/13/2020	17.54	3374.26
		10/12/2020	51.01	3340.79

TABLE 1

SUMMARY OF HISTORICAL CCR STATIC WATER LEVEL DATA
MOUNT STORM POWER STATION PHASE A LANDFILL

Monitoring Well	Top of Casing Elevation (ft ASML)	Date	Depth to Water (feet)	Static Water Level Elevation (ft AMSL)
MW-10	3,406.82	03/15/2016	23.18	3383.64
		06/21/2016	23.70	3383.12
		08/24/2016	23.73	3383.09
		10/12/2016	23.41	3383.41
		04/04/2017	23.33	3383.49
		05/08/2017	23.22	3383.60
		06/21/2017	23.64	3383.18
		08/23/2017	23.75	3383.07
		10/05/2017	29.88	3376.94
		10/12/2017	31.56	3375.26
		03/19/2018	23.59	3383.23
		06/05/2018	23.22	3383.60
		10/29/2018	23.85	3382.97
		4/15/2019	23.24	3383.58
		10/28/2019	23.80	3383.02
		04/13/2020	22.23	3384.59
		10/12/2020	27.40	3379.42
MWFGDW3	3,320.78	03/15/2016	12.40	3308.38
		06/21/2016	14.86	3305.92
		08/24/2016	17.44	3303.34
		10/12/2016	13.21	3307.57
		04/05/2017	10.25	3310.53
		05/09/2017	9.62	3311.16
		06/21/2017	17.30	3303.48
		08/23/2017	17.95	3302.83
		03/19/2018	NM	NM
		06/05/2018	NM	NM
		10/29/2018	12.06	3308.72
		4/15/2019	13.27	3307.51
		10/28/2019	19.02	3301.76
		04/13/2020	9.79	3310.99
		10/12/2020	21.80	3298.98

TABLE 1

SUMMARY OF HISTORICAL CCR STATIC WATER LEVEL DATA
MOUNT STORM POWER STATION PHASE A LANDFILL

Monitoring Well	Top of Casing Elevation (ft ASML)	Date	Depth to Water (feet)	Static Water Level Elevation (ft AMSL)
MWFGDW4	3,302.57	03/15/2016	16.30	3286.27
		06/21/2016	20.44	3282.13
		08/24/2016	29.36	3273.21
		10/12/2016	17.11	3285.46
		04/05/2017	12.02	3290.55
		05/09/2017	11.97	3290.60
		06/21/2017	29.28	3273.29
		08/23/2017	28.17	3274.40
		03/19/2018	NM	NM
		06/05/2018	NM	NM
		10/29/2018	16.15	3286.42
		4/15/2019	18.73	3283.84
		10/28/2019	30.33	3272.24
		04/13/2020	12.72	3289.85
		10/12/2020	30.14	3272.43
MWFGDW5	3,296.92	03/15/2016	0.00	3296.92
		06/21/2016	1.24	3295.68
		08/24/2016	4.36	3292.56
		10/12/2016	1.95	3294.97
		04/05/2017	0.00	3296.92
		05/09/2017	0.00	3296.92
		06/21/2017	3.37	3293.55
		08/23/2017	4.85	3292.07
		03/19/2018	NM	NM
		06/05/2018	NM	NM
		10/29/2018	0.53	3296.39
		4/15/2019	0.90	3296.02
		10/28/2019	13.91	3283.01
		04/13/2020	-1.19	3298.11
		10/12/2020	13.36	3283.56

TABLE 1

SUMMARY OF HISTORICAL CCR STATIC WATER LEVEL DATA

MOUNT STORM POWER STATION PHASE A LANDFILL

Monitoring Well	Top of Casing Elevation (ft ASML)	Date	Depth to Water (feet)	Static Water Level Elevation (ft AMSL)
MWFGDW6	3,298.30	03/15/2016	17.66	3271.64
		06/21/2016	18.60	3270.70
		08/23/2016	19.38	3269.92
		10/12/2016	19.09	3270.21
		04/05/2017	17.79	3271.51
		05/08/2017	17.84	3271.46
		06/20/2017	18.90	3270.40
		08/23/2017	19.18	3270.12
		10/16/2017	20.68	3268.62
		03/19/2018	18.02	3271.28
		06/05/2018	17.39	3271.91
		10/29/2018	18.15	3271.15
		4/15/2019	18.51	3270.79
		10/28/2019	20.49	3268.81
		04/13/2020	17.67	3271.63
		10/12/2020	20.39	3268.91
Notes:	ft - Feet			
	ft AMSL - Feet Above Mean Sea Level			
	BTOP - Below Top of Pump			

Table 2
Summary of 2nd Semi-Annual 2019 Assessment Monitoring Program Event Data (October 2019)
Phase A Landfill, Mount Storm Power Station

				Upgradient Wells								Downgradient Wells														Field Quality Control							
			Sample ID:	MW-22				MWFGDW2				MW-05				MW-08				MW-10				MWFGDW6				MW-10 - DUP				Field Blank			
			Sample Date:	10/29/2019				10/29/2019				10/29/2019				10/29/2019				10/29/2019				10/29/2019				10/29/2019				10/29/2019			
Parameter Name	**Units**	**CCR Site-Specific BKGD**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**
CCR Appendix III Constituents																																	
Boron	mg/L	QL (0.1)	--	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1
Calcium	mg/L	120	--	**120**		0.58	1	**58**		0.58	1	**40**		0.58	1	**36**		0.58	1	**3.6**		0.58	1	**22**		0.58	1	**3.2**		0.58	1	< 0.58		0.58	1
Chloride	mg/L	1.9	--	**1.0**		0.28	1	**1.5**		0.28	1	**1.3**		0.28	1	**48**		0.28	1	**0.76**	J	0.28	1	**2.3**		0.28	1	**0.81**	J	0.28	1	< 0.28		0.28	1
Fluoride	mg/L	0.101	4	**0.056**		0.24	0.05	**0.069**		0.24	0.05	**0.05**		0.24	0.05	**0.063**		0.24	0.05	**0.027**	J	0.24	0.05	**0.083**		0.24	0.05	< 0.024		0.24	0.05	< 0.024		0.24	0.05
pH	SU	5.57-7.83	--	6.31		0.01	0.01	6.52		0.01	0.01	6.59		0.01	0.01	6.45		0.01	0.01	4.67		0.01	0.01	6.17		0.01	0.01	--		0.01	0.01	--		0.01	0.01
Sulfate	mg/L	42.3	--	**26**		0.35	1	**50**		0.35	1	**12**		0.35	1	**19**		0.35	1	**6.9**		0.35	1	**9.6**		0.35	1	**6.0**		0.35	1	< 0.35		0.35	1
Total Dissolved Solids	mg/L	480.8	--	**250**		10	10	**110**		10	10	**74**		10	10	**79**		10	10	< 10		10	10	**66**		10	10	< 10		10	10	< 10		10	10
Detected CCR Appendix IV Constituents																																	
Arsenic	ug/L	QL (5)	10	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0
Barium	ug/L	530	2,000	**260**		2.2	5.0	**350**		2.2	5.0	**130**		2.2	5.0	**110**		2.2	5.0	**130**		2.2	5.0	**90**		2.2	5.0	**120**		2.2	5.0	< 2.2		2.2	5.0
Beryllium	ug/L	QL (1)	4	< 0.31		0.31	1.0	< 0.31		0.31	1.0	**0.31**	J	0.31	1.0	< 0.31		0.31	1.0	**0.50**	J	0.31	1.0	< 0.31		0.31	1.0	**0.32**	J	0.31	1.0	< 0.31		0.31	1.0
Cadmium	ug/L	QL (1)	5	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	**0.40**	J	0.20	1.0	< 0.20		0.20	1.0	**0.28**	J	0.20	1.0	< 0.20		0.20	1.0
Chromium	ug/L	QL (2)	100	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	**1.2**	J	0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0
Cobalt	ug/L	QL (1)	6	< 0.19		0.19	1.0	**0.27**	J	0.19	1.0	< 0.19		0.19	1.0	**1.1**		0.19	1.0	**2.4**		0.19	1.0	**0.70**	J	0.19	1.0	**3.0**		0.19	1.0	< 0.19		0.19	1.0
Fluoride	mg/L	0.101	4	**0.056**		0.24	0.05	**0.069**		0.24	0.05	**0.05**		0.24	0.05	**0.063**		0.24	0.05	**0.027**	J	0.24	0.05	**0.083**		0.24	0.05	< 0.024		0.24	0.05	< 0.024		0.24	0.05
Lead	ug/L	6.3	15	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0
Lithium	ug/L	8	40	**7.3**	J	1.7	8.0	**8.9**		1.7	8.0	**7.6**	J	1.7	8.0	**2.5**	J	1.7	8.0	< 1.7		1.7	8.0	< 1.7		1.7	8.0	< 1.7		1.7	8.0	< 1.7		1.7	8.0
Selenium	ug/L	QL (5)	50	< 0.89		0.89	5.0	< 0.89		0.89	5.0	**1.1**	J	0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0
Thallium	ug/L	QL (1)	2	< 0.20		0.20	1.0	< 0.20		0.20	1.0	**1.2**		0.20	1.0	**0.21**	J	0.20	1.0	**0.93**	J	0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0
Total Radium	pCi/L	0.58	5	**0.448**	U	0.449	0.449	**0.211**	U	0.416	0.416	**0.146**	U	0.502	0.502	**0.250**	U	0.399	0.399	**0.508**		0.432	0.432	**0.0744**	U	0.454	0.454	**0.531**		0.348	0.348	**-0.0839**	U	0.345	0.345
Field Parameters																																	
Conductivity	uS/cm	--	--	590		0.1	0.1	283.9		0.1	0.1	223.5		0.1	0.1	246.5		0.1	0.1	52.4		0.1	0.1	125.8		0.1	0.1	--		--	--	--		--	--
Depth to Water*	ft btoc	--	--	24.89		0.01	0.01	20.18		0.01	0.01	38.45		0.01	0.01	51.11		0.01	0.01	23.80		0.01	0.01	20.49		0.01	0.01	--		--	--	--		--	--
Dissolved Oxygen	mg/L	--	--	1.96		0.01	0.01	3.90		0.01	0.01	2.61		0.01	0.01	0.94		0.01	0.01	0.83		0.01	0.01	1.08		0.01	0.01	--		--	--	--		--	--
Groundwater Elevation*	ft msl	--	--	3544.81		0.01	0.01	3499.52		0.01	0.01	3343.64		0.01	0.01	3340.69		0.01	0.01	3383.02		0.01	0.01	3268.81		0.01	0.01	--		--	--	--		--	--
Oxidation Reduction Potential	millivolts	--	--	174.9		0.1	0.1	252.9		0.1	0.1	103.5		0.1	0.1	346.6		0.1	0.1	273.9		0.1	0.1	253.6		0.1	0.1	--		--	--	--		--	--
Temperature	C	--	--	9.5		0.01	0.01	11.5		0.01	0.01	10.0		0.01	0.01	9.5		0.01	0.01	11.5		0.01	0.01	11.3		0.01	0.01	--		--	--	--		--	--
Turbidity	ntu	--	--	9.8		0.1	0.1	4.08		0.1	0.1	9.0		0.1	0.1	9.91		0.1	0.1	8.9		0.1	0.1	2.39		0.1	0.1	--		--	--	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
mg/L = Milligram per liter
ug/L = Microgram per liter
pCi/L = picoCurie per liter
uS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
ft btoc = feet below top of casing
ft msl = feet above mean sea level
MDC = Minimum Detection Concentration
BKGD = Background
CCR = Coal Combustion Residuals
QL = Laboratory quantitation limit (value shown in parentheses is a recent QL and is subject to change)
Future QL values are subject to change; however, GWPS cannot be less than values in parentheses
GWPS = Groundwater Protection Standards
* - Groundwater Elevation data collected on October 29, 2019
Bold font = Detected constituent

Qualifiers (Qual):
J = Estimated Result
U = Radiological sample not detected above the Miniumum Detection Concentration

= Concentration greater than site-specific background

= Concentration greater than CCR GWPS and site background

Table 3
Summary of 1st Semi-Annual 2020 Assessment Monitoring Program Event Data (April 2020)
Phase A Landfill, Mount Storm Power Station

				Upgradient Wells								Downgradient Wells														Field Quality Control							
Sample ID:				**MW-22**				**MWFGDW2**				**MW-05**				**MW-08**				**MW-10**				**MWFGDW6**				**MW-22 DUP**				**Field Blank**			
Sample Date:				**04/14/2020**				**04/14/2020**				**04/14/2020**				**04/14/2020**				**04/14/2020**				**04/14/2020**				**04/14/2020**				**04/14/2020**			
Parameter Name	**Units**	**CCR Site-Specific BKGD**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**
CCR Appendix III Constituents																																	
Boron	mg/L	QL (0.1)	--	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1
Calcium	mg/L	120	--	**96**		1.2	2	**35**		0.58	1	**32**		0.58	1	**12**		0.58	1	**3.7**		0.58	1	**9.9**		0.58	1	**90**		1.2	2	< 0.58		0.58	1
Chloride	mg/L	2.477	--	**0.76**	J	0.28	1	**0.87**	J	0.28	1	**1.3**		0.28	1	**51**		0.28	1	**0.6**	J	0.28	1	**2.2**		0.28	1	**0.75**	J	0.28	1	< 0.28		0.28	1
Fluoride	mg/L	0.114	4	**0.046**	J	0.024	0.05	**0.059**		0.024	0.05	**0.042**	J	0.024	0.05	**0.035**	J	0.024	0.05	**0.039**	J	0.024	0.05	**0.05**		0.024	0.05	**0.041**	J	0.024	0.05	< 0.024		0.024	0.05
pH	SU	6.10 - 8.52	--	6.82		0.01	0.01	6.82		0.01	0.01	6.57		0.01	0.01	5.21		0.01	0.01	4.82		0.01	0.01	5.92		0.01	0.01	--		0.01	0.01	--		0.01	0.01
Sulfate	mg/L	47.75	--	**29**		0.35	1	**41**		0.35	1	**11**		0.35	1	**15**		0.35	1	**7.6**		0.35	1	**12**		0.35	1	**27**		0.35	1	< 0.35		0.35	1
Total Dissolved Solids	mg/L	380	--	**330**		10	10	**150**		10	10	**140**		10	10	**140**		10	10	**34**		10	10	**46**		10	10	**310**		10	10	< 10		10	10
CCR Appendix IV Constituents																																	
Antimony	ug/L	QL (2)	--	< 0.57		0.57	2.0	< 0.57		0.57	2.0	< 0.57		0.57	2.0	< 0.57		0.57	2.0	< 0.57		0.57	2.0	< 0.57		0.57	2.0	< 0.57		0.57	2.0	< 0.57		0.57	2.0
Arsenic	ug/L	QL (5)	10	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0
Barium	ug/L	495.8	2,000	**210**		2.2	5.0	**240**		2.2	5.0	**120**		2.2	5.0	**30**		2.2	5.0	**130**		2.2	5.0	**120**		2.2	5.0	**230**		2.2	5.0	< 2.2		2.2	5.0
Beryllium	ug/L	1.6	4	< 0.31		0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0	**0.42**	J	0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0
Cadmium	ug/L	QL (3)	5	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	**0.34**	J	0.20	1.0	**0.27**	J	0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0
Chromium	ug/L	QL (5)	100	**2.6**		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	**0.98**	J	0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0
Cobalt	ug/L	QL (5)	6	**2.3**		0.19	1.0	< 0.19		0.19	1.0	**0.19**	J	0.19	1.0	< 0.19		0.19	1.0	**0.52**	J	0.19	1.0	**2.6**		0.19	1.0	**0.75**	J	0.19	1.0	< 0.19		0.19	1.0
Fluoride	mg/L	0.114	4	**0.046**	J	0.024	0.05	**0.059**		0.024	0.05	**0.042**	J	0.024	0.05	**0.035**	J	0.024	0.05	**0.039**	J	0.024	0.05	**0.05**		0.024	0.05	**0.041**	J	0.024	0.05	< 0.024		0.024	0.05
Lead	ug/L	6.3	15	**1.8**		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	**0.60**	J	0.45	1.0	**0.59**	J	0.45	1.0	< 0.45		0.45	1.0
Lithium	ug/L	QL (50)	40	**9.2**		1.7	8.0	**5.3**	J	1.7	8.0	**6.8**	J	1.7	8.0	**2.0**	J	1.7	8.0	< 1.7		1.7	8.0	< 1.7		1.7	8.0	**7.0**	J	1.7	8.0	< 1.7		1.7	8.0
Mercury	ug/L	QL (0.2)	--	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20	< 0.13	H	0.13	0.20
Molybdenum	ug/L	20	--	< 1.1		1.1	10	< 1.1		1.1	10	< 1.1		1.1	10	< 1.1		1.1	10	< 1.1		1.1	10	< 1.1		1.1	10	< 1.1		1.1	10	< 1.1		1.1	10
Selenium	ug/L	QL (5)	50	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0
Thallium	ug/L	QL (1)	2	**0.34**	J	0.20	1.0	**0.25**	J	0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0
Total Radium	pCi/L	QL (5)	5	**0.999**		0.736	0.736	**0.859**		0.498	0.498	**0.0148**	U	0.381	0.381	**-0.0603**	U	0.427	0.427	**0.322**	U	0.606	0.606	**0.302**	U	0.502	0.502	**0.139**	U	0.586	0.586	**-0.0526**	U	0.521	0.521
Field Parameters																																	
Conductivity	uS/cm	--	--	531		0.1	0.1	248.0		0.1	0.1	230.1		0.1	0.1	236.5		0.1	0.1	46.4		0.1	0.1	80.1		0.1	0.1	--		--	--	--		--	--
Depth to Water*	ft btoc	--	--	15.79		0.01	0.01	16.97		0.01	0.01	36.30		0.01	0.01	17.54		0.01	0.01	22.23		0.01	0.01	17.67		0.01	0.01	--		--	--	--		--	--
Dissolved Oxygen	mg/L	--	--	3.05		0.01	0.01	6.82		0.01	0.01	0.42		0.01	0.01	5.65		0.01	0.01	5.17		0.01	0.01	5.20		0.01	0.01	--		--	--	--		--	--
Groundwater Elevation*	ft msl	--	--	3553.91		0.01	0.01	3502.73		0.01	0.01	3345.79		0.01	0.01	3374.26		0.01	0.01	3384.59		0.01	0.01	3271.63		0.01	0.01	--		--	--	--		--	--
Oxidation Reduction Potential	millivolts	--	--	182.8		0.1	0.1	182.3		0.1	0.1	-10.0		0.1	0.1	354.9		0.1	0.1	270.8		0.1	0.1	249.8		0.1	0.1	--		--	--	--		--	--
Temperature	C	--	--	8.3		0.01	0.01	7.7		0.01	0.01	8.9		0.01	0.01	8.6		0.01	0.01	8.6		0.01	0.01	8.7		0.01	0.01	--		--	--	--		--	--
Turbidity	ntu	--	--	9.77		0.1	0.1	1.9		0.1	0.1	4.54		0.1	0.1	0.7		0.1	0.1	9.00		0.1	0.1	9.7		0.1	0.1	--		--	--	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
mg/L = Milligram per liter
ug/L = Microgram per liter
pCi/L = picoCurie per liter
uS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
ft btoc = feet below top of casing
ft msl = feet above mean sea level
MDC = Minimum Detection Concentration
BKGD = Background
CCR = Coal Combustion Residuals
QL = Laboratory quantitation limit (value shown in parentheses is a recent QL and is subject to change)
Future QL values are subject to change; however, GWPS cannot be less than values in parentheses
GWPS = Groundwater Protection Standards
* - Groundwater Elevation data collected on April 13, 2020
Bold font = Detected constituent

Qualifiers (Qual):
J = Estimated Result
U = Radiological sample not detected above the Miniumum Detection Concentration
H = Sample was prepped or analyzed beyond the specified holding time

= Concentration greater than site-specific background

= Concentration greater than CCR GWPS and site background

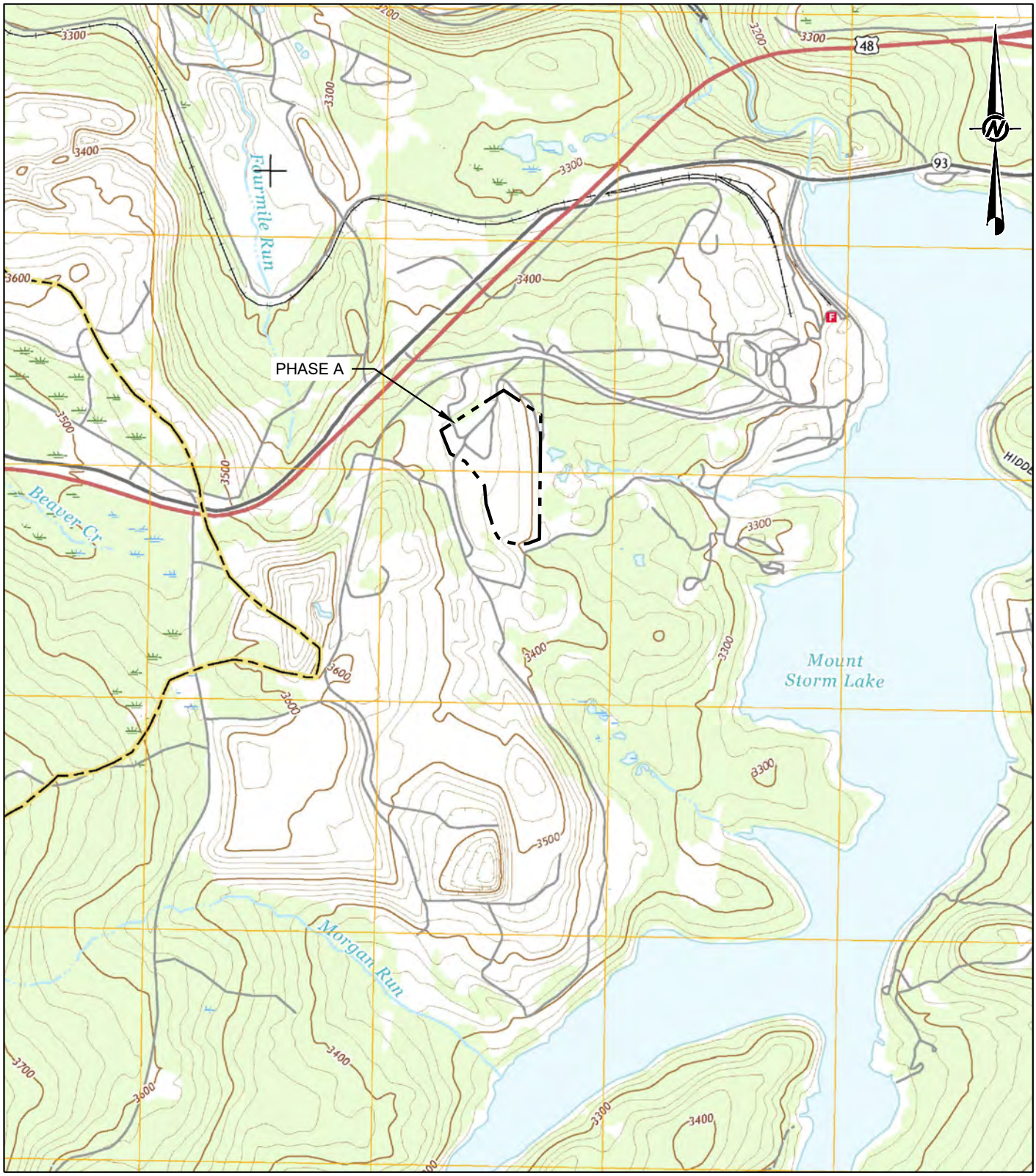
Table 4
Summary of 2nd Semi-Annual 2020 Assessment Monitoring Program Event Data (October 2020)
Phase A Landfill, Mount Storm Power Station

		Upgradient Wells								Downgradient Wells														Field Quality Control							
Sample ID:		MW-22				MWFGDW2				MW-05				MW-08				MW-10				MWFGDW6				MW-22 - DUP				Field Blank			
Sample Date:		10/13/2020				10/13/2020				10/13/2020				10/13/2020				10/13/2020				10/13/2020				10/13/2020				10/13/2020			
Parameter Name	**Units**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**RL**
CCR Appendix III Constituents																															
Boron	mg/L	< 0.023		0.023	0.1	< 0.023		0.023	0.1	**0.048**	J	0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	< 0.023		0.023	0.1	**0.032**	J	0.023	0.1
Calcium	mg/L	**100**		0.58	1	**70**		0.58	1	**40**		0.58	1	**32**		0.58	1	**3.9**		0.58	1	**20**		0.58	1	**100**		0.58	1	< 0.58		0.58	1
Chloride	mg/L	**0.74**	J	0.28	1	**0.96**	J	0.28	1	**1.4**		0.28	1	**44**		0.28	1	**0.83**	J	0.28	1	**2.8**	J	2.8	10	**0.77**	J	0.28	1	< 0.28		0.28	1
Fluoride	mg/L	**0.05**		0.024	0.05	**0.094**		0.024	0.05	**0.051**		0.024	0.05	**0.062**		0.024	0.05	**0.044**	J	0.024	0.05	< 0.24		0.24	0.5	**0.045**	J	0.024	0.05	< 0.024		0.024	0.05
pH	SU	6.65		0.01	0.01	6.50		0.01	0.01	6.75		0.01	0.01	6.10		0.01	0.01	4.64		0.01	0.01	6.09		0.01	0.01	--		0.01	0.01	--		0.01	0.01
Sulfate	mg/L	**26**		0.35	1	**39**		0.35	1	**12**		0.35	1	**22**		0.35	1	**8.2**		0.35	1	**6100**		17	50	**26**		0.35	1	< 0.35		0.35	1
Total Dissolved Solids	mg/L	**330**		10	10	**240**		10	10	**130**		10	10	**160**		10	10	**240**		10	10	**97**		10	10	**320**		10	10	< 10		10	10
Detected CCR Appendix IV Constituents																															
Arsenic	ug/L	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0	< 0.75		0.75	5.0
Barium	ug/L	**290**		2.2	5.0	**320**		2.2	5.0	**150**		2.2	5.0	**110**		2.2	5.0	**140**		2.2	5.0	**93**		2.2	5.0	**290**		2.2	5.0	< 2.2		2.2	5.0
Beryllium	ug/L	< 0.31		0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0	**0.49**	J	0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0	< 0.31		0.31	1.0
Cadmium	ug/L	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	**0.28**	J	0.20	1.0	**0.22**	J	0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0
Chromium	ug/L	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	**2.2**		0.98	2.0	**1.1**	J	0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0	< 0.98		0.98	2.0
Cobalt	ug/L	**0.85**	J	0.19	1.0	**< 0.19**		0.19	1.0	**1.2**		0.19	1.0	**2.5**		0.19	1.0	**2.1**		0.19	1.0	**3.4**		0.19	1.0	**0.42**	J	0.19	1.0	< 0.19		0.19	1.0
Fluoride	mg/L	**0.05**		0.024	0.05	**0.094**		0.024	0.05	**0.051**		0.024	0.05	**0.062**		0.024	0.05	**0.044**	J	0.024	0.05	< 0.24		0.24	0.5	**0.045**	J	0.024	0.05	< 0.024		0.024	0.05
Lead	ug/L	**0.52**	J	0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0	**0.89**	J	0.45	1.0	**0.47**	J	0.45	1.0	**0.83**	J	0.45	1.0	< 0.45		0.45	1.0	< 0.45		0.45	1.0
Lithium	ug/L	**7.3**	J	1.7	8.0	**9.9**		1.7	8.0	**8.4**		1.7	8.0	**1.8**	J	1.7	8.0	< 1.7		1.7	8.0	< 1.7		1.7	8.0	**7.3**	J	1.7	8.0	< 1.7		1.7	8.0
Mercury	ug/L	< 0.13		0.13	0.20	< 0.13		0.13	0.20	< 0.13		0.13	0.20	< 0.13		0.13	0.20	< 0.13		0.13	0.20	< 0.13		0.13	0.20	< 0.13		0.13	0.20	< 0.13		0.13	0.20
Selenium	ug/L	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	**0.97**	J	0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0	< 0.89		0.89	5.0
Thallium	ug/L	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0
Total Radium	pCi/L	**0.307**	U	0.492	0.492	**0.0872**	U	0.482	0.482	**0.397**	U	0.474	0.474	**0.495**	U	0.511	0.511	**-0.00700**	U	0.893	0.893	**0.404**	U	0.495	0.495	**0.171**	U	0.452	0.452	**0.246**	U	0.444	0.444
Field Parameters																															
Conductivity	uS/cm	570		0.1	0.1	402.5		0.1	0.1	221.6		0.1	0.1	282.7		0.1	0.1	52.7		0.1	0.1	148.7		0.1	0.1	--		--	--	--		--	--
Depth to Water*	ft btoc	22.61		0.01	0.01	>25.00		0.01	0.01	38.19		0.01	0.01	51.01		0.01	0.01	27.40		0.01	0.01	20.39		0.01	0.01	--		--	--	--		--	--
Dissolved Oxygen	mg/L	2.39		0.01	0.01	4.62		0.01	0.01	2.82		0.01	0.01	2.77		0.01	0.01	0.90		0.01	0.01	1.88		0.01	0.01	--		--	--	--		--	--
Groundwater Elevation*	ft msl	3547.09		0.01	0.01	<3494.70		0.01	0.01	3343.90		0.01	0.01	3340.79		0.01	0.01	3379.42		0.01	0.01	3268.91		0.01	0.01	--		--	--	--		--	--
Oxidation Reduction Potential	millivolts	214.2		0.1	0.1	189.5		0.1	0.1	43.9		0.1	0.1	223.6		0.1	0.1	317.0		0.1	0.1	160.2		0.1	0.1	--		--	--	--		--	--
Temperature	C	9.4		0.01	0.01	11.2		0.01	0.01	9.6		0.01	0.01	9.3		0.01	0.01	9.9		0.01	0.01	11.1		0.01	0.01	--		--	--	--		--	--
Turbidity	ntu	10.2		0.1	0.1	3.31		0.1	0.1	9.8		0.1	0.1	8.57		0.1	0.1	10.8		0.1	0.1	9.85		0.1	0.1	--		--	--	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
mg/L = Milligram per liter
ug/L = Microgram per liter
pCi/L = picoCurie per liter
uS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
ft btoc = feet below top of casing
ft msl = feet above mean sea level
CCR = Coal Combustion Residuals
* - Groundwater Elevation data collected on October 12, 2020
(">" symbol indicates depth to water is located below indicated top of sample pump elevation)
Bold font = Detected constituent

Qualifiers (Qual):
J = Estimated Result
U = Radiological sample not detected above the Miniumum Detection Concentration

DRAWINGS



REFERENCE

BASE MAP CONSISTS OF USGS TOPOGRAPHIC QUADRANGLES
MOUNT STORM LAKE AND GREENLAND GAP, WEST VIRGINIA, DATED 2016.

2000 0 2000
SCALE FEET

CLIENT
DOMINION ENERGY

PROJECT
MOUNT STORM POWER STATION
PHASE A LANDFILL

CONSULTANT
GOLDER

YYYY-MM-DD	2018-12-14
DESIGNED	-
PREPARED	BPG
REVIEWED	MGW
APPROVED	MGW

TITLE
SITE LOCATION MAP

PROJECT NO. 20139936 | REV. 0 | DRAWING 1

LEGEND

- APPROXIMATE LANDFILL BOUNDARY
- APPROXIMATE STREAM CENTERLINE
- 3300 — POTENTIOMETRIC SURFACE CONTOUR
- APPROXIMATE GROUNDWATER FLOW LINE
- *i* gw = 3,564' — GROUNDWATER FLOW PATH LENGTH (FEET)
- MW-10 — EXISTING VPDES GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
- (3384.59) — STATIC GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

REFERENCE

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO ON 05/14/2018. MAP DATA BY: GOOGLE, IMAGERY DATE: 11/19/2013

1000 0 1000
SCALE FEET

CLIENT
DOMINION ENERGY

CONSULTANT
GOLDER

YYYY-MM-DD	2020-05-21
DESIGNED	ALR
PREPARED	SIB
REVIEWED	
APPROVED	

PROJECT
MOUNT STORM POWER STATION
PHASE A LANDFILL

TITLE
POTENTIOMETRIC SURFACE MAP
APRIL 13, 2020

PROJECT NO.
20-139936

REV.
0

DRAWING
2

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

0 1 in

Path: G:\Plan Production Data Files\Drawing Data Files\20-139936\A - GW-Map\Active Drawings\20139936A03-1.dwg

LEGEND

- APPROXIMATE LANDFILL BOUNDARY
- APPROXIMATE STREAM CENTERLINE
- 3300 — POTENTIOMETRIC SURFACE CONTOUR
- APPROXIMATE GROUNDWATER FLOW LINE
- *i* gw = 3,594' — GROUNDWATER FLOW PATH LENGTH (FEET)
- MW-10 — EXISTING VPDES GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
- (3379.42) — STATIC GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

REFERENCE

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO ON 05/14/2018. MAP DATA BY: GOOGLE, IMAGERY DATE: 11/19/2013

1000 0 1000
SCALE FEET

CLIENT
DOMINION ENERGY

CONSULTANT
GOLDER

YYYY-MM-DD	2020-11-24
DESIGNED	RIP
PREPARED	RIP
REVIEWED	MGW
APPROVED	MGW

PROJECT
MOUNT STORM POWER STATION
PHASE A LANDFILL

TITLE
POTENTIOMETRIC SURFACE MAP
OCTOBER 12, 2020

PROJECT NO.
20-139936

REV.
0

DRAWING
3

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

0 1 in

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APPENDIX A

FIRST SEMI-ANNUAL ASSESSMENT MONITORING PROGRAM EVENT FIELD DATA SHEETS, LABORATORY CERTIFICATES OF ANALYSIS, CHAIN-OF-CUSTODY FORMS, AND DATA VALIDATION FORMS

Date: 4-13-2020

GOLDER

WELL GAUGING LOG

Project Name: Mt. Storm A+B (SA20 NPDES

Project No./Task No.: 20139936

Sampler(s): P. Trout / L. Grimm

Equipment: WL Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
MW-22	LG	1322	15.79	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MWFGDW2	PT	1329	16.97	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-5	LG	1417	36.30	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-6R	PT	1411	61.10	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-7	LG	1347	26.60	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-8	PT	1426	17.54	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-10	LG	1401	22.23	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-12R	PT	1451	6.67	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-13	LG	1338	18.49	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-14	PT	1342	21.44	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MWFGDW3	LG	1457	9.79	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MWFGDW4	PT	1505	12.72	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MWFGDW5	LG	1525 ~~1513~~ PT	−1.19*	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MWFGDW6	PT	1513	17.67	–	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged

Observations/Notes: * Well is artesian, WL is above top of casing.

Signature: [signature] Date: 4-16-2020

QA/QC Signature: [signature] Date: 4-17-2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 4/14/2020
Weather: Cloudy, Snow, 30's

Project Name: Mt. Storm Powerstation
Project No./Task No.: 20139936
Event: ISA20 A+B NPDES / A CCR
Sampler(s): L Grimm
Well ID: MW-5
Field Calibration Completed: @0810 on 4/14/2020
Well Diameter: 4.0 inches
Initial Depth to Water: 36.27 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 16C103994
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1717 ~~1705~~	~~6.29~~	~~243.1~~	~~4.74~~	~~0.58~~	~~9.0~~	~~-0.3~~	~~37.09~~	~400
1718 ~~1708~~	~~6.51~~	~~233.3~~	~~4.32~~	~~0.40~~	~~9.0~~	~~-6.4~~	~~37.28~~	~400
1721	6.53	232.2	4.33	0.42	8.9	-8.8	37.37	~400
1724	6.57	230.1	4.54	0.42	8.9	-10.0	37.49	~400
1726	—	—	— SAMPLED —	—	—	—	—	—
1745	6.81	196.2	3.70	3.86	9.1	-5.7	38.31	~400

Purge Cycle (End): 23/7 sec @ 30 psi
Flow Rate (ml/min End): ~400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.35
Total Purge Volume (Gallons): ~3.0
Purge Water Management: onsit oil/water separator
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purg start: ~~1700~~ LG 1710
Sample Time: 1726
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, B[illegible] Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 4/14/2020
QA/QC Signature: [signature] Date: 4-14-2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 4-14-2020
Weather: Snow, 30s

Project Name: Mt. Storm Power Station
Project No./Task No.: 20139936
Event: ISA20 NPDES, CCR III + IV
Sampler(s): P. Trout
Well ID: MW-8
Field Calibration Completed: 0810 on 4-14-20
Well Diameter: 2.0 inches
Initial Depth to Water: 16.54 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 19A101420
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [x] RTSTest+ 50 2865031

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1717	6.33	285.1	4.6	5.29	8.5	304.2	17.35	~400
1722	5.98	235.4	2.9	5.63	8.6	306.2	17.52	~400
1727	5.80	233.0	2.0	5.77	8.6	317.3	17.57	~400
1732	5.40	233.3	2.0	5.51	8.6	332.3	17.55	~400
1737	5.31	234.4	1.7	5.88	8.6	342.0	17.54	~400
1742	5.24	235.7	0.9	6.06	8.6	352.0	17.55	~400
1747	5.21	236.5	0.7	5.65	8.6	354.9	17.54	~400
1748	—	— SAMPLED						
1811	5.28	238.1	0.0	5.46	8.4	357.9	17.55	~400

Purge Cycle (End): 9/6sec @ 30 psi
Flow Rate (ml/min End): ~400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.35
Total Purge Volume (Gallons): ~5
Purge Water Management: 0.1 Water Separator On-Site
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample
Purge Start @ 1715
Sample Time: 1748
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, [ ] Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 4-14-2020
QA/QC Signature: [signature] Date: 4/14/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 4/14/2020

Weather: Cloudy, 40s

Project Name: Mt. Storm Power Station

Project No./Task No.: 20139936

Event: ISA20 A+B NPDES/A+B CCR

Sampler(s): L. Grimm

Well ID: ~~2046~~ MW-10

Field Calibration Completed: Cobio on 4/14/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 22.91 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 16C103994
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1526	6.13	47.3	4.59	3.81	8.7	82.4	23.42	~350
1529	5.60	87.4	27.50	0.81	8.8	29.9	23.92	~350
1532	5.44	64.9	27.75	0.45	8.7	57.1	24.11	~350
1535	5.23	52.8	22.47	0.85	8.8	105.1	24.32	~350
1538	5.09	48.3	13.33	1.94	8.7	144.3	24.56	~350
1541	5.08	47.1	11.23	3.09	8.7	176.0	24.81	~350
1544	4.99	46.7	12.07	3.59	8.7	193.4	25.08	~350
1547	4.87	46.4	9.91	4.46	8.7	230.4	25.33	~350
1550	4.85	46.5	8.71	4.59	8.7	241.7	25.44	~350
1553	4.84	46.4	8.36	4.98	8.7	256.4	25.54 54	~350
1556	4.83	46.4	8.39	5.08	8.7	263.1	25.78	~350
1559	4.82	46.4	9.00	5.17	8.6	270.8	26.02	~350
1603	—	—	SAMPLED	—	—	—	—	—
1625	4.82	46.3	9.54	4.79	8.6	230.4	27.97	~350

Purge Cycle (End): 22/8 sec @ 30 psi

Flow Rate (ml/min End): ~350

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.35

Total Purge Volume (Gallons): ~5.0

Purge Water Management: onsite oil/water separator

Purge Observations (color, odor, turbidity, sheen): Clear grab sample, sulfur-like odor, some suspended orange particles

Purge start: 1522

Sample Time: 1603

Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 4/14/2020

QA/QC Signature: [signature] Date: 4-14-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 4/14/2020

Weather: Cloudy, 30°

Project Name: Mt. Storm Power Station

Project No./Task No.: 20139936

Event: 1SA20 A+B NPDES/CCR

Sampler(s): L. Gimma

Well ID: MW-22

Field Calibration Completed: @ 0810 on 4/14/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 15.87 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 16C103994
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0930	6.59	582	5.85	3.11	8.1	219.5	16.15	~225
0935	6.50	544	9.42	3.00	8.1	205.2	16.24	~225
0940	6.55	537	8.98	3.08	8.1	198.5	16.25	~225
0945	6.65	535	33.60	2.95	8.1	190.2	16.25	~225
0950	6.79	533	36.10	3.00	8.2	205.0	16.27	~225
0955	6.79	533	26.22	2.99	8.3	197.0	16.28	~225
1000	6.80	532	18.36	3.02	8.4	189.4	16.30	~225
1005	6.82	531	9.77	3.05	8.3	182.8	16.31	~225
1008	—	—	— sampled —	—	—	—	—	—
1058	6.96	503	10.79	3.70	8.4	153.2	16.36	~225

Purge Cycle (End): 22/8 sec @ 30 psi Flow Rate (ml/min End): ~225

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.35

Total Purge Volume (Gallons): ~2.5 Purge Water Management: onsite oil/water seperator

Purge Observations (color, odor, turbidity, sheen): Clear grab sample

Purge start: 0925

Sample Time: 1008 Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- [x] Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: Date: 4/14/2020

QA/QC Signature: Date: 4-14-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 4-14-2020
Weather: Sun/Clouds, 70s

Project Name: Mt. Storm Power Station
Project No./Task No.: 20139936
Event: 1SA20 NPDES, CCR III + IV GW
Sampler(s): P. Trent
Well ID: MWFGDW2
Field Calibration Completed: 0810 on 4-14-2020
Well Diameter: 2.0 inches
Initial Depth to Water: 16.87 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS MKIOMAD
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP 2868031
- [x] PCTSTech50

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0927	6.69	247.7	2.4	7.25	7.7	200.9	17.09	400
0932	6.92	248.6	0.7	6.93	7.8	187.5	17.09	400
0937	6.82	248.6	0.9	6.89	7.7	186.0	17.09	400
0942	6.82	248.0	1.9	6.82	7.7	182.3	17.09	400
0943	—	SAMPLED						
1032	6.84	244.3	0.1	6.90	7.8	139.9	17.09	400

Purge Cycle (End): 24/6 sec @ 70 psi
Flow Rate (ml/min End): 400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.15
Total Purge Volume (Gallons): ~2.0
Purge Water Management: Oil/Water Separator On-Site
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample
Purge Start @ 0924
Sample Time: 0943
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- [x] Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:
MS and MSD taken here.

Sampler Signature: [signature] Date: 4-14-20 Page 1 of 1
QA/QC Signature: [signature] Date: 4/14/2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 4-14-2020
Weather: Clouds, 30s

Project Name: Mt. Storm Power Station
Project No./Task No.: 20139936
Event: ISA20 NPDES, CCR III + IV
Sampler(s): P. Trost
Well ID: MW FGDW-6
Field Calibration Completed: 0810 on 4-14-20
Well Diameter: 2.0 inches
Initial Depth to Water: 17.59 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 19K101420
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP 286303
- [x] PETS Tests SO

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
PW 1516	6.62	281.4	91.0	2.25	8.9	194.2	18.85	~400
1521	5.96	75.7	51.0	5.38	8.8	210.8	19.49	~400
1526	5.82	69.5	44.3	5.51	8.7	245.7	19.51	~400
1531	5.81	71.6	40.3	5.47	8.6	255.0	19.52	~400
1536	5.89	75.7	27.0	5.37	8.7	255.0	19.55	~400
1541	5.90	76.2	18.1	5.33	8.7	254.0	19.61	~400
1546	5.91	78.6	17.2	5.27	8.7	252.3	19.72	~400
1551	5.92	80.1	9.7	5.20	8.7	249.8	19.81	~400
1555	—	SAMPLED	—	—	—	—	—	—
1615	6.03	83.9	3.6	5.51	8.5	280.0	19.45	~400

Purge Cycle (End): 20/10 sec @ 20 psi
Flow Rate (ml/min End): ~400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.25
Total Purge Volume (Gallons): ~5.0
Purge Water Management: 0.1 Water Separator
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample
Purge Start @ 1513
Sample Time: 1555
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 4-14-2020
QA/QC Signature: [signature] Date: 4/14/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 4/14/2020

Weather: Cloudy, 30's

Project Name: Mt. Storm Powerstation

Project No./Task No.: 20139936

Event: ISA20 A+B NPDES/A+B CCR

Sampler(s): L. Grimm

Well ID: Duplicate

Field Calibration Completed: @ 0810 on 4/14/2020

Well Diameter: — inches

Initial Depth to Water: — feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [ ] YSI Pro DSS 16C103894
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1030	—	—	SAMPLED	—	—	—	—	—

Purge Cycle (End): — @ — psi Flow Rate (ml/min End): —

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —

Total Purge Volume (Gallons): — Purge Water Management: —

Purge Observations (color, odor, turbidity, sheen): Clear grab sample taken @ MW-22

Sample Time: 1030 Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- [x] Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 4/14/2020

QA/QC Signature: [signature] Date: 4/14/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 4/14/2020

Weather: Cloudy, 40s

Project Name: Mt. Storm Powerstation

Project No./Task No.: 20139936

Event: ISA20 NPDES A+B/CCR

Sampler(s): L. Grimm

Well ID: Field Blank

Field Calibration Completed: @0810 on 4/14/2020

Well Diameter: — inches

Initial Depth to Water: — feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used: ☐ WL Indicator ☐ Turbidity Meter ☐ Air Tank ☐ Dedicated Bladder Pump

☐ YSI — ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP

☐ In-Situ — ☐ MP-10 Controller Box ☐ MP-15 Controller Box ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1115			SAMPLED					

Purge Cycle (End): — @ — psi Flow Rate (ml/min End): —

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —

Total Purge Volume (Gallons): — Purge Water Management: —

Purge Observations (color, odor, turbidity, sheen): Clear grab sample taken near MW-22 using laboratory supplied DI water

Sample Time: 1115 Field Filtered (0.45um): ☐ Yes ☒ No

Sample Parameters/Analyte(s): ☐ Petro (DRO) ☒ CCR Appendix III ☒ CCR Appendix IV

☐ Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS) ☒ Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)

☐ Variance (Diss [Be, Cd, Cr, Pb, Ni]) ☐ LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228) ☒ Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228) Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 4/14/2020

QA/QC Signature: [signature] Date: 4-14-2020

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-129039-1
Client Project/Site: Mt. Storm Phase A CCR
Revision: 2

For:
Golder Associates Inc.
2108 W Laburnum Ave,
Suite 200
Richmond, Virginia 23227

Attn: Mr. Mike Williams

Authorized for release by:
6/19/2020 2:41:26 PM

John McFadden, Project Manager I
(330)497-9396
john.mcfadden@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-129038-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Report Number: 240-129038-2
Revised

Revised 6/12/2020. The report was revised to include metals by methods 6020B and 6010D.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT
The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6º C and 2.2º C.

ANIONS
Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 05/01/2020, 05/02/2020 and 05/04/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129038-4

Laboratory: Eurofins TestAmerica, Canton

Job ID: 240-129038-4 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Report Number: 240-129038-4

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The Radium analyses were performed at the Eurofins TestAmerica, St. Louis laboratory.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6º C and 2.2º C.

RADIUM-226

Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were analyzed for Radium-226 in accordance with SW846 Method 9315. The samples were prepared on 04/20/2020 and analyzed on 05/13/2020.

Ra-226 Prep Batch 160-468173: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MWFGDW2 (240-129038-2[MS]), MWFGDW2 (240-129038-2[MSD]), MW-10 (240-129038-5), FIELD BLANK (240-129038-9), DUPLICATE (240-129038-10), (LCS 160-468173/1-A), (LCSD 160-468173/2-A) and (MB 160-468173/23-B)

Radium-226 Prep Batch 160-468173: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with preparation batch 160-468173.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129038-4 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

RADIUM-228 (GFPC)
Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were analyzed for Radium-228 (GFPC) in accordance with SW846 Method 9320. The samples were prepared on 05/05/2020 and analyzed on 05/12/2020.

Radium-228 Prep Batch 160-469667: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MWFGDW2 (240-129038-2[MS]), MWFGDW2 (240-129038-2[MSD]), MW-10 (240-129038-5), FIELD BLANK (240-129038-9), DUPLICATE (240-129038-10), (LCS 160-469667/1-A) and (MB 160-469667/20-A)

Radium-228 Prep Batch 160-468176: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with preparation batch 160-468176.

A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were created to demonstrate batch precision.

Radium 228 Prep Batch 160-469667: The following samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MWFGDW2 (240-129038-2[MS]), MWFGDW2 (240-129038-2[MSD]), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

COMBINED RADIUM 226 AND RADIUM 228
Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were calculated for Combined Radium 226 and Radium 228 in accordance with Ra226_Ra228. The samples were calculated on 05/13/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129038-6

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase B CCR

Report Number: 240-129038-6

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Job ID: 240-129038-6 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved, and where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6°C and 2.2°C

TOTAL MERCURY

Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 05/21/2020.

Due to a laboratory oversight the mercury analysis was not initially logged into the the laboratory's computer system. The error was not caught until after the hold time had expired. The following samples were analyzed outside of hold time: MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129038-7

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Report Number: 240-129038-7

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Job ID: 240-129038-7 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT
The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6º C and 2.2º C.

METALS (ICP
Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were analyzed for metals (ICP in accordance with SW846 Method 6010D. The samples were prepared on 04/21/2020 and analyzed on 04/22/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL METALS (ICPMS)
Samples MW-22 (240-129038-1), MWFGDW2 (240-129038-2), MW-10 (240-129038-5), FIELD BLANK (240-129038-9) and DUPLICATE (240-129038-10) were analyzed for total metals (ICPMS) in accordance with SW-846 Method 6020B. The samples were prepared on 04/21/2020 and analyzed on 04/22/2020 and 06/03/2020.

Samples MW-22 (240-129038-1)[2X] and DUPLICATE (240-129038-10)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129039-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Job ID: 240-129039-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Report Number: 240-129039-1
Revised

Revised 6/12/2020. The report was revised to have metals reported by methods 6020B and 6010D.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT
The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1º C and 3.0º C.

ANIONS
Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 05/02/2020 and 05/04/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129039-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Job ID: 240-129039-2 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Report Number: 240-129039-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, St. Louis attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The Radium analyses were performed by the Eurofins TestAmerica St. Louis laboratory.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 3.0° C.

RADIUM-226

Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were analyzed for Radium-226 in accordance with SW846 Method 9315. The samples were prepared on 04/21/2020 and analyzed on 05/14/2020.

Radium-226 Prep Batch 160-468451: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-5 (240-129039-3), MW-8 (240-129039-4), MWFGDW-6 (240-129039-6), (LCS 160-468451/1-A), (LCSD 160-468451/2-A) and (MB 160-468451/23-A)

Radium-226 Prep Batch 160-468451: The following samples contained visible sediment: MWFGDW-6 (240-129039-6)

Sample MWFGDW-6 (240-129039-6) was reduced to 750ml because the sample was cloudy and discolored.

Radium-226 Prep Batch 160-468451: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with preparation batch 160-468451. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were created to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228 (GFPC)

Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were analyzed for Radium-228 (GFPC) in accordance with SW846 Method 9320. The samples were prepared on 04/21/2020 and analyzed on 05/11/2020.

Ra-228 Prep Batch 160-468454: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection

Job ID: 240-129039-2 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-5 (240-129039-3), MW-8 (240-129039-4), MWFGDW-6 (240-129039-6), (LCS 160-468454/1-A), (LCSD 160-468454/2-A) and (MB 160-468454/23-A)

Radium-228 Prep Batch 160-468454: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with preparation batch 160-468454. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were created to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

COMBINED RADIUM 226 AND RADIUM 228

Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were calculated for Combined Radium 226 and Radium 228 in accordance with Ra226_Ra228. The samples were calculated on 05/15/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129039-3

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Report Number: 240-129039-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Job ID: 240-129039-3 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT
The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1º C and 3.0º C.

TOTAL MERCURY
Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 05/21/2020.

Due to a laboratory oversight the mercury analysis was not initially logged into the the laboratory's computer system. The error was not caught until after the hold time had expired. The following samples were analyzed outside of hold time: MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129039-4

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mt. Storm Phase A CCR

Report Number: 240-129039-4
Revised

Revised 6/19/2020. The report was revised to include Molybdenum and Antimony.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Job ID: 240-129039-4 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT
The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 3.0° C.

METALS (ICP
Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were analyzed for metals (ICP in accordance with SW846 Method 6010D. The samples were prepared on 04/21/2020 and analyzed on 04/22/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL METALS (ICPMS)
Samples MW-5 (240-129039-3), MW-8 (240-129039-4) and MWFGDW-6 (240-129039-6) were analyzed for total metals (ICPMS) in accordance with SW-846 Method 6020B. The samples were prepared on 04/21/2020 and analyzed on 04/22/2020 and 06/03/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129060-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mount Storm Phase A & B CCR

Report Number: 240-129060-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the

Job ID: 240-129060-2 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The Total Dissolved Solids analysis was performed by the Eurofins TestAmerica Pittsburgh laboratory.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT
The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.6º C, 1.7º C, 2.0º C, 2.9º C and 4.7º C.

TOTAL DISSOLVED SOLIDS
Samples MW-22 (240-129060-1), MWFGDW2 (240-129060-2), MW-10 (240-129060-6), FIELD BLANK (240-129060-15) and DUPLICATE (240-129060-16) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 04/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 240-129060-4

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Golder Associates Inc.

Project: Mount Storm Phase A CCR

Report Number: 240-129060-4

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Job ID: 240-129060-4 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

The Total Dissolved Solids analysis was performed by the Eurofins TestAmerica Pittsburgh laboratory.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.6º C, 1.7º C, 2.0º C, 2.9º C and 4.7º C.

TOTAL DISSOLVED SOLIDS

Samples MW-5 (240-129060-3), MW-8 (240-129060-5) and MWFGDW-6 (240-129060-14) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 04/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL CAN
6020B	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-129038-1	MW-22	Water	04/14/20 10:08	04/16/20 09:20	
240-129038-2	MWFGDW2	Water	04/14/20 09:43	04/16/20 09:20	
240-129038-5	MW-10	Water	04/14/20 16:03	04/16/20 09:20	
240-129038-9	FIELD BLANK	Water	04/14/20 11:15	04/16/20 09:20	
240-129038-10	DUPLICATE	Water	04/14/20 10:30	04/16/20 09:20	
240-129039-3	MW-5	Water	04/14/20 17:26	04/16/20 09:20	
240-129039-4	MW-8	Water	04/14/20 17:48	04/16/20 09:20	
240-129039-6	MWFGDW-6	Water	04/14/20 15:55	04/16/20 09:20	
240-129060-1	MW-22	Water	04/14/20 10:08	04/16/20 09:20	
240-129060-2	MWFGDW2	Water	04/14/20 09:43	04/16/20 09:20	
240-129060-3	MW-5	Water	04/14/20 17:26	04/16/20 09:20	
240-129060-5	MW-8	Water	04/14/20 17:48	04/16/20 09:20	
240-129060-6	MW-10	Water	04/14/20 16:03	04/16/20 09:20	
240-129060-14	MWFGDW-6	Water	04/14/20 15:55	04/16/20 09:20	
240-129060-15	FIELD BLANK	Water	04/14/20 11:15	04/16/20 09:20	
240-129060-16	DUPLICATE	Water	04/14/20 10:30	04/16/20 09:20	

Detection Summary

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-22 — Lab Sample ID: 240-129038-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	210		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	96000		2000	1200	ug/L	2		6020B	Total Recoverable
Cobalt	2.3		1.0	0.19	ug/L	1		6020B	Total Recoverable
Chromium	2.6		2.0	0.98	ug/L	1		6020B	Total Recoverable
Lead	1.8		1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	9.2		8.0	1.7	ug/L	1		6020B	Total Recoverable
Thallium	0.34	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Chloride	760	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	46	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	29000		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: MWFGDW2 — Lab Sample ID: 240-129038-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	240		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	35000		1000	580	ug/L	1		6020B	Total Recoverable
Lithium	5.3	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Thallium	0.25	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Chloride	870	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	59		50	24	ug/L	1		9056A	Total/NA
Sulfate	41000		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 240-129038-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	130		5.0	2.2	ug/L	1		6020B	Total Recoverable
Beryllium	0.42	J	1.0	0.31	ug/L	1		6020B	Total Recoverable
Calcium	3700		1000	580	ug/L	1		6020B	Total Recoverable
Cadmium	0.34	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Cobalt	0.52	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Chromium	0.98	J	2.0	0.98	ug/L	1		6020B	Total Recoverable
Chloride	600	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	39	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	7600		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: FIELD BLANK — Lab Sample ID: 240-129038-9

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: DUPLICATE — Lab Sample ID: 240-129038-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	230		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	90000		2000	1200	ug/L	2		6020B	Total Recoverable
Cobalt	0.75	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.59	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	7.0	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	750	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	41	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	27000		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 240-129039-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	120		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	32000		1000	580	ug/L	1		6020B	Total Recoverable
Cobalt	0.19	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	6.8	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	1300		1000	280	ug/L	1		9056A	Total/NA
Fluoride	42	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	11000		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 240-129039-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	30		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	12000		1000	580	ug/L	1		6020B	Total Recoverable
Lithium	2.0	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	51000		1000	280	ug/L	1		9056A	Total/NA
Fluoride	35	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	15000		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: MWFGDW-6 — Lab Sample ID: 240-129039-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	120		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	9900		1000	580	ug/L	1		6020B	Total Recoverable
Cadmium	0.27	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Cobalt	2.6		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.60	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Chloride	2200		1000	280	ug/L	1		9056A	Total/NA
Fluoride	50		50	24	ug/L	1		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MWFGDW-6 (Continued) — Lab Sample ID: 240-129039-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	12000		1000	350	ug/L	1		9056A	Total/NA

Client Sample ID: MW-22 — Lab Sample ID: 240-129060-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	330		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MWFGDW2 — Lab Sample ID: 240-129060-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	150		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 240-129060-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	140		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 240-129060-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	140		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 240-129060-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	34		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MWFGDW-6 — Lab Sample ID: 240-129060-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	46		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FIELD BLANK — Lab Sample ID: 240-129060-15

No Detections.

Client Sample ID: DUPLICATE — Lab Sample ID: 240-129060-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	310		10	10	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-22

Date Collected: 04/14/20 10:08
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-1

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 15:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:15	1
Barium	**210**		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 21:26	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:15	1
Calcium	**96000**		2000	1200	ug/L		04/21/20 14:00	06/03/20 21:28	2
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:15	1
Cobalt	**2.3**		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:15	1
Chromium	**2.6**		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:15	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:15	1
Lead	**1.8**		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:15	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:15	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:15	1
Lithium	**9.2**		8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:15	1
Thallium	**0.34**	**J**	1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 14:00	05/21/20 19:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**760**	**J**	1000	280	ug/L			05/01/20 23:40	1
Fluoride	**46**	**J**	50	24	ug/L			05/01/20 23:40	1
Sulfate	**29000**		1000	350	ug/L			05/04/20 11:56	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.152**		0.0884	0.0894	1.00	0.100	pCi/L	04/20/20 16:31	05/13/20 04:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.3*		*40 - 110*	*04/20/20 16:31*	*05/13/20 04:31*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.847**		0.487	0.493	1.00	0.736	pCi/L	05/05/20 18:49	05/12/20 08:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.8*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:24*	*1*
Y Carrier	*92.3*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:24*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-22
Date Collected: 04/14/20 10:08
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-1
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.999		0.495	0.501	5.00	0.736	pCi/L		05/13/20 08:23	1

Client Sample ID: MWFGDW2

Date Collected: 04/14/20 09:43
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-2

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 15:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:03	1
Barium	**240**		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 21:14	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:03	1
Calcium	**35000**		1000	580	ug/L		04/21/20 14:00	04/22/20 19:03	1
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:03	1
Cobalt	<0.19		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:03	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:03	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:03	1
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:03	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:03	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:03	1
Lithium	**5.3**	**J**	8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:03	1
Thallium	**0.25**	**J**	1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 14:00	05/21/20 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**870**	**J**	1000	280	ug/L			05/02/20 00:00	1
Fluoride	**59**		50	24	ug/L			05/02/20 00:00	1
Sulfate	**41000**		1000	350	ug/L			05/04/20 12:17	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0637	U	0.0558	0.0561	1.00	0.0802	pCi/L	04/20/20 16:31	05/13/20 04:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.0*		*40 - 110*	*04/20/20 16:31*	*05/13/20 04:31*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.795**		0.343	0.351	1.00	0.498	pCi/L	05/05/20 18:49	05/12/20 08:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.1*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:24*	*1*
Y Carrier	*100*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:24*	*1*

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MWFGDW2
Date Collected: 04/14/20 09:43
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-2
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.859		0.348	0.355	5.00	0.498	pCi/L		05/13/20 08:23	1

Client Sample ID: MW-10

Date Collected: 04/14/20 16:03
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-5

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:27	1
Barium	**130**		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 21:46	1
Beryllium	**0.42**	**J**	1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:27	1
Calcium	**3700**		1000	580	ug/L		04/21/20 14:00	04/22/20 19:27	1
Cadmium	**0.34**	**J**	1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:27	1
Cobalt	**0.52**	**J**	1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:27	1
Chromium	**0.98**	**J**	2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:27	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:27	1
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:27	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:27	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:27	1
Lithium	<1.7		8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:27	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 14:00	05/21/20 19:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**600**	**J**	1000	280	ug/L			05/02/20 01:41	1
Fluoride	**39**	**J**	50	24	ug/L			05/02/20 01:41	1
Sulfate	**7600**		1000	350	ug/L			05/04/20 13:57	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.118**		0.0671	0.0679	1.00	0.0786	pCi/L	04/20/20 16:31	05/13/20 04:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*04/20/20 16:31*	*05/13/20 04:32*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.204	U	0.358	0.359	1.00	0.606	pCi/L	05/05/20 18:49	05/12/20 08:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:28*	*1*
Y Carrier	*87.1*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:28*	*1*

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-10
Date Collected: 04/14/20 16:03
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-5
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.322	U	0.364	0.365	5.00	0.606	pCi/L		05/13/20 08:23	1

Client Sample ID: FIELD BLANK

Lab Sample ID: 240-129038-9

Date Collected: 04/14/20 11:15

Matrix: Water

Date Received: 04/16/20 09:20

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:37	1
Barium	<2.2		5.0	2.2	ug/L		04/21/20 14:00	04/22/20 19:37	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:37	1
Calcium	<580		1000	580	ug/L		04/21/20 14:00	04/22/20 19:37	1
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:37	1
Cobalt	<0.19		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:37	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:37	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:37	1
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:37	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:37	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:37	1
Lithium	<1.7		8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:37	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 14:00	05/21/20 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<280		1000	280	ug/L			05/02/20 03:42	1
Fluoride	<24		50	24	ug/L			05/02/20 03:42	1
Sulfate	<350		1000	350	ug/L			05/04/20 15:58	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00325	U	0.0306	0.0306	1.00	0.0720	pCi/L	04/20/20 16:31	05/13/20 04:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.2*		*40 - 110*	*04/20/20 16:31*	*05/13/20 04:32*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0493	U	0.285	0.285	1.00	0.521	pCi/L	05/05/20 18:49	05/12/20 08:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.9*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:28*	*1*
Y Carrier	*87.5*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:28*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: FIELD BLANK
Date Collected: 04/14/20 11:15
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-9
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0526	U	0.287	0.287	5.00	0.521	pCi/L		05/13/20 08:23	1

Client Sample ID: DUPLICATE

Date Collected: 04/14/20 10:30
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-10

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:40	1
Barium	**230**		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 21:58	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:40	1
Calcium	**90000**		2000	1200	ug/L		04/21/20 14:00	06/03/20 22:01	2
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:40	1
Cobalt	**0.75**	**J**	1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:40	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:40	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:40	1
Lead	**0.59**	**J**	1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:40	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:40	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:40	1
Lithium	**7.0**	**J**	8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:40	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 14:00	05/21/20 20:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**750**	**J**	1000	280	ug/L			05/02/20 04:02	1
Fluoride	**41**	**J**	50	24	ug/L			05/02/20 04:02	1
Sulfate	**27000**		1000	350	ug/L			05/04/20 16:18	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.142**		0.0712	0.0724	1.00	0.0762	pCi/L	04/20/20 16:31	05/13/20 04:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*04/20/20 16:31*	*05/13/20 04:32*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00306	U	0.328	0.328	1.00	0.586	pCi/L	05/05/20 18:49	05/12/20 08:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:28*	*1*
Y Carrier	*87.9*		*40 - 110*	*05/05/20 18:49*	*05/12/20 08:28*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: DUPLICATE
Date Collected: 04/14/20 10:30
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-10
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.139	U	0.336	0.336	5.00	0.586	pCi/L		05/13/20 08:23	1

Client Sample ID: MW-5

Date Collected: 04/14/20 17:26
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-3

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:42	1
Barium	**120**		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 22:08	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:42	1
Calcium	**32000**		1000	580	ug/L		04/21/20 14:00	04/22/20 19:42	1
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:42	1
Cobalt	**0.19**	**J**	1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:42	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:42	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:42	1
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:42	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:42	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:42	1
Lithium	**6.8**	**J**	8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:42	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:42	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 12:00	05/21/20 21:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1300**		1000	280	ug/L			05/02/20 04:22	1
Fluoride	**42**	**J**	50	24	ug/L			05/02/20 04:22	1
Sulfate	**11000**		1000	350	ug/L			05/04/20 16:38	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0998	U	0.0820	0.0825	1.00	0.115	pCi/L	04/21/20 13:39	05/14/20 11:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*04/21/20 13:39*	*05/14/20 11:19*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0850	U	0.199	0.199	1.00	0.381	pCi/L	04/21/20 13:39	05/11/20 16:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*04/21/20 13:39*	*05/11/20 16:04*	*1*
Y Carrier	*82.6*		*40 - 110*	*04/21/20 13:39*	*05/11/20 16:04*	*1*

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-5
Date Collected: 04/14/20 17:26
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-3
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0148	U	0.215	0.215	5.00	0.381	pCi/L		05/15/20 07:54	1

Client Sample ID: MW-8

Date Collected: 04/14/20 17:48
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-4

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:45	1
Barium	**30**		5.0	2.2	ug/L		04/21/20 14:00	04/22/20 19:45	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:45	1
Calcium	**12000**		1000	580	ug/L		04/21/20 14:00	04/22/20 19:45	1
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:45	1
Cobalt	<0.19		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:45	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:45	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:45	1
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:45	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:45	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:45	1
Lithium	**2.0**	**J**	8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:45	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 12:00	05/21/20 21:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51000**		1000	280	ug/L			05/02/20 05:22	1
Fluoride	**35**	**J**	50	24	ug/L			05/02/20 05:22	1
Sulfate	**15000**		1000	350	ug/L			05/04/20 17:38	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0453	U	0.0670	0.0671	1.00	0.115	pCi/L	04/21/20 13:39	05/14/20 11:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/21/20 13:39*	*05/14/20 11:19*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.106	U	0.227	0.227	1.00	0.427	pCi/L	04/21/20 13:39	05/11/20 16:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/21/20 13:39*	*05/11/20 16:04*	*1*
Y Carrier	*81.9*		*40 - 110*	*04/21/20 13:39*	*05/11/20 16:04*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-8
Date Collected: 04/14/20 17:48
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-4
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0603	U	0.237	0.237	5.00	0.427	pCi/L		05/15/20 07:54	1

Client Sample ID: MWFGDW-6

Date Collected: 04/14/20 15:55
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-6

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:47	1
Barium	**120**		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 22:13	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:47	1
Calcium	**9900**		1000	580	ug/L		04/21/20 14:00	04/22/20 19:47	1
Cadmium	**0.27**	**J**	1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:47	1
Cobalt	**2.6**		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:47	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:47	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:47	1
Lead	**0.60**	**J**	1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:47	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:47	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:47	1
Lithium	<1.7		8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:47	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 12:00	05/21/20 21:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2200**		1000	280	ug/L			05/02/20 05:42	1
Fluoride	**50**		50	24	ug/L			05/02/20 05:42	1
Sulfate	**12000**		1000	350	ug/L			05/04/20 17:59	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.224**		0.132	0.133	1.00	0.160	pCi/L	04/21/20 13:39	05/14/20 11:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*04/21/20 13:39*	*05/14/20 11:19*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0779	U	0.286	0.286	1.00	0.502	pCi/L	04/21/20 13:39	05/11/20 16:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*04/21/20 13:39*	*05/11/20 16:04*	*1*
Y Carrier	*87.5*		*40 - 110*	*04/21/20 13:39*	*05/11/20 16:04*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MWFGDW-6
Date Collected: 04/14/20 15:55
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-6
Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.302	U	0.315	0.315	5.00	0.502	pCi/L		05/15/20 07:54	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-22
Date Collected: 04/14/20 10:08
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		10	10	mg/L			04/21/20 10:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MWFGDW2
Date Collected: 04/14/20 09:43
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	150		10	10	mg/L			04/21/20 10:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-5
Date Collected: 04/14/20 17:26
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		10	10	mg/L			04/21/20 10:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-8
Date Collected: 04/14/20 17:48
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		10	10	mg/L			04/21/20 10:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-10
Date Collected: 04/14/20 16:03
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-6
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	34		10	10	mg/L			04/21/20 10:29	1

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MWFGDW-6
Date Collected: 04/14/20 15:55
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-14
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	46		10	10	mg/L			04/21/20 10:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: FIELD BLANK

Date Collected: 04/14/20 11:15
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-15

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			04/21/20 10:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: DUPLICATE

Date Collected: 04/14/20 10:30
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-16

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		10	10	mg/L			04/21/20 10:29	1

Tracer/Carrier Summary

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)
240-129038-1	MW-22	82.3
240-129038-2	MWFGDW2	82.0
240-129038-2 MS	MWFGDW2	83.8
240-129038-2 MSD	MWFGDW2	84.8
240-129038-5	MW-10	86.6
240-129038-9	FIELD BLANK	94.2
240-129038-10	DUPLICATE	87.5
240-129039-3	MW-5	98.2
240-129039-4	MW-8	100
240-129039-6	MWFGDW-6	101
LCS 160-468173/1-A	Lab Control Sample	80.5
LCS 160-468451/1-A	Lab Control Sample	96.6
LCSD 160-468173/2-A	Lab Control Sample Dup	81.1
LCSD 160-468451/2-A	Lab Control Sample Dup	96.0
MB 160-468173/23-B	Method Blank	95.1
MB 160-468451/23-A	Method Blank	97.0

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)	Y Carrier (40-110)
240-129038-1	MW-22	92.8	92.3
240-129038-2	MWFGDW2	96.1	100
240-129038-2 MS	MWFGDW2	86.4	89.3
240-129038-2 MSD	MWFGDW2	84.3	84.5
240-129038-5	MW-10	85.8	87.1
240-129038-9	FIELD BLANK	91.9	87.5
240-129038-10	DUPLICATE	86.7	87.9
240-129039-3	MW-5	98.2	82.6
240-129039-4	MW-8	100	81.9
240-129039-6	MWFGDW-6	101	87.5
LCS 160-468454/1-A	Lab Control Sample	96.6	75.5
LCS 160-469667/1-A	Lab Control Sample	83.1	87.5
LCSD 160-468454/2-A	Lab Control Sample Dup	96.0	80.0
MB 160-468454/23-A	Method Blank	97.0	85.2
MB 160-469667/20-A	Method Blank	86.1	82.6

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-431532/1-A
Matrix: Water
Analysis Batch: 431758

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 15:04	1

Lab Sample ID: LCS 240-431532/2-A
Matrix: Water
Analysis Batch: 431758

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1070		ug/L		107	80 - 120

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 431758

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	<23		1000	1060		ug/L		106	75 - 125

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 431758

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	<23		1000	1070		ug/L		107	75 - 125	1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-431532/1-A
Matrix: Water
Analysis Batch: 431864

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 18:58	1
Barium	<2.2		5.0	2.2	ug/L		04/21/20 14:00	04/22/20 18:58	1
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 18:58	1
Calcium	<580		1000	580	ug/L		04/21/20 14:00	04/22/20 18:58	1
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 18:58	1
Cobalt	<0.19		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 18:58	1
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 18:58	1
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 18:58	1
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 18:58	1
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 18:58	1
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 18:58	1
Lithium	<1.7		8.0	1.7	ug/L		04/21/20 14:00	04/22/20 18:58	1
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 18:58	1

Lab Sample ID: LCS 240-431532/26-A
Matrix: Water
Analysis Batch: 431864

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	938		ug/L		94	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-431532/26-A
Matrix: Water
Analysis Batch: 431864

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1000	1030		ug/L		103	80 - 120
Beryllium	500	526		ug/L		105	80 - 120
Calcium	25000	24800		ug/L		99	80 - 120
Cadmium	500	478		ug/L		96	80 - 120
Cobalt	500	486		ug/L		97	80 - 120
Chromium	500	509		ug/L		102	80 - 120
Lead	500	508		ug/L		102	80 - 120
Selenium	1000	921		ug/L		92	80 - 120
Thallium	1000	951		ug/L		95	80 - 120

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 431864

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.75		1000	961		ug/L		96	80 - 120
Beryllium	<0.31		500	536		ug/L		107	80 - 120
Calcium	35000		25000	61300		ug/L		106	80 - 120
Cadmium	<0.20		500	499		ug/L		100	80 - 120
Cobalt	<0.19		500	498		ug/L		100	80 - 120
Chromium	<0.98		500	530		ug/L		106	80 - 120
Molybdenum	<1.1		500	533		ug/L		107	80 - 120
Lead	<0.45		500	538		ug/L		108	80 - 120
Antimony	<0.57		100	108		ug/L		108	80 - 120
Selenium	<0.89		1000	948		ug/L		95	80 - 120
Lithium	5.3	J	500	505		ug/L		100	80 - 120
Thallium	0.25	J	1000	1000		ug/L		100	80 - 120

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 436849

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	240		1000	1230		ug/L		100	80 - 120

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 431864

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.75		1000	955		ug/L		95	80 - 120	1	20
Beryllium	<0.31		500	522		ug/L		104	80 - 120	3	20
Calcium	35000		25000	61300		ug/L		106	80 - 120	0	20
Cadmium	<0.20		500	494		ug/L		99	80 - 120	1	20
Cobalt	<0.19		500	495		ug/L		99	80 - 120	1	20
Chromium	<0.98		500	537		ug/L		107	80 - 120	1	20
Molybdenum	<1.1		500	527		ug/L		105	80 - 120	1	20
Lead	<0.45		500	529		ug/L		106	80 - 120	2	20
Antimony	<0.57		100	108		ug/L		108	80 - 120	0	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 431864

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	<0.89		1000	926		ug/L		93	80 - 120	2	20
Lithium	5.3	J	500	491		ug/L		97	80 - 120	3	20
Thallium	0.25	J	1000	992		ug/L		99	80 - 120	1	20

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 436849

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable
Prep Batch: 431532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	240		1000	1250		ug/L		101	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-435233/1-A
Matrix: Water
Analysis Batch: 435361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435233

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		05/21/20 12:00	05/21/20 21:10	1

Lab Sample ID: LCS 240-435233/2-A
Matrix: Water
Analysis Batch: 435361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435233

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Lab Sample ID: MB 240-435237/1-A
Matrix: Water
Analysis Batch: 435361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		05/21/20 14:00	05/21/20 19:22	1

Lab Sample ID: LCS 240-435237/2-A
Matrix: Water
Analysis Batch: 435361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.12		ug/L		102	80 - 120

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 435361

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 435237

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.13	H	1.00	1.10	H	ug/L		110	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 435361

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 435237

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.13	H	1.00	0.998	H	ug/L		100	80 - 120	9	20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-432893/4
Matrix: Water
Analysis Batch: 432893

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<280		1000	280	ug/L			05/01/20 23:00	1
Fluoride	<24		50	24	ug/L			05/01/20 23:00	1

Lab Sample ID: LCS 240-432893/5
Matrix: Water
Analysis Batch: 432893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50000	49200		ug/L		98	90 - 110
Fluoride	2500	2560		ug/L		102	90 - 110

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 432893

Client Sample ID: MWFGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	870	J	50000	53300		ug/L		105	80 - 120
Fluoride	59		2500	2730		ug/L		107	80 - 120

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 432893

Client Sample ID: MWFGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	870	J	50000	51600		ug/L		101	80 - 120	3	15
Fluoride	59		2500	2650		ug/L		104	80 - 120	3	15

Lab Sample ID: 240-129039-3 MS
Matrix: Water
Analysis Batch: 432893

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1300		50000	53300		ug/L		104	80 - 120
Fluoride	42	J	2500	2680		ug/L		106	80 - 120

Lab Sample ID: 240-129039-3 MSD
Matrix: Water
Analysis Batch: 432893

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1300		50000	51400		ug/L		100	80 - 120	4	15

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-129039-3 MSD
Matrix: Water
Analysis Batch: 432893

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	42	J	2500	2580		ug/L		102	80 - 120	4	15

Lab Sample ID: MB 240-433038/4
Matrix: Water
Analysis Batch: 433038

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<350		1000	350	ug/L			05/04/20 11:16	1

Lab Sample ID: LCS 240-433038/5
Matrix: Water
Analysis Batch: 433038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50000	51000		ug/L		102	90 - 110

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 433038

Client Sample ID: MWFGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	41000		50000	92800		ug/L		103	80 - 120

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 433038

Client Sample ID: MWFGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	41000		50000	91700		ug/L		101	80 - 120	1	15

Lab Sample ID: 240-129039-3 MS
Matrix: Water
Analysis Batch: 433038

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	11000		50000	63800		ug/L		106	80 - 120

Lab Sample ID: 240-129039-3 MSD
Matrix: Water
Analysis Batch: 433038

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	11000		50000	61300		ug/L		101	80 - 120	4	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-313383/2
Matrix: Water
Analysis Batch: 313383

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			04/21/20 10:29	1

Lab Sample ID: LCS 180-313383/1
Matrix: Water
Analysis Batch: 313383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	242	260		mg/L		107	80 - 120

Lab Sample ID: 240-129060-1 DU
Matrix: Water
Analysis Batch: 313383

Client Sample ID: MW-22
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	330		323		mg/L		0.6	10

Lab Sample ID: 240-129060-2 DU
Matrix: Water
Analysis Batch: 313383

Client Sample ID: MWFGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	150		169		mg/L		9	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-468173/23-B
Matrix: Water
Analysis Batch: 470263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 468173

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02495	U	0.0470	0.0471	1.00	0.0846	pCi/L	04/20/20 16:31	05/13/20 04:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.1*		*40 - 110*	*04/20/20 16:31*	*05/13/20 04:33*	*1*

Lab Sample ID: LCS 160-468173/1-A
Matrix: Water
Analysis Batch: 470263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 468173

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	10.13		1.06	1.00	0.0771	pCi/L	89	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.5*		*40 - 110*

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-468173/2-A
Matrix: Water
Analysis Batch: 470263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 468173

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.90		1.13	1.00	0.0848	pCi/L	96	75 - 125	0.35	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*81.1*		*40 - 110*

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 470263

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 468173

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	0.0637	U	11.3	11.15		1.15	1.00	0.119	pCi/L	98	75 - 138

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*83.8*		*40 - 110*

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 470263

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 468173

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	0.0637	U	11.3	10.94		1.13	1.00	0.0919	pCi/L	96	75 - 138	0.09	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*84.8*		*40 - 110*

Lab Sample ID: MB 160-468451/23-A
Matrix: Water
Analysis Batch: 470398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 468451

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04590	U	0.0985	0.0985	1.00	0.181	pCi/L	04/21/20 13:39	05/14/20 11:19	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.0*		*40 - 110*	*04/21/20 13:39*	*05/14/20 11:19*	*1*

Lab Sample ID: LCS 160-468451/1-A
Matrix: Water
Analysis Batch: 470398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 468451

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226			15.1	13.34		1.48	1.00	0.146	pCi/L	88	75 - 125

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-468451/1-A
Matrix: Water
Analysis Batch: 470398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 468451

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.6		40 - 110

Lab Sample ID: LCSD 160-468451/2-A
Matrix: Water
Analysis Batch: 470398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 468451

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	11.93		1.35	1.00	0.163	pCi/L	79	75 - 125	0.50	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	96.0		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-468454/23-A
Matrix: Water
Analysis Batch: 469973

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 468454

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1479	U	0.287	0.287	1.00	0.548	pCi/L	04/21/20 13:39	05/11/20 16:05	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.0		40 - 110	04/21/20 13:39	05/11/20 16:05	1
Y Carrier	85.2		40 - 110	04/21/20 13:39	05/11/20 16:05	1

Lab Sample ID: LCS 160-468454/1-A
Matrix: Water
Analysis Batch: 469997

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 468454

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.8	11.66		1.45	1.00	0.624	pCi/L	99	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.6		40 - 110
Y Carrier	75.5		40 - 110

Lab Sample ID: LCSD 160-468454/2-A
Matrix: Water
Analysis Batch: 469997

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 468454

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.8	10.53		1.33	1.00	0.594	pCi/L	89	75 - 125	0.41	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-468454/2-A
Matrix: Water
Analysis Batch: 469997

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 468454

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*96.0*		*40 - 110*
Y Carrier	*80.0*		*40 - 110*

Lab Sample ID: MB 160-469667/20-A
Matrix: Water
Analysis Batch: 470215

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 469667

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1384	U	0.308	0.308	1.00	0.531	pCi/L	05/06/20 12:07	05/12/20 08:29	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.1*		*40 - 110*	*05/06/20 12:07*	*05/12/20 08:29*	*1*
Y Carrier	*82.6*		*40 - 110*	*05/06/20 12:07*	*05/12/20 08:29*	*1*

Lab Sample ID: LCS 160-469667/1-A
Matrix: Water
Analysis Batch: 470214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 469667

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.8	12.73		1.53	1.00	0.656	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.1*		*40 - 110*
Y Carrier	*87.5*		*40 - 110*

Lab Sample ID: 240-129038-2 MS
Matrix: Water
Analysis Batch: 470215

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 469667

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228	0.795		11.8	11.25		1.35	1.00	0.516	pCi/L	89	45 - 150		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*86.4*		*40 - 110*
Y Carrier	*89.3*		*40 - 110*

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 470215

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 469667

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	0.795		11.8	10.54		1.31	1.00	0.488	pCi/L	83	45 - 150	0.27	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 240-129038-2 MSD
Matrix: Water
Analysis Batch: 470215

Client Sample ID: MWFGDW2
Prep Type: Total/NA
Prep Batch: 469667

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	84.3		40 - 110
Y Carrier	84.5		40 - 110

Metals

Prep Batch: 431532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total Recoverable	Water	3005A	
240-129038-2	MWFGDW2	Total Recoverable	Water	3005A	
240-129038-5	MW-10	Total Recoverable	Water	3005A	
240-129038-9	FIELD BLANK	Total Recoverable	Water	3005A	
240-129038-10	DUPLICATE	Total Recoverable	Water	3005A	
240-129039-3	MW-5	Total Recoverable	Water	3005A	
240-129039-4	MW-8	Total Recoverable	Water	3005A	
240-129039-6	MWFGDW-6	Total Recoverable	Water	3005A	
MB 240-431532/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-431532/26-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-431532/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-129038-2 MS	MWFGDW2	Total Recoverable	Water	3005A	
240-129038-2 MS	MWFGDW2	Total Recoverable	Water	3005A	
240-129038-2 MSD	MWFGDW2	Total Recoverable	Water	3005A	
240-129038-2 MSD	MWFGDW2	Total Recoverable	Water	3005A	

Analysis Batch: 431758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total Recoverable	Water	6010D	431532
240-129038-2	MWFGDW2	Total Recoverable	Water	6010D	431532
240-129038-5	MW-10	Total Recoverable	Water	6010D	431532
240-129038-9	FIELD BLANK	Total Recoverable	Water	6010D	431532
240-129038-10	DUPLICATE	Total Recoverable	Water	6010D	431532
240-129039-3	MW-5	Total Recoverable	Water	6010D	431532
240-129039-4	MW-8	Total Recoverable	Water	6010D	431532
240-129039-6	MWFGDW-6	Total Recoverable	Water	6010D	431532
MB 240-431532/1-A	Method Blank	Total Recoverable	Water	6010D	431532
LCS 240-431532/2-A	Lab Control Sample	Total Recoverable	Water	6010D	431532
240-129038-2 MS	MWFGDW2	Total Recoverable	Water	6010D	431532
240-129038-2 MSD	MWFGDW2	Total Recoverable	Water	6010D	431532

Analysis Batch: 431864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total Recoverable	Water	6020B	431532
240-129038-2	MWFGDW2	Total Recoverable	Water	6020B	431532
240-129038-5	MW-10	Total Recoverable	Water	6020B	431532
240-129038-9	FIELD BLANK	Total Recoverable	Water	6020B	431532
240-129038-10	DUPLICATE	Total Recoverable	Water	6020B	431532
240-129039-3	MW-5	Total Recoverable	Water	6020B	431532
240-129039-4	MW-8	Total Recoverable	Water	6020B	431532
240-129039-6	MWFGDW-6	Total Recoverable	Water	6020B	431532
MB 240-431532/1-A	Method Blank	Total Recoverable	Water	6020B	431532
LCS 240-431532/26-A	Lab Control Sample	Total Recoverable	Water	6020B	431532
240-129038-2 MS	MWFGDW2	Total Recoverable	Water	6020B	431532
240-129038-2 MSD	MWFGDW2	Total Recoverable	Water	6020B	431532

Prep Batch: 435233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129039-3	MW-5	Total/NA	Water	7470A	
240-129039-4	MW-8	Total/NA	Water	7470A	
240-129039-6	MWFGDW-6	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 435233 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-435233/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-435233/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 435237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total/NA	Water	7470A	
240-129038-2	MWFGDW2	Total/NA	Water	7470A	
240-129038-5	MW-10	Total/NA	Water	7470A	
240-129038-9	FIELD BLANK	Total/NA	Water	7470A	
240-129038-10	DUPLICATE	Total/NA	Water	7470A	
MB 240-435237/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-435237/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-129038-2 MS	MWFGDW2	Total/NA	Water	7470A	
240-129038-2 MSD	MWFGDW2	Total/NA	Water	7470A	

Analysis Batch: 435361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total/NA	Water	7470A	435237
240-129038-2	MWFGDW2	Total/NA	Water	7470A	435237
240-129038-5	MW-10	Total/NA	Water	7470A	435237
240-129038-9	FIELD BLANK	Total/NA	Water	7470A	435237
240-129038-10	DUPLICATE	Total/NA	Water	7470A	435237
240-129039-3	MW-5	Total/NA	Water	7470A	435233
240-129039-4	MW-8	Total/NA	Water	7470A	435233
240-129039-6	MWFGDW-6	Total/NA	Water	7470A	435233
MB 240-435233/1-A	Method Blank	Total/NA	Water	7470A	435233
MB 240-435237/1-A	Method Blank	Total/NA	Water	7470A	435237
LCS 240-435233/2-A	Lab Control Sample	Total/NA	Water	7470A	435233
LCS 240-435237/2-A	Lab Control Sample	Total/NA	Water	7470A	435237
240-129038-2 MS	MWFGDW2	Total/NA	Water	7470A	435237
240-129038-2 MSD	MWFGDW2	Total/NA	Water	7470A	435237

Analysis Batch: 436849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total Recoverable	Water	6020B	431532
240-129038-1	MW-22	Total Recoverable	Water	6020B	431532
240-129038-2	MWFGDW2	Total Recoverable	Water	6020B	431532
240-129038-5	MW-10	Total Recoverable	Water	6020B	431532
240-129038-10	DUPLICATE	Total Recoverable	Water	6020B	431532
240-129038-10	DUPLICATE	Total Recoverable	Water	6020B	431532
240-129039-3	MW-5	Total Recoverable	Water	6020B	431532
240-129039-6	MWFGDW-6	Total Recoverable	Water	6020B	431532
240-129038-2 MS	MWFGDW2	Total Recoverable	Water	6020B	431532
240-129038-2 MSD	MWFGDW2	Total Recoverable	Water	6020B	431532

General Chemistry

Analysis Batch: 313383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129060-1	MW-22	Total/NA	Water	SM 2540C	
240-129060-2	MWFGDW2	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 313383 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129060-3	MW-5	Total/NA	Water	SM 2540C	
240-129060-5	MW-8	Total/NA	Water	SM 2540C	
240-129060-6	MW-10	Total/NA	Water	SM 2540C	
240-129060-14	MWFGDW-6	Total/NA	Water	SM 2540C	
240-129060-15	FIELD BLANK	Total/NA	Water	SM 2540C	
240-129060-16	DUPLICATE	Total/NA	Water	SM 2540C	
MB 180-313383/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-313383/1	Lab Control Sample	Total/NA	Water	SM 2540C	
240-129060-1 DU	MW-22	Total/NA	Water	SM 2540C	
240-129060-2 DU	MWFGDW2	Total/NA	Water	SM 2540C	

Analysis Batch: 432893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total/NA	Water	9056A	
240-129038-2	MWFGDW2	Total/NA	Water	9056A	
240-129038-5	MW-10	Total/NA	Water	9056A	
240-129038-9	FIELD BLANK	Total/NA	Water	9056A	
240-129038-10	DUPLICATE	Total/NA	Water	9056A	
240-129039-3	MW-5	Total/NA	Water	9056A	
240-129039-4	MW-8	Total/NA	Water	9056A	
240-129039-6	MWFGDW-6	Total/NA	Water	9056A	
MB 240-432893/4	Method Blank	Total/NA	Water	9056A	
LCS 240-432893/5	Lab Control Sample	Total/NA	Water	9056A	
240-129038-2 MS	MWFGDW2	Total/NA	Water	9056A	
240-129038-2 MSD	MWFGDW2	Total/NA	Water	9056A	
240-129039-3 MS	MW-5	Total/NA	Water	9056A	
240-129039-3 MSD	MW-5	Total/NA	Water	9056A	

Analysis Batch: 433038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total/NA	Water	9056A	
240-129038-2	MWFGDW2	Total/NA	Water	9056A	
240-129038-5	MW-10	Total/NA	Water	9056A	
240-129038-9	FIELD BLANK	Total/NA	Water	9056A	
240-129038-10	DUPLICATE	Total/NA	Water	9056A	
240-129039-3	MW-5	Total/NA	Water	9056A	
240-129039-4	MW-8	Total/NA	Water	9056A	
240-129039-6	MWFGDW-6	Total/NA	Water	9056A	
MB 240-433038/4	Method Blank	Total/NA	Water	9056A	
LCS 240-433038/5	Lab Control Sample	Total/NA	Water	9056A	
240-129038-2 MS	MWFGDW2	Total/NA	Water	9056A	
240-129038-2 MSD	MWFGDW2	Total/NA	Water	9056A	
240-129039-3 MS	MW-5	Total/NA	Water	9056A	
240-129039-3 MSD	MW-5	Total/NA	Water	9056A	

Rad

Prep Batch: 468173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total/NA	Water	PrecSep-21	
240-129038-2	MWFGDW2	Total/NA	Water	PrecSep-21	

Rad (Continued)

Prep Batch: 468173 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-5	MW-10	Total/NA	Water	PrecSep-21	
240-129038-9	FIELD BLANK	Total/NA	Water	PrecSep-21	
240-129038-10	DUPLICATE	Total/NA	Water	PrecSep-21	
MB 160-468173/23-B	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-468173/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-468173/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
240-129038-2 MS	MWFGDW2	Total/NA	Water	PrecSep-21	
240-129038-2 MSD	MWFGDW2	Total/NA	Water	PrecSep-21	

Prep Batch: 468451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129039-3	MW-5	Total/NA	Water	PrecSep-21	
240-129039-4	MW-8	Total/NA	Water	PrecSep-21	
240-129039-6	MWFGDW-6	Total/NA	Water	PrecSep-21	
MB 160-468451/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-468451/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-468451/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 468454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129039-3	MW-5	Total/NA	Water	PrecSep_0	
240-129039-4	MW-8	Total/NA	Water	PrecSep_0	
240-129039-6	MWFGDW-6	Total/NA	Water	PrecSep_0	
MB 160-468454/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-468454/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-468454/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 469667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-129038-1	MW-22	Total/NA	Water	PrecSep_0	
240-129038-2	MWFGDW2	Total/NA	Water	PrecSep_0	
240-129038-5	MW-10	Total/NA	Water	PrecSep_0	
240-129038-9	FIELD BLANK	Total/NA	Water	PrecSep_0	
240-129038-10	DUPLICATE	Total/NA	Water	PrecSep_0	
MB 160-469667/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-469667/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-129038-2 MS	MWFGDW2	Total/NA	Water	PrecSep_0	
240-129038-2 MSD	MWFGDW2	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-22

Date Collected: 04/14/20 10:08
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 15:47	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:15	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	436849	06/03/20 21:26	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		2	436849	06/03/20 21:28	DSH	TAL CAN
Total/NA	Prep	7470A			435237	05/21/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 19:43	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/01/20 23:40	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 11:56	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468173	04/20/20 16:31	MMO	TAL SL
Total/NA	Analysis	9315		1	470263	05/13/20 04:31	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			469667	05/05/20 18:49	MNH	TAL SL
Total/NA	Analysis	9320		1	470214	05/12/20 08:24	AJD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470274	05/13/20 08:23	SMP	TAL SL

Client Sample ID: MWFGDW2

Date Collected: 04/14/20 09:43
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 15:21	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:03	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	436849	06/03/20 21:14	DSH	TAL CAN
Total/NA	Prep	7470A			435237	05/21/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 19:26	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 00:00	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 12:17	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468173	04/20/20 16:31	MMO	TAL SL
Total/NA	Analysis	9315		1	470263	05/13/20 04:31	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			469667	05/05/20 18:49	MNH	TAL SL
Total/NA	Analysis	9320		1	470214	05/12/20 08:24	AJD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470274	05/13/20 08:23	SMP	TAL SL

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-10

Lab Sample ID: 240-129038-5
Matrix: Water
Date Collected: 04/14/20 16:03
Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 16:10	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:27	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	436849	06/03/20 21:46	DSH	TAL CAN
Total/NA	Prep	7470A			435237	05/21/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 19:49	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 01:41	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 13:57	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468173	04/20/20 16:31	MMO	TAL SL
Total/NA	Analysis	9315		1	470263	05/13/20 04:32	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			469667	05/05/20 18:49	MNH	TAL SL
Total/NA	Analysis	9320		1	470215	05/12/20 08:28	AJD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470274	05/13/20 08:23	SMP	TAL SL

Client Sample ID: FIELD BLANK

Lab Sample ID: 240-129038-9
Matrix: Water
Date Collected: 04/14/20 11:15
Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 16:28	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:37	DSH	TAL CAN
Total/NA	Prep	7470A			435237	05/21/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 19:57	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 03:42	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 15:58	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468173	04/20/20 16:31	MMO	TAL SL
Total/NA	Analysis	9315		1	470263	05/13/20 04:32	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			469667	05/05/20 18:49	MNH	TAL SL
Total/NA	Analysis	9320		1	470215	05/12/20 08:28	AJD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470274	05/13/20 08:23	SMP	TAL SL

Client Sample ID: DUPLICATE

Lab Sample ID: 240-129038-10
Matrix: Water
Date Collected: 04/14/20 10:30
Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 16:32	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:40	DSH	TAL CAN

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: DUPLICATE
Date Collected: 04/14/20 10:30
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129038-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	436849	06/03/20 21:58	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		2	436849	06/03/20 22:01	DSH	TAL CAN
Total/NA	Prep	7470A			435237	05/21/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 20:04	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 04:02	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 16:18	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468173	04/20/20 16:31	MMO	TAL SL
Total/NA	Analysis	9315		1	470263	05/13/20 04:32	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			469667	05/05/20 18:49	MNH	TAL SL
Total/NA	Analysis	9320		1	470215	05/12/20 08:28	AJD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470274	05/13/20 08:23	SMP	TAL SL

Client Sample ID: MW-5
Date Collected: 04/14/20 17:26
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 16:37	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:42	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	436849	06/03/20 22:08	DSH	TAL CAN
Total/NA	Prep	7470A			435233	05/21/20 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 21:52	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 04:22	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 16:38	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468451	04/21/20 13:39	MMO	TAL SL
Total/NA	Analysis	9315		1	470398	05/14/20 11:19	KLS	TAL SL
Total/NA	Prep	PrecSep_0			468454	04/21/20 13:39	MMO	TAL SL
Total/NA	Analysis	9320		1	469973	05/11/20 16:04	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470556	05/15/20 07:54	SMP	TAL SL

Client Sample ID: MW-8
Date Collected: 04/14/20 17:48
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 16:41	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:45	DSH	TAL CAN

Client Sample ID: MW-8

Lab Sample ID: 240-129039-4

Date Collected: 04/14/20 17:48

Matrix: Water

Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			435233	05/21/20 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 21:54	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 05:22	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 17:38	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468451	04/21/20 13:39	MMO	TAL SL
Total/NA	Analysis	9315		1	470398	05/14/20 11:19	KLS	TAL SL
Total/NA	Prep	PrecSep_0			468454	04/21/20 13:39	MMO	TAL SL
Total/NA	Analysis	9320		1	469973	05/11/20 16:04	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470556	05/15/20 07:54	SMP	TAL SL

Client Sample ID: MWFGDW-6

Lab Sample ID: 240-129039-6

Date Collected: 04/14/20 15:55

Matrix: Water

Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	431758	04/22/20 16:46	WKD	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	431864	04/22/20 19:47	DSH	TAL CAN
Total Recoverable	Prep	3005A			431532	04/21/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	436849	06/03/20 22:13	DSH	TAL CAN
Total/NA	Prep	7470A			435233	05/21/20 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	435361	05/21/20 21:56	SLD	TAL CAN
Total/NA	Analysis	9056A		1	432893	05/02/20 05:42	LKG	TAL CAN
Total/NA	Analysis	9056A		1	433038	05/04/20 17:59	LKG	TAL CAN
Total/NA	Prep	PrecSep-21			468451	04/21/20 13:39	MMO	TAL SL
Total/NA	Analysis	9315		1	470398	05/14/20 11:19	KLS	TAL SL
Total/NA	Prep	PrecSep_0			468454	04/21/20 13:39	MMO	TAL SL
Total/NA	Analysis	9320		1	469973	05/11/20 16:04	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	470556	05/15/20 07:54	SMP	TAL SL

Client Sample ID: MW-22

Lab Sample ID: 240-129060-1

Date Collected: 04/14/20 10:08

Matrix: Water

Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Client Sample ID: MWFGDW2

Lab Sample ID: 240-129060-2

Date Collected: 04/14/20 09:43

Matrix: Water

Date Received: 04/16/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Client Sample ID: MW-5
Date Collected: 04/14/20 17:26
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Client Sample ID: MW-8
Date Collected: 04/14/20 17:48
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Client Sample ID: MW-10
Date Collected: 04/14/20 16:03
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Client Sample ID: MWFGDW-6
Date Collected: 04/14/20 15:55
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Client Sample ID: FIELD BLANK
Date Collected: 04/14/20 11:15
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Client Sample ID: DUPLICATE
Date Collected: 04/14/20 10:30
Date Received: 04/16/20 09:20

Lab Sample ID: 240-129060-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	313383	04/21/20 10:29	AVS	TAL PIT

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

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

Accreditation/Certification Summary

Client: Golder Associates Inc.
Job ID: 240-129039-1
Project/Site: Mt. Storm Phase A CCR

Laboratory: Eurofins TestAmerica, Canton

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	210	12-31-20

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	142	02-01-21

Laboratory: Eurofins TestAmerica, St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	381	10-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228		Water	Combined Radium 226 + 228

Eurofins TestAmerica, Canton
4101 Shuffel Street NW

North Canton, OH 44720-6900
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Rachel Powell	Site Contact: Rachel Powell	Date: 4/14/2020	COC No: 1 of 1 COCs
Golder Associates Inc.	Email: ripowell@golder.com	Lab Contact: John McFadden	Carrier: FEDEX	TALS Project #:
2108 West Laburnum Ave, Suite 200	Tel/Fax: 804-517-3381			Sampler: Patrick Trout/Lucas Grimm
Richmond/VA/USA	Analysis Turnaround Time			For Lab Use Only:
(804) 358-7900 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
(804) 517-3381 Cell	TAT if different from Below STANDARD			Lab Sampling:
Project Name: Phase A CCR	☐ 2 weeks			
Site: Mt. Storm, WV	☐ 1 week			Job / SDG No.:
P O # 20139936	☐ 2 days ☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	B, Ca, Sb, As, Ba, Be, Cd, Cr, Co	Pb, Li, Hg, Mo, Se, Tl	Cl-, Fl-, SO4 - 9056A	TDS	Radium 226, 228, Total - 9000	Sample Specific Notes:
MW-22	4/14/20	1000	G	GW	5	N	N	X	X	X	X	X	*All Samples preserved on ice*
MW FGDW-2		0943			15	N	Y	X	X	X	X	X	
MW-5		1726				N	N	X	X	X	X	X	
MW-8		1748				N	N	X	X	X	X	X	
MW-10		1603				N	N	X	X	X	X	X	
MW FGDW-6		1555				N	N	X	X	X	X	X	
Field Blank		1115				N	N	X	X	X	X	X	
Duplicate		1030				N	N	X	X	X	X	X	
								4	4	1	1	4	

240-129039 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: All samples preserved on ice. Level II Data Package requested. Please see reporting group H for additonal details.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:	Corr'd:	Therm ID No.:
Relinquished by:	Company: Golder Associates Inc.	Date/Time: 4/14/20 0830	Received by:	Company: TA	Date/Time: 4.16.20 920
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.26, dated 7/25/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 129039

Client Golder Site Name

Cooler unpacked by:

Cooler Received on 4-16-20 Opened on 4-16-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☑ See Multiple Cooler Form
   IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
   IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 9 — Yes No
   -Were the seals on the outside of the cooler(s) signed & dated? — Yes No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? — Yes No
   -Were tamper/custody seals intact and uncompromised? — Yes No NA
3. Shippers' packing slip attached to the cooler(s)? — Yes No
4. Did custody papers accompany the sample(s)? — Yes No
5. Were the custody papers relinquished & signed in the appropriate place? — Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? — Yes No
7. Did all bottles arrive in good condition (Unbroken)? — Yes No
8. Could all bottle labels be reconciled with the COC? — Yes No
9. Were correct bottle(s) used for the test(s) indicated? — Yes No
10. Sufficient quantity received to perform indicated analyses? — Yes No
11. Are these work share samples? — Yes No
    If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? — Yes No NA pH Strip Lot# **HC902937**
13. Were VOAs on the COC? — Yes No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. — Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # — Yes No
16. Was a LL Hg or Me Hg trip blank present? — Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

Login # : 129039

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	IR-10 IR-11	1.5	2.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	0.9	1.4	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	0.9	1.6	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	2.3	3.0	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	4.0	4.7	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	0.4	1.1	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	1.3	2.0	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	2.2	2.9	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	1.0	1.7	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
MW-22	240-129039-C-1	Plastic 500ml - with Nitric Acid	<2			
MW-22	240-129039-D-1	Plastic 1 liter - Nitric Acid	<2			
MW-22	240-129039-E-1	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-2	240-129039-A-2 MS	Plastic 1 liter - Nitric Acid				
MWFGDW-2	240-129039-A-2 MSD	Plastic 1 liter - Nitric Acid				
MWFGDW-2	240-129039-B-2 MS	Plastic 1 liter - Nitric Acid				
MWFGDW-2	240-129039-B-2 MSD	Plastic 1 liter - Nitric Acid				
MWFGDW-2	240-129039-G-2	Plastic 500ml - with Nitric Acid	<2			
MWFGDW-2	240-129039-H-2	Plastic 500ml - with Nitric Acid	<2			
MWFGDW-2	240-129039-I-2	Plastic 500ml - with Nitric Acid	<2			
MWFGDW-2	240-129039-J-2	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-2	240-129039-K-2	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-2	240-129039-L-2	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-2	240-129039-M-2	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-2	240-129039-N-2	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-2	240-129039-O-2	Plastic 1 liter - Nitric Acid	<2			
MW-5	240-129039-C-3	Plastic 500ml - with Nitric Acid	<2			
MW-5	240-129039-D-3	Plastic 1 liter - Nitric Acid	<2			
MW-5	240-129039-E-3	Plastic 1 liter - Nitric Acid	<2			
MW-8	240-129039-C-4	Plastic 500ml - with Nitric Acid	<2			
MW-8	240-129039-D-4	Plastic 1 liter - Nitric Acid	<2			
MW-8	240-129039-E-4	Plastic 1 liter - Nitric Acid	<2			
MW-10	240-129039-C-5	Plastic 500ml - with Nitric Acid	<2			
MW-10	240-129039-D-5	Plastic 1 liter - Nitric Acid	<2			
MW-10	240-129039-E-5	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-6	240-129039-C-6	Plastic 500ml - with Nitric Acid	<2			
MWFGDW-6	240-129039-D-6	Plastic 1 liter - Nitric Acid	<2			
MWFGDW-6	240-129039-E-6	Plastic 1 liter - Nitric Acid	<2			
FIELD BLANK	240-129039-C-7	Plastic 500ml - with Nitric Acid	<2			
FIELD BLANK	240-129039-D-7	Plastic 1 liter - Nitric Acid	<2			
FIELD BLANK	240-129039-E-7	Plastic 1 liter - Nitric Acid	<2			
DUPLICATE	240-129039-C-8	Plastic 500ml - with Nitric Acid	<2			
DUPLICATE	240-129039-D-8	Plastic 1 liter - Nitric Acid	<2			
DUPLICATE	240-129039-E-8	Plastic 1 liter - Nitric Acid	<2			

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #

Project Name: Mount Storm Power Station - Phase A - CCR Appendix III & IV

Project Reference Number: 20139936

Sampling Event Date: April 14, 2020

Review Date: 01/05/2021 *Initials:* CJL

Review Date: 1/13/2021 *Initials:* RMS

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) and Department of Energy (DOE) documents:

- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017;
- US Department of Energy Evaluation of Radiochemical Data Usability, April 1997; and
- Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites.

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- LCS = laboratory control spike
- RPD = relative percent difference
- MB = method blank
- DUP = duplicate
- FB = field blank
- VSWMR = Virginia Solid Waste Management Regulations
- J = estimated
- ND and/or U= not detected
- COC = chain of custody
- QC = quality control
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- EPA = United States Environmental Protection Agency
- pCi/L = picocuries per liter

COMPLIANCE ANALYTE LIST

☐ Historical VPDES Parameters

☒ CCR Appendix III to Part 257

☒ CCR Appendix IV to Part 257

☐ VSWMR Phase II Parameters: _____

☐ Other: _____

Note: TestAmerica Job No.: 240-129039-1

Golder
2108 West Laburnum Ave, Suite 200
Richmond, Virginia, USA 23227
T: +1 804 358-7900 | F: +1 804 358-2900

1.0 CHAIN OF CUSTODY (COC) REVIEW

Yes COC was properly signed by all parties.

Yes Correct project name and number are on the form.

Yes Sample receipt condition at laboratory was acceptable.

Yes Each sample and blank submitted for analysis appears in the data report.

Note: _____

2.0 SAMPLE HOLDING TIMES

See Note Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	**Analytes**	**Holding Time**
EPA 9056	Chloride, Fluoride, Sulfate	28 days
EPA 9315 EPA 9320	Radium 226 Radium 228	6 months
EPA 6000 series	Metals	6 months
EPA 7470A	Mercury	28 days
SM2540	Total Dissolved Solids	7 days

Notes: Due to laboratory oversight, the mercury analysis was not performed within the hold time for samples MW-22, MWFGDW2, MW-10, FIELD BLANK, DUPLICATE, MW-5, MW8, and MWFGDW6.

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

Yes Laboratory blanks were interference free.

Notes: The following table presents method blank detections and their associated sample delivery groups (SDG; batch). In accordance with EPA guidance, associated samples within the same batch have been evaluated using professional judgement. Inorganic data less than 10X the blank concentration may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data (i.e. the highest concentration reported over the last 8 sampling events). Organic data corresponding to blank contamination may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data. Additionally, associated samples for organic common lab contaminants (acetone, MC, and MEK) may be qualified if the results are 2X greater than the detected blank concentration. Associated samples may be qualified estimated high (J+), estimated low (J-), non-detect estimated (UJ) or unusable (R). As presented below, data qualification is not recommended.

For radiochemistry data, if the reported absolute value of the method blank is above the minimum detectable concentration (MDC) and no other deficiencies are noted in the associated dataset, detections above the MDC and less than 5 times the concentration reported in the method blank may be blank qualified "J" in accordance with qualification guidance. As presented below, data qualification was not required.

Parameter	Method Blank Detection (µg/L)	Batch	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

NA Surrogate recoveries are provided for each analytical method, where applicable.

NA Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

Yes Tracer and carrier yields are provided for each analytical method, where applicable (Radiochemical Data Only).

Yes Tracer and carrier yields for each method are within the acceptable limits (Radiochemical Data Only).

Notes: _____

Yes MS/MSD/LCS/RPD data results are provided for each analytical method.

Yes MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: _____

Parameter	Recovery Outside QC Limits	Batch	Associated Qualified Sample(s)
--	--	--	--

Yes Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

Yes Radiological samples reported below their respective MDC have been qualified with a “U.”

Notes: _____

Parameter	Associated Samples Below MDC
Radium-226	MWFGDW2, MW-5, MW-8, FIELD BLANK
Radium-228	MW-5, MW-8, MW-10, MWFGDW6, FIELD BLANK, DUPLICATE
Total Radium	MW-5, MW-8, MW-10, MWFGDW6, FIELD BLANK, DUPLICATE

4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 OUTLIER EVALUATION

Yes Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

Yes Analytical results with variances >25% have been evaluated for trends.

NA If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
--	--	--	--	--

6.0 DATA REPORTING

Yes Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes: The following table presents field blank detections and associated samples that have been qualified. In accordance with EPA guidance, associated samples have been evaluated using professional judgement. Inorganic data less than 10X the blank concentration may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data (i.e. the highest concentration reported over the last 8 sampling events). Organic data corresponding to blank contamination may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data. Additionally, associated samples for organic common lab contaminants (acetone, MC, and MEK) may be qualified if the results are 2X greater than the detected blank concentration. Associated samples may be qualified estimated high (J+), estimated low (J-), non-detect estimated (UJ) or unusable (R). As presented below, data qualification is not recommended.

Sample ID	Parameter	Blank Detection (µg/L)	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

Yes It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (*e.g.*, a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

Yes The report provides the reporting limit for each constituent.

Yes The proper reporting limits have been used (*e.g.* NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

Notes: _____

7.0 FIELD DUPLICATE PRECISION

Yes Field duplicate sample results were within control limits of 20% relative percent difference for sample results greater than 5 times the quantitation limit. When one or both results were less than 5 times the quantitation limit, the difference between the two results was less than twice the reporting limit.

Notes: The following table presents field duplicates and their associated parent samples that were not within control limits. In accordance with EPA guidance, sample results with field duplicate imprecision may be qualified estimated (J) or non-detect estimated (UJ). As presented below, data qualification is not recommended.

Parameter	Associated Samples	Parent Sample Result (ug/L)	Duplicate Sample Result (ug/L)	Reanalysis requested?	Outlier Identification
--	--	--	--	--	--

APPENDIX B

SECOND SEMI-ANNUAL ASSESSMENT MONITORING PROGRAM EVENT FIELD DATA SHEETS, LABORATORY CERTIFICATES OF ANALYSIS, CHAIN-OF-CUSTODY FORMS, AND DATA VALIDATION FORMS

Date: 10/12/2020

GOLDER

WELL GAUGING LOG

Project Name: MSPS Phase A&B

Project No./Task No.: 20139931

Sampler(s): Catelyn Joyner, Patrick Trout

Equipment: Water Level Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
MW-22	CJ	1230	22.61	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MWFGDW2	CJ	1238	~~22.61~~ BTOP*	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	~~OK~~ Damaged
MW-5	CJ	1329	38.19	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-6R	CJ	1449	61.39	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	~~OK~~ Damaged*
MW-7	CJ	1300	27.79	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-8	CJ	1432	51.01	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-10	CJ	1314	27.40	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-12R	CJ	1454	19.02	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-13	CJ	1249	25.89	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-14	CJ	1253	35.74	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MWFGDW3	CJ	1502	21.80	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MWFGDW4	CJ	1507	30.14	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MWFGDW5	CJ	1515	13.36	–	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MWFGDW6	CJ	1519	20.39	–	✓OK Damaged	✓OK Damaged	~~OK~~ Inadequate	✓Yes No	✓OK Damaged
					OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damaged
					OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damaged
					OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damaged

Observations/Notes: *BTOP = Below Top of Pump MWFGDW2 DTP = 25.00ft
*Pad @ MW6R cracked

Signature: [signature] Date: 10-12-2020

QA/QC Signature: [signature] Date: 10-12-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 10-13-2020

Weather: min 50s

Project Name: Mt. Storm P.S.

Project No./Task No.: 20139936

Event: 2SA2020 NPDES A&B/Phase A&B CCR

Sampler(s): C. Joyner

Well ID: MW-23

Field Calibration Completed: 10-13-2020 @ 0735

Well Diameter: 2 inches

Initial Depth to Water: 22.63 feet

Depth to Bottom: 63.92 feet

Water Column Thickness: 41.29 feet

Equipment Used:
- [X] WL Indicator
- [X] YSI PRO DSS 16D104376
- [ ] In-Situ
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [X] MP-15 Controller Box
- [X] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ]

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0844	6.37	566	23.5	3.50	9.5	220.3	23.19	400
0847	6.58	573	20.7	3.16	9.4	218.9	23.31	400
0850	6.61	571	19.5	3.85	9.4	217.5	23.21	400
0853	6.63	571	16.5	2.87	9.4	216.0	23.17	400
0856	6.64	571	13.3	2.46	9.4	214.9	23.05	400
0859	6.65	570	10.2	2.39	9.4	214.2	23.21	400
0901				SAMPLE				
1000	6.70	566	11.0	2.86	9.4	201.9	23.25	400

Purge Cycle (End): 25 sec/5 sec @ 40 psi

Flow Rate (ml/min End): 400

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.35

Total Purge Volume (Gallons): ~2.5

Purge Water Management: oil water separator

Purge Observations (color, odor, turbidity, sheen): clear grab sample

Purge time 0844

Sample Time: 0901

Field Filtered (0.45um): [X] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [X] CCR Appendix III
- [X] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [X] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [X] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- [X] Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems: DTP = 58.73'

Sampler Signature: Date: 10-13-2020

QA/QC Signature: Date: 10-13-2020

FIELD SAMPLING LOG

GOLDER

Date: 10/13/2020
Weather: Rain, 50s

Project Name: Mt. Storm Power Station
Project No./Task No.: 20139936
Event: 2SA20 NPDES + Phase A+B CCR
Sampler(s): P. Trout
Well ID: MWFGDWZ
Field Calibration Completed: 0735 on 10/13/20
Well Diameter: 2.0 inches
Initial Depth to Water: BTOP feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI 2005S 18U04692
- [ ] In Situ Troll 9500
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Disposable Bailer
- [ ] Non-dedicated BP
- [ ] Other Dedicated Bladder Pump

Time	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	~~Gallons~~ Flow mL/min	DTW (ft)
0844	6.32	401.4	5.14	4.95	11.2	190.5	400	BTOP
0847	6.40	403.0	3.98	4.72	11.2	190.1	400	BTOP
0850	6.46	402.7	3.59	4.66	11.2	189.9	400	BTOP
0853	6.50	402.5	3.31	4.62	11.2	189.5	400	BTOP
0854	—	SAMPLED	—	—	—	—	—	—
0948	6.65	401.9	3.01	4.13	11.2	189.1	400	BTOP

~~Calculated Well Vol. (Gallons):~~ Purge Cycles: 10/5sec Total Calculated Purge Volume (Gallons): Pre Purge ~ 0.20

Purge Water Management: On-Site OWS; Purge Vol = ~1.5gal

Purge Observations (product observed, color, odor, turbidity, sheen): Clear Gray Sample
Purge Start @ 0840 Flow Rate Final = ~400 mL/min

Sample Date/Time: 10/13/2020 Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- [x] Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems: Sampled @ 0854
BTOP = Below Top of Pump DTP = 25.03ft

Sampler Signature: [signature] Date: 10/13/2020 Page 1 of 1

QA/QC Signature: [signature] Date: 10-14-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 10-13-2020

Weather: partly cloudy 60s

Project Name: Mt Storm PS. | Project No./Task No.: 20139936

Event: 2S42020 NPDES A&B / Phase A CCR | Sampler(s): C. Joyner

Well ID: MW-5 | Field Calibration Completed: 10-13-2020 @ 0735

Well Diameter: 4 inches | Initial Depth to Water: 38.20 feet

Depth to Bottom: 52.10 feet | Water Column Thickness: 13.90 feet

Equipment Used: ☒ WL Indicator ☐ Turbidity Meter ☐ Air Tank ☒ Dedicated Bladder Pump

☒ YSI PROSS 16010376 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP

☐ In-Situ ____ ☐ MP-10 Controller Box ☒ MP-15 Controller Box ☐ ____

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1549	6.13	215.1	54.5	3.47	9.6	78.7	38.95	400
1552	6.35	214.2	50.8	3.28	9.6	63.9	39.05	400
1555	6.55	213.7	38.4	3.18	9.6	60.2	39.11	400
1559	6.63	215.8	31.7	3.06	9.6	49.4	39.19	400
1601	6.68	216.7	23.3	2.99	9.6	49.0	39.45	400
1604	6.71	219.3	19.3	2.93	9.6	45.0	39.45	400
1607	6.73	219.3	16.6	2.81	9.6	33.2	39.51	400
1610	6.74	218.8	14.6	2.86	9.6	38.9	39.59	400
1613	6.75	221.6	9.8	2.82	9.6	43.9	39.64	400
1615			SAMPLE					
1636	6.83	245.1	7.6	2.56	9.7	52.1	40.05	400

Purge Cycle (End): 27 sec / 3 sec @ 30 psi | Flow Rate (ml/min End): 400

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.31

Total Purge Volume (Gallons): ~2.5 | Purge Water Management: oily waste seperator

Purge Observations (color, odor, turbidity, sheen): clear grab sample

purge time 1546

Sample Time: 1615 | Field Filtered (0.45um): ☐ Yes ☐ No

Sample Parameters/Analyte(s): ☐ Petro (DRO) ☒ CCR Appendix III ☒ CCR Appendix IV

☐ Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS) ☒ Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)

☐ Variance (Diss [Be, Cd, Cr, Pb, Ni]) ☐ LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228) ☒ Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228) Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems: ~~PID = 5~~ ✓

Sampler Signature: [signature] Date: 10-13-2020

QA/QC Signature: [signature] Date: 10/13/2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 10/13/2020
Weather: Cloudy, 50s

Project Name: Mt. Storm Power Station
Project No./Task No.: 20139936
Event: 2SA20 NRDES + Phase A CCR
Sampler(s): P. Trout
Well ID: MW-8
Field Calibration Completed: 0735 on 10/13/20
Well Diameter: 2.0 inches
Initial Depth to Water: 51.08 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 18L104
- [ ] In-Situ — C92
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1543	6.14	276.6	9.09	2.12	9.3	226.5	52.69	~400
1546	6.18	278.0	10.02	2.06	9.3	222.0	53.29	~400
1549	6.12	279.9	9.90	2.40	9.3	223.7	53.61	~400
1551	6.10	282.7	8.57	2.77	9.3	223.6	53.95	~400
1552	—	—	— SAMPLED —	—	—	—	—	—
1612	6.34	297.2	21.29	2.86	9.3	214.8	57.52	~400

Purge Cycle (End): 23/7xc @ 38 psi
Flow Rate (ml/min End): ~400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.5
Total Purge Volume (Gallons): ~2.5
Purge Water Management: On Site OWS
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample
Purge Started 1533
Sample Time: 1552
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [ ] Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- [ ] Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:
DTP = 58.66' DTB = 63.54' S.G.

Sampler Signature: [signature] Date: 10/13/2020
QA/QC Signature: [signature] Date: 10-14-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 10-13-2020

Weather: partly cloudy 60s

Project Name: Mt Storm P.S.

Project No./Task No.: 20139436

Event: 2SA2020 NPDES A&B/Phase A&B CCR

Sampler(s): C. Joyner

Well ID: MW-10

Field Calibration Completed: 10-13-2020 @ 0735

Well Diameter: 2 inches

Initial Depth to Water: 24.01 feet

Depth to Bottom: 63.41 feet

Water Column Thickness: 39.40 feet

Equipment Used: ☒ WL Indicator ☐ Turbidity Meter ☐ Air Tank ☒ Dedicated Bladder Pump

☒ YSI PRODSS 16D104376 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP

☐ In-Situ ☐ MP-10 Controller Box ☒ MP-15 Controller Box ☐

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1436	4.62	53.2	10.9	1.12	10.2	259.9	25.31	300
1439	4.66	52.9	9.9	0.95	10.0	294.4	25.95	300
1442	4.65	52.8	11.1	0.89	10.0	306.9	26.11	300
1445	4.64	52.7	10.8	0.90	9.9	317.0	26.22	300
1447	—	—	—	SAMPLE	—	—	—	—
1506	4.62	52.4	9.9	1.58	10.1	327.0	28.60	300

Purge Cycle (End): 25 sec / 15 sec @ 38 psi

Flow Rate (ml/min End): 300

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.35

Total Purge Volume (Gallons): ~1.5

Purge Water Management: oily water seperator

Purge Observations (color, odor, turbidity, sheen): clear grab sample/ light tan organics suspended in sampl

Purge time 1431

Sample Time: 1447

Field Filtered (0.45um): ☒ Yes ☐ No

Sample Parameters/Analyte(s): ☐ Petro (DRO) ☒ CCR Appendix III ☒ CCR Appendix IV

☐ Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS) ☒ Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)

☐ Variance (Diss [Be, Cd, Cr, Pb, Ni]) ☐ LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228) ☒ Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228) ☒ Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems: DTP=59.51

Sampler Signature: [signature] Date: 10-13-2020 Page 1 of 1

QA/QC Signature: [signature] Date: 10-13-2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 10/13/2020
Weather: Cloudy, 50s

Project Name: Mt. Storm Power Station
Project No./Task No.: 20139926
Event: 2SA20 NPDES + Phase ACCR
Sampler(s): P. Trout
Well ID: MWFGDW6
Field Calibration Completed: 0935 on 10/13/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 20.45 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 18L101492
- [ ] In-Situ _____
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] _____

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1403	5.84	385.0	16.86	1.55	11.0	134.7	21.55	~450
1406	6.40	226.1	24.90	1.83	11.0	119.7	22.25	~450
~~1409~~-1411	6.25	165.7	32.05	2.25	11.1	143.2	22.05	~450
~~1412~~ 1416	6.22	156.7	29.74	3.04	11.2	150.8	22.05	~450
~~1417~~ 1421	6.10	150.0	16.87	1.95	11.2	159.3	22.05	~450
1426	6.10	149.7	10.59	1.91	11.2	159.5	22.05	~450
1431	6.09	148.7	9.85	1.86	11.1	160.2	22.10	~450
1432	—	—	SAMPLED	—	—	—	—	—
1453	6.11	135.4	9.53	2.26	11.6	172.4	22.10	~450

EMPTIED Flow through cell

Purge Cycle (End): 24/6 sec @ 21 psi
Flow Rate (ml/min End): ~450
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 0.30
Total Purge Volume (Gallons): 24.0
Purge Water Management: On Site OWS
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample
Purge Start @ 1400
Sample Time: 1432
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] Petro (DRO)
- [x] CCR Appendix III
- [x] CCR Appendix IV
- [ ] Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- [x] Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- [ ] Variance (Diss [Be, Cd, Cr, Pb, Ni])
- [ ] LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- [x] Phase A IV Detects (As, Ba, [illegible] Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:
DTP = 35.35' DTB = 41.01' Soft

Sampler Signature: _____ Date: 10/13/2020
QA/QC Signature: _____ Date: 10-14-2020

Page 1 of 1

GOLDER

MICROPURGE SAMPLING LOG

Date: 10-13-2020

Weather: rain 50s

Project Name: M4 Storm PS

Project No./Task No.: 20139436

Event: 2SA2020 NPDES A&B/Phase A&B CCR

Sampler(s): L.Joyner

Well ID: Field Blank

Field Calibration Completed: 10-13-2020 @ 0735

Well Diameter: — inches

Initial Depth to Water: — feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- ☐ WL Indicator
- ☐ YSI —
- ☐ In-Situ —
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☐ MP-15 Controller Box
- ☐ Dedicated Bladder Pump
- ☐ Non-dedicated BP
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (^{o}C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1005	—	—	—	SAMPLE	—	—	—	—

Purge Cycle (End): — @ — psi Flow Rate (ml/min End): —

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —

Total Purge Volume (Gallons): — Purge Water Management: —

Purge Observations (color, odor, turbidity, sheen): clear grab sample taken near MW-22 using lab supplied DI water

Sample Time: 1005

Field Filtered (0.45um): ☐ Yes ☒ No

Sample Parameters/Analyte(s):
- ☐ Petro (DRO)
- ☒ CCR Appendix III
- ☒ CCR Appendix IV
- ☐ Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- ☒ Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- ☐ Variance (Diss [Be, Cd, Cr, Pb, Ni])
- ☐ LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- ☒ Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- ☒ Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 10-13-2020

QA/QC Signature: [signature] Date: 10/16/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 10-13-2020

Weather: rain 50s

Project Name: Mt. Storm P.S.

Project No./Task No.: 20139936

Event: 2SA2020 NPDES A+B/Phase A+B CCR

Sampler(s): C. Joyner

Well ID: Duplicate

Field Calibration Completed: 10-13-2020 @0935

Well Diameter: — inches

Initial Depth to Water: — feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- ☐ WL Indicator
- ☐ YSI —
- ☐ In-Situ —
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☐ MP-15 Controller Box
- ☐ Dedicated Bladder Pump
- ☐ Non-dedicated BP
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (^{o}C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0930	—	—	—	SAMPLE	—	—	—	—

Purge Cycle (End): — @ — psi Flow Rate (ml/min End): —

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —

Total Purge Volume (Gallons): — Purge Water Management: —

Purge Observations (color, odor, turbidity, sheen): Clear grab sample taken at MW-22 See MW-22 sampling log for details

Sample Time: 0930 Field Filtered (0.45um): ☒ Yes ☐ No

Sample Parameters/Analyte(s):
- ☐ Petro (DRO)
- ☒ CCR Appendix III
- ☒ CCR Appendix IV
- ☐ Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], SO4, TDS, TSS)
- ☒ Phase A&B NPDES (Diss [Al, Sb, As, Ba, Be, Bo, Cd, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl],Cl, Cr Tot, NO2+NO3 N, SO4, NH3-N Tot, TDS, TSS)
- ☐ Variance (Diss [Be, Cd, Cr, Pb, Ni])
- ☐ LVWSP IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228)
- ☒ Phase A IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Se, Rad 226-228)
- ☒ Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Rad 226-228)

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 10-13-2020

QA/QC Signature: [signature] Date: 10/16/2020

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ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-138359-3
Laboratory Sample Delivery Group: Phase A CCR
Client Project/Site: Mount Storm Power Station
Revision: 1

For:
Golder Associates Inc.
2108 W Laburnum Ave,
Suite 200
Richmond, Virginia 23227

Attn: Rachel Powell

Roxanne Cisneros

Authorized for release by:
1/6/2021 9:58:16 AM

Roxanne Cisneros, Senior Project Manager
(615)301-5761
roxanne.cisneros@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Job ID: 240-138359-3

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-138359-3

Comments
No additional comments.

Receipt
The samples were received on 10/15/2020 9:45 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 11 coolers at receipt time were 1.6º C, 1.6º C, 1.7º C, 2.1º C, 2.2º C, 2.3º C, 2.4º C, 3.0º C, 3.2º C, 3.3º C and 3.9º C.

RAD
Method 9320: 9320 Prep batch: 160-487342: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-22 (240-138359-1), MW-FGDW2 (240-138359-2), MW-FGDW2 (240-138359-2[MS]), MW-FGDW2 (240-138359-2[MSD]), MW-5 (240-138359-3), MW-8 (240-138359-6), MW-10 (240-138359-7), MW-FGDW6 (240-138359-14), FIELDBLANK (240-138359-15) and DUPLICATE (240-138359-16)

Method 9315: 9315 Prep Batch: 160-487338: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-22 (240-138359-1), MW-FGDW2 (240-138359-2), MW-FGDW2 (240-138359-2[MS]), MW-FGDW2 (240-138359-2[MSD]), MW-5 (240-138359-3), MW-8 (240-138359-6), MW-10 (240-138359-7), MW-FGDW6 (240-138359-14), FIELDBLANK (240-138359-15) and DUPLICATE (240-138359-16)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Methods 9056A: The following sample was diluted due to the nature of the sample matrix: MW-FGDW6 (240-138359-14). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL CAN
6020B	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-138359-1	MW-22	Water	10/13/20 09:01	10/15/20 09:45	
240-138359-2	MW-FGDW2	Water	10/13/20 08:54	10/15/20 09:45	
240-138359-3	MW-5	Water	10/13/20 16:15	10/15/20 09:45	
240-138359-6	MW-8	Water	10/13/20 15:52	10/15/20 09:45	
240-138359-7	MW-10	Water	10/13/20 14:47	10/15/20 09:45	
240-138359-14	MW-FGDW6	Water	10/13/20 14:32	10/15/20 09:45	
240-138359-15	FIELDBLANK	Water	10/13/20 10:05	10/15/20 09:45	
240-138359-16	DUPLICATE	Water	10/13/20 09:30	10/15/20 09:45	

Detection Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: MW-22 — Lab Sample ID: 240-138359-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	290		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	100000		1000	580	ug/L	1		6020B	Total Recoverable
Cobalt	0.85	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.52	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	7.3	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	740	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	50		50	24	ug/L	1		9056A	Total/NA
Sulfate	26000		1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	330		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-FGDW2 — Lab Sample ID: 240-138359-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	320		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	70000		1000	580	ug/L	1		6020B	Total Recoverable
Lithium	9.9		8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	960	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	94		50	24	ug/L	1		9056A	Total/NA
Sulfate	39000		1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	240		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 240-138359-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	48	J	100	23	ug/L	1		6010D	Total Recoverable
Barium	150		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	40000		1000	580	ug/L	1		6020B	Total Recoverable
Cobalt	1.2		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	8.4		8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	1400		1000	280	ug/L	1		9056A	Total/NA
Fluoride	51		50	24	ug/L	1		9056A	Total/NA
Sulfate	12000		1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	130		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 240-138359-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	110		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	32000		1000	580	ug/L	1		6020B	Total Recoverable
Chromium	2.2		2.0	0.98	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: MW-8 (Continued) — Lab Sample ID: 240-138359-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	2.5		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.89	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Lithium	1.8	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Selenium	0.97	J	5.0	0.89	ug/L	1		6020B	Total Recoverable
Chloride	44000		1000	280	ug/L	1		9056A	Total/NA
Fluoride	62		50	24	ug/L	1		9056A	Total/NA
Sulfate	22000		1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	160		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 240-138359-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	140		5.0	2.2	ug/L	1		6020B	Total Recoverable
Beryllium	0.49	J	1.0	0.31	ug/L	1		6020B	Total Recoverable
Cadmium	0.28	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	3900		1000	580	ug/L	1		6020B	Total Recoverable
Chromium	1.1	J	2.0	0.98	ug/L	1		6020B	Total Recoverable
Cobalt	2.1		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.47	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Chloride	830	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	44	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	8200		1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	240		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-FGDW6 — Lab Sample ID: 240-138359-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	93		5.0	2.2	ug/L	1		6020B	Total Recoverable
Cadmium	0.22	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Calcium	20000		1000	580	ug/L	1		6020B	Total Recoverable
Cobalt	3.4		1.0	0.19	ug/L	1		6020B	Total Recoverable
Lead	0.83	J	1.0	0.45	ug/L	1		6020B	Total Recoverable
Chloride	2800	J	10000	2800	ug/L	10		9056A	Total/NA
Sulfate	6100000		50000	17000	ug/L	50		9056A	Total/NA
Total Dissolved Solids	97		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FIELDBLANK — Lab Sample ID: 240-138359-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	32	J	100	23	ug/L	1		6010D	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: DUPLICATE

Lab Sample ID: 240-138359-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	290		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	100000		1000	580	ug/L	1		6020B	Total Recoverable
Cobalt	0.42	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Lithium	7.3	J	8.0	1.7	ug/L	1		6020B	Total Recoverable
Chloride	770	J	1000	280	ug/L	1		9056A	Total/NA
Fluoride	45	J	50	24	ug/L	1		9056A	Total/NA
Sulfate	26000		1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	320		10	10	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-22

Date Collected: 10/13/20 09:01
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-1

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 18:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:09	1
Barium	**290**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:09	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:09	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:09	1
Calcium	**100000**		1000	580	ug/L		10/19/20 14:00	10/21/20 12:09	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:09	1
Cobalt	**0.85**	**J**	1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:09	1
Lead	**0.52**	**J**	1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:09	1
Lithium	**7.3**	**J**	8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:09	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:09	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:09	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 15:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**740**	**J**	1000	280	ug/L			11/04/20 01:25	1
Fluoride	**50**		50	24	ug/L			11/04/20 01:25	1
Sulfate	**26000**		1000	350	ug/L			11/04/20 01:25	1
Total Dissolved Solids	**330**		10	10	mg/L			10/19/20 11:41	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.202	0.202	1.00	0.346	pCi/L	10/30/20 12:33	12/19/20 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.8*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:48*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.176	U	0.290	0.290	1.00	0.492	pCi/L	10/30/20 13:09	12/18/20 12:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.8*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:39*	*1*
Y Carrier	*75.5*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:39*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.307	U	0.353	0.353	5.00	0.492	pCi/L		12/23/20 21:48	1

Client Sample ID: MW-FGDW2

Date Collected: 10/13/20 08:54
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-2

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 17:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 11:57	1
Barium	**320**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 11:57	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 11:57	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 11:57	1
Calcium	**70000**		1000	580	ug/L		10/19/20 14:00	10/21/20 11:57	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 11:57	1
Cobalt	<0.19		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 11:57	1
Lead	<0.45		1.0	0.45	ug/L		10/19/20 14:00	10/21/20 11:57	1
Lithium	**9.9**		8.0	1.7	ug/L		10/19/20 14:00	10/21/20 11:57	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 11:57	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 11:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**960**	**J**	1000	280	ug/L			11/04/20 01:47	1
Fluoride	**94**		50	24	ug/L			11/04/20 01:47	1
Sulfate	**39000**		1000	350	ug/L			11/04/20 01:47	1
Total Dissolved Solids	**240**		10	10	mg/L			10/19/20 11:41	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0473	U	0.148	0.148	1.00	0.281	pCi/L	10/30/20 12:33	12/19/20 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.2*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:48*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0399	U	0.270	0.270	1.00	0.482	pCi/L	10/30/20 13:09	12/18/20 12:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.2*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:39*	*1*
Y Carrier	*76.6*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:39*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0872	U	0.308	0.308	5.00	0.482	pCi/L		12/23/20 21:48	1

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: MW-5

Date Collected: 10/13/20 16:15
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-3

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**48**	**J**	100	23	ug/L		10/19/20 14:00	10/20/20 18:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:12	1
Barium	**150**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:12	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:12	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:12	1
Calcium	**40000**		1000	580	ug/L		10/19/20 14:00	10/21/20 12:12	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:12	1
Cobalt	**1.2**		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:12	1
Lead	<0.45		1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:12	1
Lithium	**8.4**		8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:12	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:12	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:12	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1400**		1000	280	ug/L			11/04/20 02:52	1
Fluoride	**51**		50	24	ug/L			11/04/20 02:52	1
Sulfate	**12000**		1000	350	ug/L			11/04/20 02:52	1
Total Dissolved Solids	**130**		10	10	mg/L			10/19/20 11:41	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0318	U	0.135	0.135	1.00	0.263	pCi/L	10/30/20 12:33	12/19/20 11:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.6*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:50*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.366	U	0.300	0.301	1.00	0.474	pCi/L	10/30/20 13:09	12/18/20 12:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.6*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:40*	*1*
Y Carrier	*77.8*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:40*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.397	U	0.329	0.330	5.00	0.474	pCi/L		12/23/20 21:48	1

Client Sample ID: MW-8

Date Collected: 10/13/20 15:52
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-6

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 19:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:24	1
Barium	**110**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:24	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:24	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:24	1
Calcium	**32000**		1000	580	ug/L		10/19/20 14:00	10/21/20 12:24	1
Chromium	**2.2**		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:24	1
Cobalt	**2.5**		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:24	1
Lead	**0.89**	**J**	1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:24	1
Lithium	**1.8**	**J**	8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:24	1
Selenium	**0.97**	**J**	5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:24	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**44000**		1000	280	ug/L			11/04/20 03:58	1
Fluoride	**62**		50	24	ug/L			11/04/20 03:58	1
Sulfate	**22000**		1000	350	ug/L			11/04/20 03:58	1
Total Dissolved Solids	**160**		10	10	mg/L			10/19/20 11:41	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.106	U	0.167	0.167	1.00	0.288	pCi/L	10/30/20 12:33	12/19/20 11:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.389	U	0.321	0.323	1.00	0.511	pCi/L	10/30/20 13:09	12/18/20 12:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:40*	*1*
Y Carrier	*72.5*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:40*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.495	U	0.362	0.364	5.00	0.511	pCi/L		12/23/20 21:48	1

Client Sample ID: MW-10

Date Collected: 10/13/20 14:47
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-7

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 19:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:27	1
Barium	**140**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:27	1
Beryllium	**0.49**	**J**	1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:27	1
Cadmium	**0.28**	**J**	1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:27	1
Calcium	**3900**		1000	580	ug/L		10/19/20 14:00	10/21/20 12:27	1
Chromium	**1.1**	**J**	2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:27	1
Cobalt	**2.1**		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:27	1
Lead	**0.47**	**J**	1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:27	1
Lithium	<1.7		8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:27	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:27	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 16:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**830**	**J**	1000	280	ug/L			11/04/20 05:03	1
Fluoride	**44**	**J**	50	24	ug/L			11/04/20 05:03	1
Sulfate	**8200**		1000	350	ug/L			11/04/20 05:03	1
Total Dissolved Solids	**240**		10	10	mg/L			10/19/20 11:41	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.236	U	0.257	0.258	1.00	0.412	pCi/L	10/30/20 12:33	12/19/20 11:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*49.0*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.243	U	0.474	0.475	1.00	0.893	pCi/L	10/30/20 13:09	12/18/20 12:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*49.0*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:41*	*1*
Y Carrier	*73.3*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:41*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.00700	U	0.539	0.541	5.00	0.893	pCi/L		12/23/20 21:48	1

Client Sample ID: MW-FGDW6

Date Collected: 10/13/20 14:32
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-14

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 19:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:36	1
Barium	**93**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:36	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:36	1
Cadmium	**0.22**	**J**	1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:36	1
Calcium	**20000**		1000	580	ug/L		10/19/20 14:00	10/21/20 12:36	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:36	1
Cobalt	**3.4**		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:36	1
Lead	**0.83**	**J**	1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:36	1
Lithium	<1.7		8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:36	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:36	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2800**	**J**	10000	2800	ug/L			11/04/20 07:35	10
Fluoride	<240		500	240	ug/L			11/04/20 07:35	10
Sulfate	**6100000**		50000	17000	ug/L			11/04/20 07:56	50
Total Dissolved Solids	**97**		10	10	mg/L			10/19/20 13:02	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.120	U	0.147	0.148	1.00	0.242	pCi/L	10/30/20 12:33	12/19/20 11:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.4*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:50*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.284	U	0.303	0.304	1.00	0.495	pCi/L	10/30/20 13:09	12/18/20 12:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.4*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:41*	*1*
Y Carrier	*84.5*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:41*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.404	U	0.337	0.338	5.00	0.495	pCi/L		12/23/20 21:48	1

Client Sample ID: FIELDBLANK

Date Collected: 10/13/20 10:05
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-15

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	32	J	100	23	ug/L		10/19/20 14:00	10/20/20 19:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:39	1
Barium	<2.2		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:39	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:39	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:39	1
Calcium	<580		1000	580	ug/L		10/19/20 14:00	10/21/20 12:39	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:39	1
Cobalt	<0.19		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:39	1
Lead	<0.45		1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:39	1
Lithium	<1.7		8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:39	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:39	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<280		1000	280	ug/L			11/04/20 12:14	1
Fluoride	<24		50	24	ug/L			11/04/20 12:14	1
Sulfate	<350		1000	350	ug/L			11/04/20 12:14	1
Total Dissolved Solids	<10		10	10	mg/L			10/19/20 13:02	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0499	U	0.122	0.123	1.00	0.229	pCi/L	10/30/20 12:33	12/19/20 11:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.0*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:50*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.196	U	0.266	0.267	1.00	0.444	pCi/L	10/30/20 13:09	12/18/20 12:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.0*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:42*	*1*
Y Carrier	*85.6*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:42*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.246	U	0.293	0.294	5.00	0.444	pCi/L		12/23/20 21:48	1

Client Sample ID: DUPLICATE

Date Collected: 10/13/20 09:30
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-16

Matrix: Water

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 19:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 12:41	1
Barium	**290**		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 12:41	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 12:41	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:41	1
Calcium	**100000**		1000	580	ug/L		10/19/20 14:00	10/21/20 12:41	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 12:41	1
Cobalt	**0.42**	**J**	1.0	0.19	ug/L		10/19/20 14:00	10/21/20 12:41	1
Lead	<0.45		1.0	0.45	ug/L		10/19/20 14:00	10/21/20 12:41	1
Lithium	**7.3**	**J**	8.0	1.7	ug/L		10/19/20 14:00	10/21/20 12:41	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 12:41	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 12:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**770**	**J**	1000	280	ug/L			11/04/20 12:35	1
Fluoride	**45**	**J**	50	24	ug/L			11/04/20 12:35	1
Sulfate	**26000**		1000	350	ug/L			11/04/20 12:35	1
Total Dissolved Solids	**320**		10	10	mg/L			10/19/20 13:02	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0983	U	0.229	0.229	1.00	0.405	pCi/L	10/30/20 12:33	12/19/20 11:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.4*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0728	U	0.258	0.258	1.00	0.452	pCi/L	10/30/20 13:09	12/18/20 12:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.4*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:42*	*1*
Y Carrier	*81.1*		*40 - 110*	*10/30/20 13:09*	*12/18/20 12:42*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.171	U	0.345	0.345	5.00	0.452	pCi/L		12/23/20 21:48	1

Tracer/Carrier Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Method: 9315 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
240-138359-1	MW-22	69.8
240-138359-2	MW-FGDW2	74.2
240-138359-2 MS	MW-FGDW2	60.7
240-138359-2 MSD	MW-FGDW2	61.3
240-138359-3	MW-5	78.6
240-138359-6	MW-8	81.5
240-138359-7	MW-10	49.0
240-138359-14	MW-FGDW6	80.4
240-138359-15	FIELDBLANK	83.0
240-138359-16	DUPLICATE	80.4
LCS 160-487338/1-A	Lab Control Sample	78.9
MB 160-487338/17-A	Method Blank	79.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
240-138359-1	MW-22	69.8	75.5
240-138359-2	MW-FGDW2	74.2	76.6
240-138359-2 MS	MW-FGDW2	60.7	69.2
240-138359-2 MSD	MW-FGDW2	61.3	76.3
240-138359-3	MW-5	78.6	77.8
240-138359-6	MW-8	81.5	72.5
240-138359-7	MW-10	49.0	73.3
240-138359-14	MW-FGDW6	80.4	84.5
240-138359-15	FIELDBLANK	83.0	85.6
240-138359-16	DUPLICATE	80.4	81.1
LCS 160-487342/1-A	Lab Control Sample	78.9	76.6
MB 160-487342/17-A	Method Blank	79.2	82.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-456639/1-A
Matrix: Water
Analysis Batch: 457006

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<23		100	23	ug/L		10/19/20 14:00	10/20/20 17:49	1

Lab Sample ID: LCS 240-456639/2-A
Matrix: Water
Analysis Batch: 457006

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1000		ug/L		100	80 - 120

Lab Sample ID: 240-138359-2 MS
Matrix: Water
Analysis Batch: 457006

Client Sample ID: MW-FGDW2
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	<23		1000	1130		ug/L		113	75 - 125

Lab Sample ID: 240-138359-2 MSD
Matrix: Water
Analysis Batch: 457006

Client Sample ID: MW-FGDW2
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	<23		1000	1110		ug/L		111	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-456639/1-A
Matrix: Water
Analysis Batch: 457219

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		5.0	0.75	ug/L		10/19/20 14:00	10/21/20 11:53	1
Barium	<2.2		5.0	2.2	ug/L		10/19/20 14:00	10/21/20 11:53	1
Beryllium	<0.31		1.0	0.31	ug/L		10/19/20 14:00	10/21/20 11:53	1
Cadmium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 11:53	1
Calcium	<580		1000	580	ug/L		10/19/20 14:00	10/21/20 11:53	1
Chromium	<0.98		2.0	0.98	ug/L		10/19/20 14:00	10/21/20 11:53	1
Cobalt	<0.19		1.0	0.19	ug/L		10/19/20 14:00	10/21/20 11:53	1
Lead	<0.45		1.0	0.45	ug/L		10/19/20 14:00	10/21/20 11:53	1
Lithium	<1.7		8.0	1.7	ug/L		10/19/20 14:00	10/21/20 11:53	1
Selenium	<0.89		5.0	0.89	ug/L		10/19/20 14:00	10/21/20 11:53	1
Thallium	<0.20		1.0	0.20	ug/L		10/19/20 14:00	10/21/20 11:53	1

Lab Sample ID: LCS 240-456639/29-A
Matrix: Water
Analysis Batch: 457219

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	984		ug/L		98	80 - 120
Barium	1000	1010		ug/L		101	80 - 120
Beryllium	500	514		ug/L		103	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-456639/29-A
Matrix: Water
Analysis Batch: 457219

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	500	496		ug/L		99	80 - 120
Calcium	25000	25000		ug/L		100	80 - 120
Chromium	500	507		ug/L		101	80 - 120
Cobalt	500	506		ug/L		101	80 - 120
Lead	500	519		ug/L		104	80 - 120
Selenium	1000	977		ug/L		98	80 - 120
Thallium	1000	958		ug/L		96	80 - 120

Lab Sample ID: 240-138359-2 MS
Matrix: Water
Analysis Batch: 457219

Client Sample ID: MW-FGDW2
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.75		1000	1040		ug/L		104	80 - 120
Barium	320		1000	1360		ug/L		104	80 - 120
Beryllium	<0.31		500	518		ug/L		104	80 - 120
Cadmium	<0.20		500	507		ug/L		101	80 - 120
Calcium	70000		25000	93700		ug/L		95	80 - 120
Chromium	<0.98		500	511		ug/L		102	80 - 120
Cobalt	<0.19		500	526		ug/L		105	80 - 120
Lead	<0.45		500	525		ug/L		105	80 - 120
Selenium	<0.89		1000	997		ug/L		100	80 - 120
Thallium	<0.20		1000	974		ug/L		97	80 - 120

Lab Sample ID: 240-138359-2 MSD
Matrix: Water
Analysis Batch: 457219

Client Sample ID: MW-FGDW2
Prep Type: Total Recoverable
Prep Batch: 456639

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.75		1000	1050		ug/L		105	80 - 120	1	20
Barium	320		1000	1380		ug/L		106	80 - 120	2	20
Beryllium	<0.31		500	515		ug/L		103	80 - 120	0	20
Cadmium	<0.20		500	507		ug/L		101	80 - 120	0	20
Calcium	70000		25000	92900		ug/L		92	80 - 120	1	20
Chromium	<0.98		500	513		ug/L		103	80 - 120	1	20
Cobalt	<0.19		500	529		ug/L		106	80 - 120	1	20
Lead	<0.45		500	531		ug/L		106	80 - 120	1	20
Selenium	<0.89		1000	1020		ug/L		102	80 - 120	2	20
Thallium	<0.20		1000	989		ug/L		99	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-456705/1-A
Matrix: Water
Analysis Batch: 457442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 456705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13		0.20	0.13	ug/L		10/19/20 14:00	10/22/20 15:43	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-456705/2-A
Matrix: Water
Analysis Batch: 457442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 456705

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.59		ug/L		92	80 - 120		

Lab Sample ID: 240-138359-2 MS
Matrix: Water
Analysis Batch: 457442

Client Sample ID: MW-FGDW2
Prep Type: Total/NA
Prep Batch: 456705

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	<0.13		1.00	0.968		ug/L		97	80 - 120		

Lab Sample ID: 240-138359-2 MSD
Matrix: Water
Analysis Batch: 457442

Client Sample ID: MW-FGDW2
Prep Type: Total/NA
Prep Batch: 456705

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.13		1.00	0.996		ug/L		100	80 - 120	3	20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-459149/3
Matrix: Water
Analysis Batch: 459149

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<280		1000	280	ug/L			11/04/20 00:42	1
Fluoride	<24		50	24	ug/L			11/04/20 00:42	1
Sulfate	<350		1000	350	ug/L			11/04/20 00:42	1

Lab Sample ID: LCS 240-459149/4
Matrix: Water
Analysis Batch: 459149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50000	49600		ug/L		99	90 - 110		
Fluoride			2500	2600		ug/L		104	90 - 110		
Sulfate			50000	51100		ug/L		102	90 - 110		

Lab Sample ID: 240-138359-2 MS
Matrix: Water
Analysis Batch: 459149

Client Sample ID: MW-FGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	960	J	50000	56600		ug/L		111	80 - 120		
Fluoride	94		2500	2980		ug/L		116	80 - 120		
Sulfate	39000		50000	93100		ug/L		109	80 - 120		

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-138359-2 MSD
Matrix: Water
Analysis Batch: 459149

Client Sample ID: MW-FGDW2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	960	J	50000	54100		ug/L		106	80 - 120	4	15
Fluoride	94		2500	2860		ug/L		111	80 - 120	4	15
Sulfate	39000		50000	90600		ug/L		104	80 - 120	3	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-334592/2
Matrix: Water
Analysis Batch: 334592

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/19/20 11:41	1

Lab Sample ID: LCS 180-334592/1
Matrix: Water
Analysis Batch: 334592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	714	692		mg/L		97	80 - 120

Lab Sample ID: 240-138359-1 DU
Matrix: Water
Analysis Batch: 334592

Client Sample ID: MW-22
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	330		334		mg/L		0.9	10

Lab Sample ID: MB 180-334594/2
Matrix: Water
Analysis Batch: 334594

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/19/20 13:02	1

Lab Sample ID: LCS 180-334594/1
Matrix: Water
Analysis Batch: 334594

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	714	690		mg/L		97	80 - 120

Lab Sample ID: 240-138359-16 DU
Matrix: Water
Analysis Batch: 334594

Client Sample ID: DUPLICATE
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	320		327		mg/L		1	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-487338/17-A
Matrix: Water
Analysis Batch: 492452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487338

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08664	U	0.179	0.179	1.00	0.320	pCi/L	10/30/20 12:33	12/19/20 11:55	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.2*		*40 - 110*	*10/30/20 12:33*	*12/19/20 11:55*	*1*

Lab Sample ID: LCS 160-487338/1-A
Matrix: Water
Analysis Batch: 492451

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487338

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	9.612		1.22	1.00	0.246	pCi/L	85	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*78.9*		*40 - 110*

Lab Sample ID: 240-138359-2 MS
Matrix: Water
Analysis Batch: 492451

Client Sample ID: MW-FGDW2
Prep Type: Total/NA
Prep Batch: 487338

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226	0.0473	U	11.3	10.52		1.38	1.00	0.351	pCi/L	92	75 - 138		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*60.7*		*40 - 110*

Lab Sample ID: 240-138359-2 MSD
Matrix: Water
Analysis Batch: 492451

Client Sample ID: MW-FGDW2
Prep Type: Total/NA
Prep Batch: 487338

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	0.0473	U	11.4	9.697		1.29	1.00	0.299	pCi/L	85	75 - 138	0.31	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*61.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-487342/17-A
Matrix: Water
Analysis Batch: 492430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487342

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.01875	U	0.249	0.249	1.00	0.446	pCi/L	10/30/20 13:09	12/18/20 12:42	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	79.2		40 - 110	10/30/20 13:09	12/18/20 12:42	1
Y Carrier	82.6		40 - 110	10/30/20 13:09	12/18/20 12:42	1

Lab Sample ID: LCS 160-487342/1-A
Matrix: Water
Analysis Batch: 492430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487342

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.57	5.673		0.821	1.00	0.508	pCi/L	75	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	78.9		40 - 110
Y Carrier	76.6		40 - 110

Lab Sample ID: 240-138359-2 MS
Matrix: Water
Analysis Batch: 492430

Client Sample ID: MW-FGDW2
Prep Type: Total/NA
Prep Batch: 487342

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228	0.0399	U	7.57	6.289		1.04	1.00	0.835	pCi/L	83	45 - 150		

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	60.7		40 - 110
Y Carrier	69.2		40 - 110

Lab Sample ID: 240-138359-2 MSD
Matrix: Water
Analysis Batch: 492430

Client Sample ID: MW-FGDW2
Prep Type: Total/NA
Prep Batch: 487342

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	0.0399	U	7.57	7.832		1.10	1.00	0.592	pCi/L	103	45 - 150	0.72	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	61.3		40 - 110
Y Carrier	76.3		40 - 110

Metals

Prep Batch: 456639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total Recoverable	Water	3005A	
240-138359-2	MW-FGDW2	Total Recoverable	Water	3005A	
240-138359-3	MW-5	Total Recoverable	Water	3005A	
240-138359-6	MW-8	Total Recoverable	Water	3005A	
240-138359-7	MW-10	Total Recoverable	Water	3005A	
240-138359-14	MW-FGDW6	Total Recoverable	Water	3005A	
240-138359-15	FIELDBLANK	Total Recoverable	Water	3005A	
240-138359-16	DUPLICATE	Total Recoverable	Water	3005A	
MB 240-456639/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-456639/29-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-456639/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-138359-2 MS	MW-FGDW2	Total Recoverable	Water	3005A	
240-138359-2 MS	MW-FGDW2	Total Recoverable	Water	3005A	
240-138359-2 MSD	MW-FGDW2	Total Recoverable	Water	3005A	
240-138359-2 MSD	MW-FGDW2	Total Recoverable	Water	3005A	

Prep Batch: 456705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total/NA	Water	7470A	
240-138359-2	MW-FGDW2	Total/NA	Water	7470A	
240-138359-3	MW-5	Total/NA	Water	7470A	
240-138359-6	MW-8	Total/NA	Water	7470A	
240-138359-7	MW-10	Total/NA	Water	7470A	
240-138359-14	MW-FGDW6	Total/NA	Water	7470A	
240-138359-15	FIELDBLANK	Total/NA	Water	7470A	
240-138359-16	DUPLICATE	Total/NA	Water	7470A	
MB 240-456705/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-456705/2-A	Lab Control Sample	Total/NA	Water	7470A	
240-138359-2 MS	MW-FGDW2	Total/NA	Water	7470A	
240-138359-2 MSD	MW-FGDW2	Total/NA	Water	7470A	

Analysis Batch: 457006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total Recoverable	Water	6010D	456639
240-138359-2	MW-FGDW2	Total Recoverable	Water	6010D	456639
240-138359-3	MW-5	Total Recoverable	Water	6010D	456639
240-138359-6	MW-8	Total Recoverable	Water	6010D	456639
240-138359-7	MW-10	Total Recoverable	Water	6010D	456639
240-138359-14	MW-FGDW6	Total Recoverable	Water	6010D	456639
240-138359-15	FIELDBLANK	Total Recoverable	Water	6010D	456639
240-138359-16	DUPLICATE	Total Recoverable	Water	6010D	456639
MB 240-456639/1-A	Method Blank	Total Recoverable	Water	6010D	456639
LCS 240-456639/2-A	Lab Control Sample	Total Recoverable	Water	6010D	456639
240-138359-2 MS	MW-FGDW2	Total Recoverable	Water	6010D	456639
240-138359-2 MSD	MW-FGDW2	Total Recoverable	Water	6010D	456639

Analysis Batch: 457219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total Recoverable	Water	6020B	456639
240-138359-2	MW-FGDW2	Total Recoverable	Water	6020B	456639
240-138359-3	MW-5	Total Recoverable	Water	6020B	456639

Metals (Continued)

Analysis Batch: 457219 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-6	MW-8	Total Recoverable	Water	6020B	456639
240-138359-7	MW-10	Total Recoverable	Water	6020B	456639
240-138359-14	MW-FGDW6	Total Recoverable	Water	6020B	456639
240-138359-15	FIELDBLANK	Total Recoverable	Water	6020B	456639
240-138359-16	DUPLICATE	Total Recoverable	Water	6020B	456639
MB 240-456639/1-A	Method Blank	Total Recoverable	Water	6020B	456639
LCS 240-456639/29-A	Lab Control Sample	Total Recoverable	Water	6020B	456639
240-138359-2 MS	MW-FGDW2	Total Recoverable	Water	6020B	456639
240-138359-2 MSD	MW-FGDW2	Total Recoverable	Water	6020B	456639

Analysis Batch: 457442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total/NA	Water	7470A	456705
240-138359-2	MW-FGDW2	Total/NA	Water	7470A	456705
240-138359-3	MW-5	Total/NA	Water	7470A	456705
240-138359-6	MW-8	Total/NA	Water	7470A	456705
240-138359-7	MW-10	Total/NA	Water	7470A	456705
240-138359-14	MW-FGDW6	Total/NA	Water	7470A	456705
240-138359-15	FIELDBLANK	Total/NA	Water	7470A	456705
240-138359-16	DUPLICATE	Total/NA	Water	7470A	456705
MB 240-456705/1-A	Method Blank	Total/NA	Water	7470A	456705
LCS 240-456705/2-A	Lab Control Sample	Total/NA	Water	7470A	456705
240-138359-2 MS	MW-FGDW2	Total/NA	Water	7470A	456705
240-138359-2 MSD	MW-FGDW2	Total/NA	Water	7470A	456705

General Chemistry

Analysis Batch: 334592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total/NA	Water	SM 2540C	
240-138359-2	MW-FGDW2	Total/NA	Water	SM 2540C	
240-138359-3	MW-5	Total/NA	Water	SM 2540C	
240-138359-6	MW-8	Total/NA	Water	SM 2540C	
240-138359-7	MW-10	Total/NA	Water	SM 2540C	
MB 180-334592/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-334592/1	Lab Control Sample	Total/NA	Water	SM 2540C	
240-138359-1 DU	MW-22	Total/NA	Water	SM 2540C	

Analysis Batch: 334594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-14	MW-FGDW6	Total/NA	Water	SM 2540C	
240-138359-15	FIELDBLANK	Total/NA	Water	SM 2540C	
240-138359-16	DUPLICATE	Total/NA	Water	SM 2540C	
MB 180-334594/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-334594/1	Lab Control Sample	Total/NA	Water	SM 2540C	
240-138359-16 DU	DUPLICATE	Total/NA	Water	SM 2540C	

Analysis Batch: 459149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total/NA	Water	9056A	
240-138359-2	MW-FGDW2	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 459149 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-3	MW-5	Total/NA	Water	9056A	
240-138359-6	MW-8	Total/NA	Water	9056A	
240-138359-7	MW-10	Total/NA	Water	9056A	
240-138359-14	MW-FGDW6	Total/NA	Water	9056A	
240-138359-14	MW-FGDW6	Total/NA	Water	9056A	
240-138359-15	FIELDBLANK	Total/NA	Water	9056A	
240-138359-16	DUPLICATE	Total/NA	Water	9056A	
MB 240-459149/3	Method Blank	Total/NA	Water	9056A	
LCS 240-459149/4	Lab Control Sample	Total/NA	Water	9056A	
240-138359-2 MS	MW-FGDW2	Total/NA	Water	9056A	
240-138359-2 MSD	MW-FGDW2	Total/NA	Water	9056A	

Rad

Prep Batch: 487338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total/NA	Water	PrecSep-21	
240-138359-2	MW-FGDW2	Total/NA	Water	PrecSep-21	
240-138359-3	MW-5	Total/NA	Water	PrecSep-21	
240-138359-6	MW-8	Total/NA	Water	PrecSep-21	
240-138359-7	MW-10	Total/NA	Water	PrecSep-21	
240-138359-14	MW-FGDW6	Total/NA	Water	PrecSep-21	
240-138359-15	FIELDBLANK	Total/NA	Water	PrecSep-21	
240-138359-16	DUPLICATE	Total/NA	Water	PrecSep-21	
MB 160-487338/17-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-487338/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
240-138359-2 MS	MW-FGDW2	Total/NA	Water	PrecSep-21	
240-138359-2 MSD	MW-FGDW2	Total/NA	Water	PrecSep-21	

Prep Batch: 487342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-138359-1	MW-22	Total/NA	Water	PrecSep_0	
240-138359-2	MW-FGDW2	Total/NA	Water	PrecSep_0	
240-138359-3	MW-5	Total/NA	Water	PrecSep_0	
240-138359-6	MW-8	Total/NA	Water	PrecSep_0	
240-138359-7	MW-10	Total/NA	Water	PrecSep_0	
240-138359-14	MW-FGDW6	Total/NA	Water	PrecSep_0	
240-138359-15	FIELDBLANK	Total/NA	Water	PrecSep_0	
240-138359-16	DUPLICATE	Total/NA	Water	PrecSep_0	
MB 160-487342/17-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-487342/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
240-138359-2 MS	MW-FGDW2	Total/NA	Water	PrecSep_0	
240-138359-2 MSD	MW-FGDW2	Total/NA	Water	PrecSep_0	

Client Sample ID: MW-22

Lab Sample ID: 240-138359-1

Date Collected: 10/13/20 09:01

Matrix: Water

Date Received: 10/15/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 18:48	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:09	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 15:58	SLD	TAL CAN
Total/NA	Analysis	9056A		1	459149	11/04/20 01:25	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334592	10/19/20 11:41	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:48	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:39	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Client Sample ID: MW-FGDW2

Lab Sample ID: 240-138359-2

Date Collected: 10/13/20 08:54

Matrix: Water

Date Received: 10/15/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 17:58	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 11:57	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 15:47	SLD	TAL CAN
Total/NA	Analysis	9056A		1	459149	11/04/20 01:47	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334592	10/19/20 11:41	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:48	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:39	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Client Sample ID: MW-5

Lab Sample ID: 240-138359-3

Date Collected: 10/13/20 16:15

Matrix: Water

Date Received: 10/15/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 18:52	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:12	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 16:00	SLD	TAL CAN

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: MW-5
Date Collected: 10/13/20 16:15
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	459149	11/04/20 02:52	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334592	10/19/20 11:41	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:50	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:40	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Client Sample ID: MW-8
Date Collected: 10/13/20 15:52
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 19:05	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:24	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 16:06	SLD	TAL CAN
Total/NA	Analysis	9056A		1	459149	11/04/20 03:58	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334592	10/19/20 11:41	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:40	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Client Sample ID: MW-10
Date Collected: 10/13/20 14:47
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 19:09	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:27	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 16:08	SLD	TAL CAN
Total/NA	Analysis	9056A		1	459149	11/04/20 05:03	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334592	10/19/20 11:41	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:41	SCB	TAL SL

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: MW-10

Lab Sample ID: 240-138359-7

Date Collected: 10/13/20 14:47

Matrix: Water

Date Received: 10/15/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Client Sample ID: MW-FGDW6

Lab Sample ID: 240-138359-14

Date Collected: 10/13/20 14:32

Matrix: Water

Date Received: 10/15/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 19:48	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:36	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 16:20	SLD	TAL CAN
Total/NA	Analysis	9056A		10	459149	11/04/20 07:35	JWW	TAL CAN
Total/NA	Analysis	9056A		50	459149	11/04/20 07:56	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334594	10/19/20 13:02	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:50	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:41	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Client Sample ID: FIELDBLANK

Lab Sample ID: 240-138359-15

Date Collected: 10/13/20 10:05

Matrix: Water

Date Received: 10/15/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 19:52	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:39	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 16:22	SLD	TAL CAN
Total/NA	Analysis	9056A		1	459149	11/04/20 12:14	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334594	10/19/20 13:02	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:50	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:42	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Client Sample ID: DUPLICATE

Date Collected: 10/13/20 09:30
Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010D		1	457006	10/20/20 19:57	KLC	TAL CAN
Total Recoverable	Prep	3005A			456639	10/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020B		1	457219	10/21/20 12:41	DSH	TAL CAN
Total/NA	Prep	7470A			456705	10/19/20 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	457442	10/22/20 16:24	SLD	TAL CAN
Total/NA	Analysis	9056A		1	459149	11/04/20 12:35	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	334594	10/19/20 13:02	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			487338	10/30/20 12:33	AVB	TAL SL
Total/NA	Analysis	9315		1	492451	12/19/20 11:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			487342	10/30/20 13:09	AVB	TAL SL
Total/NA	Analysis	9320		1	492430	12/18/20 12:42	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	492972	12/23/20 21:48	GRW	TAL SL

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

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

Accreditation/Certification Summary

Client: Golder Associates Inc.
Project/Site: Mount Storm Power Station

Job ID: 240-138359-3
SDG: Phase A CCR

Laboratory: Eurofins TestAmerica, Canton

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	210	12-31-20

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	142	02-01-21

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Eurofins TestAmerica, Canton
4101 Shuffel Street NW

North Canton, OH 44720-6900
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☑ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Rachel Powell	Site Contact: Rachel Powell	Date: 10/13/2020	COC No: 1 of 2 COCs
Golder Associates Inc.	Email: ripowell@golder.com	Lab Contact: Roxanne Cisneros	Carrier: FEDEX	TALS Project #:
2108 West Laburnum Ave, Suite 200	Tel/Fax: 804-517-3381			Sampler: Catelyn Joyner/Patrick Trout
Richmond/VA/USA	Analysis Turnaround Time			For Lab Use Only:
(804) 358-7900 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
(804) 517-3381 Cell	TAT if different from Below STANDARD			Lab Sampling:
Project Name: Phase A&B NPDES	☐ 2 weeks			
Site: Mt. Storm, WV	☐ 1 week			Job / SDG No.:
P O # 20139936	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Diss (Al, Sb, As, Ba, Be, B, Cd, Cu)	Diss (Fe, Pb, Mn, Hg, Ni, Se, Tl)	Total Chromium	Cl, SO4	Nitrite+Nitrate Nitrogen	TDS, TSS	Total Ammonia Nitrogen	Analyzed	pH (s.u)	Cond (umhos)	Temp (°C)
MW-22	10/13/20	0901	G	GW	6	Y	N	X	X	X	X	X	X	X	0859	6.65	570	~~10.7~~ 9.4
MW FGDW2		0854			18	Y	Y	X	X	X	X	X	X	X	0853	6.50	402.5	11.2
MW-5		1615			6	Y	N	X	X	X	X	X	X	X	1613	6.75	221.6	9.6
MW-6R		1029			6	Y	N	X	X	X	X	X	X	X	1028	6.94	421.3	10.3
MW-7		1326			6	Y	N	X	X	X	X	X	X	X	1324	7.44	365.9	9.8
MW-8		1552			6	Y	N	X	X	X	X	X	X	X	1551	6.10	282.7	9.3
MW-10		1447			6	Y	N	X	X	X	X	X	X	X	1445	4.64	52.7	9.9
MW-12R		1140			6	Y	N	X	X	X	X	X	X	X	1139	4.52	28.1	10.9
MW-13		1055			6	Y	N	X	X	X	X	X	X	X	1053	4.65	87.1	10.7
MW-14		1158			6	Y	N	X	X	X	X	X	X	X	1155	4.43	210.7	10.2
MW FGDW3		1230			6	Y	N	X	X	X	X	X	X	X	1229	5.06	36.0	10.2
MW FGDW4		1307			6	Y	N	X	X	X	X	X	X	X	1306	4.82	31.0	10.5

240-138359 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

4	4	4	1	3	1	3	

Possible Hazard Identification:
Are any *samples from* a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: All samples preserved on ice. Level II Data Package requested. Please see reporting group F for additonal details.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:	Corr'd:	Therm ID No.:
Relinquished by:	Company: Golder Associates Inc.	Date/Time: 10/14/2020 0920	Received by:	Company: TA	Date/Time: 10-15-20 945
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.26, dated 7/25/2019

Eurofins TestAmerica, Canton
4101 Shuffel Street NW

North Canton, OH 44720-6900
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☑ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Rachel Powell	Site Contact: Rachel Powell	Date: 10/13/2020	COC No: 2 of 2 COCs
Golder Associates Inc.	Email: ripowell@golder.com	Lab Contact: Roxanne Cisneros	Carrier: FEDEX	TALS Project #:
2108 West Laburnum Ave, Suite 200	Tel/Fax: 804-517-3381			Sampler: Catelyn Joyner/Patrick Trout
Richmond/VA/USA	**Analysis Turnaround Time** ☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(804) 358-7900 Phone	TAT if different from Below STANDARD			Walk-in Client:
(804) 517-3381 Cell	☐ 2 weeks			Lab Sampling:
Project Name: Phase A&B NPDES	☐ 1 week			
Site: Mt. Storm, WV	☐ 2 days			Job / SDG No.:
P O # 20139936	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Diss (Al, Sb, As, Ba, Be, B, Cd, Cu)	Diss (Fe, Pb, Mn, Hg, Ni, Se, Tl)	Total Chromium	Cl, SO4	Nitrite+Nitrate Nitrogen	TDS, TSS	Total Ammonia Nitrogen	Total (Al, Sb, As, Ba, Be, B, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Ni, Se, Tl)	Sample Specific Notes: Analyzed	pH (s.u.)	Cond (µS/cm)	Temp (°C)
MWFGDW5	10/13/2020	1342	G	GW	6	Y	N	X	X	X	X	X	X	X		1341	4.82	345.2	10.9
MWFGDW6	↓	1432	↓	↓	6	Y	N	X	X	X	X	X	X	X		1431	6.09	148.7	11.1
Field Blank	↓	~~0930~~	↓	↓	6	N	N	X	X	X	X	X	X	X		–	–	–	–
DUPLICATE	↓	0930	↓	↓	6	Y	N	X	X	X	X	X	X	X		–	–	–	–

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other — 4 | 4 | 4 | 1 | 3 | 1 | 3

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments: All samples preserved on ice. Level II Data Package requested. Please see reporting group F for additonal details.

Custody Seals Intact: ☑ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____		Therm ID No.:
Relinquished by: [signature]	Company: Golder Associates Inc.	Date/Time: 10/14/2020 0900	Received by: [signature]	Company: TA	Date/Time: 10-15-20 945
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.26, dated 7/25/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 138359**
Canton Facility

Client Golder Site Name _____ Cooler unpacked by:

Cooler Received on 10-15-20 Opened on 10-15-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-11 (CF **+0.9** °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

IR GUN #IR-12 (CF **+0.5**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 11	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC907861**
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page | Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # : 138359

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA (circled) Client Box Other	IR-10 IR-11 (circled)	2.1	3.0	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	1.4	2.3	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	0.8	1.7	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	2.3	3.2	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	1.3	2.2	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	0.7	1.6	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	2.4	3.3	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	1.5	2.4	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	0.7	1.6	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	1.2	2.1	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-10 IR-11 (circled)	3.0	3.9	Wet Ice (circled) Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
MW-22	240-138359-A-1	Plastic 250ml - with Sulfuric Acid	<2			
MW-22	240-138359-C-1	Plastic 500ml - with Sulfuric Acid	<2			
MW-22	240-138359-D-1	Plastic 500ml - with Nitric Acid	<2			
MW-22	240-138359-E-1	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGDW2	240-138359-A-2	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGDW2	240-138359-B-2	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGDW2	240-138359-C-2	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGDW2	240-138359-G-2	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGDW2	240-138359-H-2	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGDW2	240-138359-I-2	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGDW2	240-138359-J-2	Plastic 500ml - with Nitric Acid	<2			
MW-FGDW2	240-138359-K-2	Plastic 500ml - with Nitric Acid	<2			
MW-FGDW2	240-138359-L-2	Plastic 500ml - with Nitric Acid	<2			
MW-FGDW2	240-138359-M-2	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGDW2	240-138359-N-2	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGDW2	240-138359-O-2	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-5	240-138359-A-3	Plastic 250ml - with Sulfuric Acid	<2			
MW-5	240-138359-C-3	Plastic 500ml - with Sulfuric Acid	<2			
MW-5	240-138359-D-3	Plastic 500ml - with Nitric Acid	<2			
MW-5	240-138359-E-3	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-6R	240-138359-A-4	Plastic 250ml - with Sulfuric Acid	<2			
MW-6R	240-138359-C-4	Plastic 500ml - with Sulfuric Acid	<2			
MW-6R	240-138359-D-4	Plastic 500ml - with Nitric Acid	<2			
MW-6R	240-138359-E-4	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-7	240-138359-A-5	Plastic 250ml - with Sulfuric Acid	<2			
MW-7	240-138359-C-5	Plastic 500ml - with Sulfuric Acid	<2			
MW-7	240-138359-D-5	Plastic 500ml - with Nitric Acid	<2			
MW-7	240-138359-E-5	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-8	240-138359-A-6	Plastic 250ml - with Sulfuric Acid	<2			
MW-8	240-138359-C-6	Plastic 500ml - with Sulfuric Acid	<2			
MW-8	240-138359-D-6	Plastic 500ml - with Nitric Acid	<2			
MW-8	240-138359-E-6	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-10	240-138359-A-7	Plastic 250ml - with Sulfuric Acid	<2			
MW-10	240-138359-C-7	Plastic 500ml - with Sulfuric Acid	<2			
MW-10	240-138359-D-7	Plastic 500ml - with Nitric Acid	<2			

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
MW-10	240-138359-E-7	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-12R	240-138359-A-8	Plastic 250ml - with Sulfuric Acid	<2			
MW-12R	240-138359-C-8	Plastic 500ml - with Sulfuric Acid	<2			
MW-12R	240-138359-D-8	Plastic 500ml - with Nitric Acid	<2			
MW-12R	240-138359-E-8	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-13	240-138359-A-9	Plastic 250ml - with Sulfuric Acid	<2			
MW-13	240-138359-C-9	Plastic 500ml - with Sulfuric Acid	<2			
MW-13	240-138359-D-9	Plastic 500ml - with Nitric Acid	<2			
MW-13	240-138359-E-9	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-14	240-138359-A-10	Plastic 250ml - with Sulfuric Acid	<2			
MW-14	240-138359-C-10	Plastic 500ml - with Sulfuric Acid	<2			
MW-14	240-138359-D-10	Plastic 500ml - with Nitric Acid	<2			
MW-14	240-138359-E-10	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGD3	240-138359-A-11	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGD3	240-138359-C-11	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGD3	240-138359-D-11	Plastic 500ml - with Nitric Acid	<2			
MW-FGD3	240-138359-E-11	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGD4	240-138359-A-12	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGD4	240-138359-C-12	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGD4	240-138359-D-12	Plastic 500ml - with Nitric Acid	<2			
MW-FGD4	240-138359-E-12	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGD5	240-138359-A-13	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGD5	240-138359-C-13	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGD5	240-138359-D-13	Plastic 500ml - with Nitric Acid	<2			
MW-FGD5	240-138359-E-13	Plastic 500ml - w/ Nitric - Dis.	<2			
MW-FGD6	240-138359-A-14	Plastic 250ml - with Sulfuric Acid	<2			
MW-FGD6	240-138359-C-14	Plastic 500ml - with Sulfuric Acid	<2			
MW-FGD6	240-138359-D-14	Plastic 500ml - with Nitric Acid	<2			
MW-FGD6	240-138359-E-14	Plastic 500ml - w/ Nitric - Dis.	<2			
FIELDBLANK	240-138359-A-15	Plastic 250ml - with Sulfuric Acid	<2			
FIELDBLANK	240-138359-C-15	Plastic 500ml - with Sulfuric Acid	<2			
FIELDBLANK	240-138359-D-15	Plastic 500ml - with Nitric Acid	<2			
FIELDBLANK	240-138359-E-15	Plastic 500ml - w/ Nitric - Dis.	<2			
DUPLICATE	240-138359-A-16	Plastic 250ml - with Sulfuric Acid	<2			
DUPLICATE	240-138359-C-16	Plastic 500ml - with Sulfuric Acid	<2			
DUPLICATE	240-138359-D-16	Plastic 500ml - with Nitric Acid	<2			
DUPLICATE	240-138359-E-16	Plastic 500ml - w/ Nitric - Dis.	<2			

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-127308.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@Eurofinset.com	State of Origin: West Virginia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - West Virginia DEP		Job #: 240-138359-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/12/2020			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Mount Storm Power Station	Project #: 24021758			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Standard Target List	9320_Ra228/PrecSep_0 Standard Target List	Ra226Ra228_GFPC/ (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-FGDW2 (240-138359-2)	10/13/20	08:54 Eastern		Water			X	X	X	2	Run once, report twice (job series-2,-3)

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10-29-20 1208	240	FED EX		
2	FED EX			[signature]	10/30/2020 0858	EAS
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Golder Associates Inc.

Job Number: 240-138359-3
SDG Number: Phase A CCR

Login Number: 138359
List Number: 2
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh
List Creation: 10/17/20 04:39 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Golder Associates Inc.

Job Number: 240-138359-3
SDG Number: Phase A CCR

Login Number: 138359
List Number: 3
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/21/20 04:57 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Project Name: Mount Storm Power Station - Phase A - CCR Appendix III & IV Detects

Project Reference Number: 20139936

Sampling Event Date: October 13, 2020

Review Date: 01/05/2021 *Initials:* CJL

Review Date: 1/13/2021 *Initials:* RMS

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) and Department of Energy (DOE) documents:

- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017;
- US Department of Energy Evaluation of Radiochemical Data Usability, April 1997; and
- Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites.

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- LCS = laboratory control spike
- RPD = relative percent difference
- MB = method blank
- DUP = duplicate
- FB = field blank
- VSWMR = Virginia Solid Waste Management Regulations
- J = estimated
- ND and/or U= not detected
- COC = chain of custody
- QC = quality control
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- EPA = United States Environmental Protection Agency
- pCi/L = picocuries per liter

COMPLIANCE ANALYTE LIST

☐ Historical VPDES Parameters

☒ CCR Appendix III to Part 257

☒ CCR Appendix IV to Part 257: Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Selenium, Thallium, Radium

☐ VSWMR Phase II Parameters: _____

☐ Other: _____

Note: TestAmerica Job No.: 240-138359-3

1.0 CHAIN OF CUSTODY (COC) REVIEW

Yes COC was properly signed by all parties.

Yes Correct project name and number are on the form.

Yes Sample receipt condition at laboratory was acceptable.

Yes Each sample and blank submitted for analysis appears in the data report.

Note: _____

2.0 SAMPLE HOLDING TIMES

Yes Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	**Analytes**	**Holding Time**
EPA 9056	Chloride, Fluoride, Sulfate	28 days
EPA 9315 EPA 9320	Radium 226 Radium 228	6 months
EPA 6000 series	Metals	6 months
EPA 7470	Mercury	28 days
SM2540	Total Dissolved Solids	7 days

Notes:

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

Yes Laboratory blanks were interference free.

Notes: _____

_Parameter	Method Blank Detection (µg/L)	Batch	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	'--	'--

NA Surrogate recoveries are provided for each analytical method, where applicable.

NA Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

Yes Tracer and carrier yields are provided for each analytical method, where applicable (Radiochemical Data Only).

Yes Tracer and carrier yields for each method are within the acceptable limits (Radiochemical Data Only).

Notes: _____

Yes MS/MSD/LCS/RPD data results are provided for each analytical method.

Yes MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: _____

Parameter	Recovery Outside QC Limits	Batch	Associated Qualified Sample(s)
--	--	--	--

Yes Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

Yes Radiological samples reported below their respective MDC have been qualified with a "U."

Notes: _____

Parameter	Associated Samples Below MDC
Radium-226	MW-5, MW-8, MW-10, MW-22, MWFGDW2, MWFGDW6, FIELD BLANK, DUPLICATE
Radium-228	MW-5, MW-8, MW-10, MW-22, MWFGDW2, MWFGDW6, FIELD BLANK, DUPLICATE
Total Radium	MW-5, MW-8, MW-10, MW-22, MWFGDW2, MWFGDW6, FIELD BLANK, DUPLICATE

4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 OUTLIER EVALUATION

Yes Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

Yes Analytical results with variances >25% have been evaluated for trends.

NA If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
Calcium	MWFGDW2	Elevated concentration reported. No issues with associated blanks.	No	None
Sulfate	MWFGDW6	Elevated concentration reported. No issues with associated blanks.	No	None
TDS	MW-10	Elevated concentration reported. No issues with associated blanks.	No	None
TDS	MWFGDW6	Elevated concentration reported. No issues with associated blanks.	No	None

6.0 DATA REPORTING

Yes Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes: _____

Sample ID	Parameter	Blank Detection (µg/L)	Associated Qualified Sample(s)	Validator Qualifier
FIELD BLANK	Boron	32 J	--	--

Yes It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (*e.g.*, a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

Yes The report provides the reporting limit for each constituent.

Yes The proper reporting limits have been used (*e.g.* NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

Notes: _____

7.0 FIELD DUPLICATE PRECISION

Yes Field duplicate sample results were within control limits of 20% relative percent difference for sample results greater than 5 times the quantitation limit. When one or both results were less than 5 times the quantitation limit, the difference between the two results was less than twice the reporting limit.

Notes: The following table presents field duplicates and their associated parent samples that were not within control limits. In accordance with EPA guidance, sample results with field duplicate

imprecision may be qualified estimated (J) or non-detect estimated (UJ). As presented below, data qualification is not recommended.

Parameter	Associated Samples	Parent Sample Result (ug/L)	Duplicate Sample Result (ug/L)	Reanalysis requested?	Outlier Identification
--	--	--	--	--	--

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