

2020 CCR Annual Groundwater Monitoring and Corrective Action Report

Mount Storm Power Station Phase A Landfill

Prepared for:



Virginia Electric and Power Company

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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:

- 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.



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- 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.



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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;



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- CCR Annual Groundwater Monitoring and Corrective Action Report Project No.: 20139936.400A
 - 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.



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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.



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

Conemaugh Group

descending order:

- 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



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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:

$$i = {h_L \choose L}$$

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	Hydraulic Contour Flow Conductivity lines Length			Average Gradient	Assumed Porosity	Estimated Groundwater Velocity		
Flow	(k, cm/s)	(feet amsl)	(feet)	(i)	(Ø)	(cm/s)	(feet/year)	
	1 st 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	
2 nd 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	



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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
1 st Semi-Annual Assessment Monitoring Program Event	April 14, 2020	June 19, 2020
2 nd 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.



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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	Chromium	Lithium
Barium	Cobalt	Selenium
Beryllium	Fluoride	Thallium
Cadmium	Lead	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.



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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.



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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.



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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.



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8.0 REFERENCES

- AECOM. 2017a. CCR Groundwater Monitoring Plan Phase A Landfill and Phase B Landfill, Mount Storm Power Station, Mt. Storm, West Virginia. October.
- AECOM. 2017b. Groundwater Monitoring System Certification per 40 CFR §257.91(f), Mount Storm Power Station Phase A Landfill, Mount Storm, WV. October.
- Cardwell, D.H., R.B. Erwin, and H.P. Woodward. 1968. Geologic Map of West Virginia, MAP-1, WV GES, 2 maps.
- DOE (Department of Energy). 2017. Sampling and Analysis Plan for US Department of Energy Office of Legacy

 Management Sites. https://energy.gov/lm/downloads/sampling-and-analysis-plan-us-departmentenergyoffice-legacy-management-sites.
- EPA (United States Environmental Protection Agency). 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER]. RIN-2050-AE81. April.
- EPA. 2016. Federal Register. Volume 81. No. 151. Friday August 5, 2016. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-OLEM-2016-0274; FRL-9949-44-OLEM]. August.
- EPA. 2017. National Functional Guidelines for Inorganic Superfund Methods Data Review. January.
- EPA. 2018. Federal Register. Volume 83. No. 146. Monday July 30, 2018. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-OLEM-2017-0286; FRL-9981-18-OLEM]. RIN-2050-AG88. July.
- EPA. 2020a. Federal Register. Volume 85. No. 168. Friday, August 28, 2020. Environmental Protection Agency. 40 CFR Part 257. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline To Initiate Closure. [EPA-HQ-OLEM-2019-0172 and EPA-HQ-OLEM-2018-0524; FRL-10013-20-OLEM]. RIN-2050-AH10. August.
- EPA. 2020b. Federal Register. Volume 85. No. 219. Thursday, November 12, 2020. Environmental Protection Agency. 40 CFR Part 257. Hazardous and Solid Waste Management System; Disposal of CCR; A Holistic



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Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments. [EPA-HQ-OLEM_2019-0173; FRL-10015-88-OLEM]. RIN_2050_AH11. November.

Paar, J.G., and D.R. Porterfield. 1997. *Evaluation of radiochemical data usability*. DOE (Department of Energy) 10.2172/46126. April.



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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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	Principal, Senior Hydrogeologist

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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



Monitoring	Top of Casing		Depth to	Static Water
Well	Elevation	Date	Water	Level Elevation
	(ft ASML)		(feet)	(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
WWW GDWZ	3,317.70	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
			19.59	3500.15
		04/16/2019		
		10/28/2019	20.18	3499.52
		04/13/2020	16.97	3502.73
		10/12/2020	BTOP (>25.00)	<3494.70

Monitoring	Top of Casing		Depth to	Static Water
Well	Elevation	Date	Water	Level Elevation
	(ft ASML)		(feet)	(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
	0,07.1.00	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
		10/ 12/2020	01.01	0010.17

Monitoring	Top of Casing		Depth to	Static Water
Well	Elevation	Date	Water	Level Elevation
	(ft ASML)		(feet)	(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
		10/ 12/ 2020	21.00	3270.70

Monitoring	Top of Casing		Depth to	Static Water
Well	Elevation	Date	Water	Level Elevation
	(ft ASML)		(feet)	(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
MINNI GDANS	3,270.72	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	3292.07 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

Monitoring	Top of Casing		Depth to	Static Water
Well	Elevation	Date	Water	Level Elevation
	(ft ASML)		(feet)	(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 Abov	ve Mean Sea Level		
	BTOP - Below Top of			

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

					Upgradient Wells											Downgra	idient Wells									Field	l Qualit	y Control		
			Sample ID:		MV	W-22			MWFGDW2		N	IW-05			MW-08			MW-10			MWF	GDW6			MW-10 - D	UP		Fiel	d Blank	
			ample Date:		10/2	9/2019			10/29/2019		10/	29/2019			10/29/2019			10/29/2019			10/29	/2019			10/29/20	9		10/2	29/2019	
Parameter Name	Units	CCR Site- Specific BKGD	CCR GWPS	Result	Qual	MDL	RL	Result	Qual MDL	RL	Result Qual	MDL	RL	Result Qu	ıal MDL	RL	Result C	Qual MDL	RL	Result Q	ual	MDL	RL	Result	Qual M	DL R	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	0.0	23 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
рН	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.	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	1) 1	10	< 10	10	10
Detected CCR Appendix IV Const	ituents																													
Arsenic	ug/L	QL (5)	10	< 0.75		0.75	5.0	< 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	< 0.75	0.75	5.0
Barium	ug/L	530	2,000	260		2.2	5.0	350		5.0	130	2.2	5.0	110	2.2	5.0	130	2.2	5.0	90		2.2	5.0	120			.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			.0	< 0.31	0.31	1.0
Cadmium	ug/L	QL (1)	5	< 0.20		0.20	1.0	< 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			.0	< 0.20	0.20	1.0
Chromium	ug/L	QL (2)	100	< 0.98		0.98	2.0	< 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	< 0.98	0.98	2.0
Cobalt	ug/L	QL (1)	6	< 0.19		0.19	1.0	0.27		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	< 0.19	0.19	1.0
Fluoride	mg/L	0.101	4	0.056		0.24	0.05	0.069		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				< 0.024	0.24	0.05
Lead	ug/L	6.3	15	< 0.45		0.45	1.0	< 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	< 0.45	0.45	1.0
Lithium	ug/L	8	40	7.3	J	1.7	8.0	8.9		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			.0	< 1.7	1.7	8.0
Selenium	ug/L	QL (5)	50	< 0.89		0.89	5.0	< 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	< 0.89	0.89	5.0
Thallium	ug/L	QL (1)	2	< 0.20		0.20	1.0	< 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		20 1		< 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	0.3	48 0.3	348	-0.0839 ∪	0.345	0.345
Field Parameters	_,			500		0.4	0.4	200.0		0.4	200 5	0.4	0.4	040.5	0.4	0.4	50.4		0.4	105.0	_		0.4							
Conductivity	uS/cm			590		0.1	0.1	283.9		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	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	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	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	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	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

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

GWPS = Groundwater Protection Standards

* - Groundwater Elevation data collected on October 29, 2019

Bold font = Detected constituent

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

						Upgradi	ent Wells			I						Downgra	dient Wells							1		Field Qua	lity Control		
			Sample ID:	N	/W-22	o pg. aa.	1	MWFGD	N2		N	IW-05		1	MW-08	20m.g.u	1	MV	N-10		MW	FGDW6		MW	-22 DUP	1 1014 440	, -	Field Blank	
			mple Date:		14/2020			04/14/20				14/2020			04/14/2020				4/2020			14/2020			14/2020			04/14/2020	
		CCR Site-		.				1							1									<u> </u>					
Parameter Name	Units	Specific BKGD	CCR GWPS	Result Qual	MDL	RL	Result C	Qual M	DL	RL	Result Qual	MDL	RL	Result C	Qual MDL	RL	Result	Qual	MDL	RL	Result Qual	MDL	RL	Result Qual	MDL	RL	Result Qu	ıal MDL	RL
CCR Appendix III Constituents																													
Boron	mg/L	QL (0.1)	-	< 0.023	0.023	0.1	< 0.023	0.0	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	0.0	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
рН	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	ı	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	I	330	10	10	150	1	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	0.0	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	Н	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	0.4	198	0.498	0.0148 U	0.381	0.381	-0.0603 ∪	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 ∪	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	C	.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	С			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

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 CCR GWPS and site background

= Concentration greater than site-specific background

GWPS = Groundwater Protection Standards

* - Groundwater Elevation data collected on April 13, 2020

Bold font = Detected constituent

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

				Upgrad	ient Wells								Downgra	adient Wells								Field Qua	ality Control		
	Sample ID:	M	W-22			MWFGDW2		M	IW-05			MW-08		N	/W-10		MW	FGDW6		MW-	22 - DUP		Fie	ld 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 Constituer	nts																								
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
рН	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 0	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 ∪	0.492	0.492	0.0872 ∪	0.482	0.482	0.397 ∪	0.474	0.474	0.495 U	J 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	С	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)

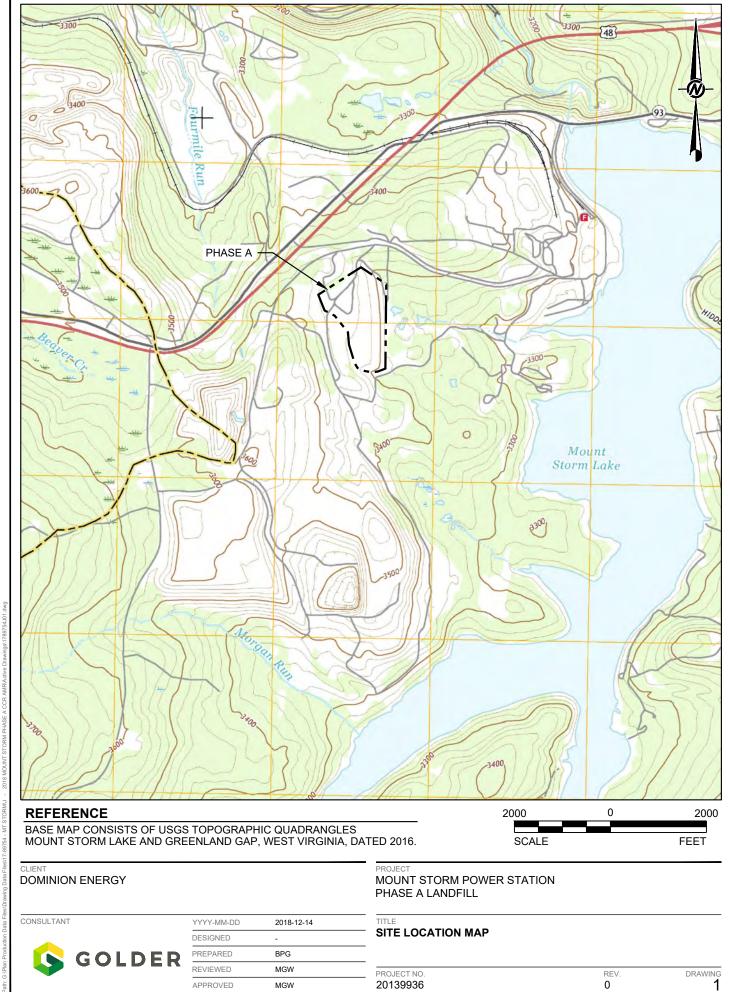
Qualifiers (Qual):

J = Estimated Result

U = Radiological sample not detected above the Miniumum Detection Concentration

Bold font = Detected constituent

DRAWINGS



0

APPROVED

MGW



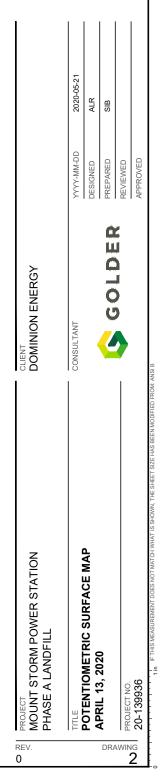
LEGEND

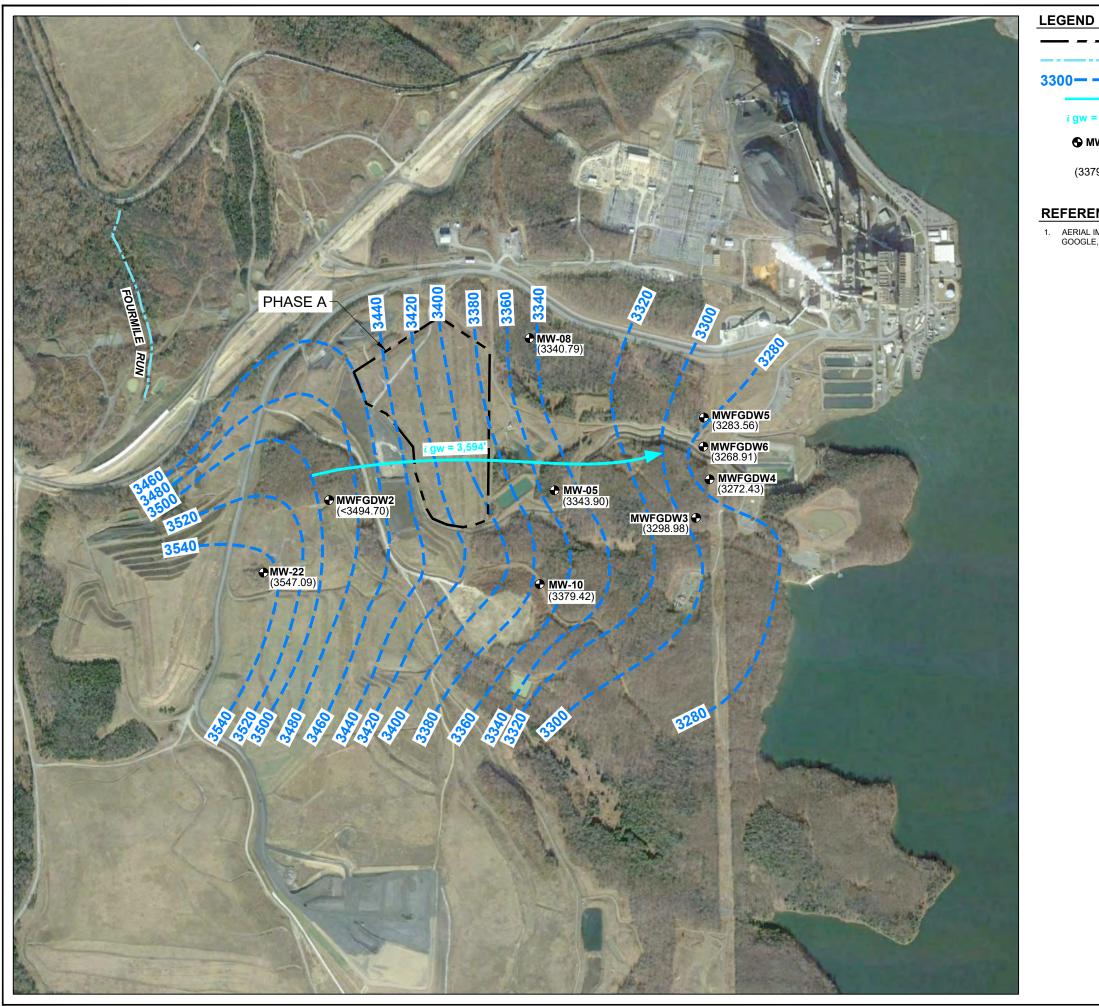
APPROXIMATE LANDFILL BOUNDARY APPROXIMATE STREAM CENTERLINE POTENTIOMETRIC SURFACE CONTOUR APPROXIMATE GROUNDWATER FLOW LINE i gw = 3,564'GROUNDWATER FLOW PATH LENGTH (FEET) EXISTING VPDES GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION **● MW-10** STATIC GROUNDWATER ELEVATION (FEET ABOVE MEAN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

REFERENCE

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

FEET





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

REFERENCE

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

PHASE A LANDFILL TITLE POTENTIOMETRIC SURFACE MAP OCTOBER 12, 2020 PROJECT NO. PHASE A LANDFILL CONSULTANT CONSULTANT CONSULTANT DESIGNED PROJECT NO. TITLE POTENTION DESIGNED DESIGNED		2020-11-24	RIP	RIP	MGW	MGW	
PROJECT MOUNT STORM POWER STATION PHASE A LANDFILL TITLE POTENTIOMETRIC SURFACE MAP OCTOBER 12, 2020 PROJECT NO. 20-139936 20-139936		YYYY-MM-DD	DESIGNED	PREPARED	REVIEWED	APPROVED	
PROJECT MOUNT STORN PHASE A LAND TITLE POTENTIOMET OCTOBER 12; 20-139936	OLIENT DOMINION ENERGY	CONSULTANT	(OF COLOR	1000		ROM: ANSI B
		TITLE	POTENTIOMETRIC SURFACE MAP	OCIOBER 14,			in if this measurement does not match what is shown, the sheet size has been modified in

1000

FEET

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



WELL GAUGING LOG

Project Name: Mt. Storm A+3 NPDES

Project No./Task No.: 20139936

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

Equipment: WL Indicator

	Personnel	1	DTW	DTB		Well Co	ondition Summ	ary	
Well ID	(initials)	Time	(feet)	(feet)	Protective Casing	Well Casing	Label	Lock	Pad Condition
MW-22	LG	1377	15.79	-	☐ OK ☐ Damaged	OK Damaged	☑ OK ☐ Inadequate	Yes No	□ OK □ Damaged
MWFGDWZ	Pla	1329	16.97	-	☐ OK ☐ Damaged	B OK □ Damaged	OK Inadequate	☐ Yes ☐ No	□ OK □ Damageo
MW-5	LG	1417	36.30	-	© OK □ Damaged	Damaged	OK Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
MW-GR	Plet	1441	61.10	-		Ø 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	Ples	1426	17.54	-	B OK □ Damaged	□ OK □ Damaged	B OK □ Inadequate	☐ Yes ☐ No	□ OK □ Damageo
MW-10	LG	140/	22.23	-	□ OK □ Damaged	OK Damaged	OK Inadequate	₽ Yes □ No	□ OK □ Damaged
mw-120	Phi	1451	6.67	-	□ OK □ Damaged	OK Damaged	OK Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
MW-13	LG	1338	18.49	-	☐ OK ☐ Damaged	□ OK □ Damaged		9 Yes □ No	□ OK □ Damaged
MW-14	Pho	1342	21.44	-	☐ OK ☐ Damaged	Damaged	□ OK □ Inadequate	□ Yes □ No	□ OK □ Damaged
MWFGDW3	LG	1457	9.79	_	DOK Damaged	□ OK □ Damaged	□ OK □ Inadequate	₽ Yes □ No	□ OK □ Damaged
WWFGDW4	Phi	1505	12.72	-	□ OK □ Damaged	OK Damaged	B OK □ Inadequate	☑ Yes □ No	□ OK □ Damaged
MVV FGOWS	LG	1525 1513	-1.19	-	□ OK □ Damaged	B OK Damaged	B OK □ Inadequate	₽ Yes □ No	☐ OK ☐ Damaged
MWFGDW6	PIJ	1513	17.67	-	B 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	15 al	tesian.	WL	15	above	400	of	Casin	0
	-			-					1	1

Signature: QA/QC Signature;

Date: 4-16-2020

Date: 4-17-2020

Dana I of (

			MICF	ROPURGE S	AMPLING	LOG	Date:	4/14/20	ಬ
	GOLDER	2		\$			Weather:	Cloudy 5	now 36-5
•,	Project Name:	_M1.5	Storm Po	werstates	Noiect No	/Task No ·	102	4936	
	Event:	ISAZO A	HB WPDES	1 0	Sampler(s		4 Gr		
	Well ID:	_MW-3	3	/ Fi	eld Calibratio	•	- A 08 11	MANY CALLES	
	Well Diameter:	4,0	inches	_		h to Water:	36.2	7	20
	Depth to Bottom:	-		feet		umn Thicknes		<i>> 1</i> ,	_feet
	Equipment Used:	WL Indic		Turbidity Met		Air Tank	33.	☑ Dedicated B	_feet
-		YSI Pro	055 164039	94 Peristaltic Pu	mp	Compress	sor	Non-dedicate	•
		In-Situ	ę de la company	MP-10 Contro	oller Box	₩P-15 Cc			eu bP
	Time	pН	Sp. Cond.	Turbidity	Dissolved	1 :			
	(5 minute int.)	(S.U.)	(uS/cm)°C	(NTU)	Oxygen	Temp.	ORP	DTW	Flow Rat
.	Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	(mg/L) +/- 10%	(°C) +/- 1°C	(mV) +/- 10 mV	(feet)	(mL/min
7/7	+765 LG	6.19	243.1	4.74	0,50	9.0	-045	<0.3 feet	<500 ~400
118	4700	6.51	233.3	4132	0,40	9.0	-6.4	37.09 34 37.28	
- [1721	4.53	232.2	4.33	0.42	8.9	-8.8	37.37	~40
	1724	6.57	230,1	4,54	0,42	89	-10.0	7-21 0	2400
	1776	7.23 234 5555500000000000000000000000000000000		50m	?LEND -			51.49	~900
-	1745	6.81	196,2	3,70	3.86	9.1	-5.7	38.31	~400
-		-						J 0; 78	100

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F									
L									
<u> </u>				·					
-				ļ	ang)				
L									
F	Purge Cycle (End <u>):</u>	23/	7 sec @	30	psi	Flow Rate (m	I/min End)	~400	

		7		7_ renstatut Pu		Compress	sor	Non-dedicat	ed BP
		In-Situ		MP-10 Contro	oller Box	MP-15 Cd	ontroller Box		
	Time	рH	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
<u> </u>	(5 minute int.)	(S.U.)	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
	Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
	7050	6.19	243.1	4.74	0.50	9.0	-043	37.09	~400
8 -1	466	6.51	233.3	4:32	0,40	9.0	-6.4	34 37.28	~400
-	1-1-1-1	4.53	232.2	4.33	0.42	8.9	-8.8	37,37	2400
-	1724	(0.57	230,1	4,54	0,42	8.9	-10.0	37.49	~400
-	1776	1 .25	The second secon	- 5AM	PLEND-	P0-18-00-00-00-00-00-00-00-00-00-00-00-00-00	PPS II Promise and description of the second		
-	1745	6.81	196,7	3,70	3.86	9.1	- 5.7	38,31	~400
-		-						9,7,4	
-			,	4.7					
					37.77				
-									
<u> </u>									
<u> </u>									
-									
_				•					
	,			·					
					ارسه				
Pui	ge Cycle (End)	23/	7 sec @	30	psi	Flow Rate (m	I/min End):	a 1100	
Pui	- ge volume (gall)	ons) prior to	stabilization mo	onitoring (3/8" I.D	Tubo: Volat	Tow Nate (III	Willin End): _	~400	
Tot	al Purge Volum	e (Gallons):	230					/ft):	<u>-0.35</u>
	ge Observation	-			Purge Water		onsit	oil / Wester	separator
	ALTO C. L.	2 (00101, 000)		Ora Clear	grab sar	nple			
	()	N .		' HU	V				
Sar	mple Time:	1726				Field Filtered	(0.45um):	☑ Yes	No
Sar	nple Parameter	s/Analyte(s):		Petro (DRO)	CCR App	pendix III	₩ CCR Ap	pendix IV	
	Closed 5-year Ni	PDES (Diss [B		Phase A&B I	NPDES (Diss (A	Al Sh As Ball	Re Ro Cd Cu	, Fe, Pb, Mn, Hg,	Ni Se TII CI
304	l, TDS, TSS) Variance (Diss [B		71 101, 1102 11100 1	v, 004, ND3-N	101, 105, 158	5)		
Pb,		be, Cu, Cr,	LVWSP IV Dete Cr, Co, Pb, Mo, 1	cts (As, Ba, Be, Cd, [آا, Rad 226-228)	Phase A IV D	etects (As, Ba,	Cd, Cr, Co,	Phase B IV Det Be, Cd, Cr, Co,	ects (As, Ba, Ph. Li Mo, So
.	<u>.</u> .				2, 21, 00, 11au 22	10-220)	Т	I, Rad 226-228)	, p, Ei, Mo, Ge,
Uth	er Observations	/ Equipment	Operation Pro	blems:					
						ū			
San	npler Signatur <u>e:</u>				Date:	4/14/	2020	Page	øf /
QA/	QC Signature:_	10			Date:	4-/4	-2020		# #

MICROPURGE SAMPLING LOG

Date: 4-14-2020

				, and Lift		\^/aatha	C. 3	20
GOLDER		~					Snow 3	<u> </u>
Project Name:	Mt. St	orm for	er Station	Project No	./Task No.:	20139	336	
Event:	15A20	NADES,	CEIII+W	Sampler(s		P.T10		
Well ID:	MW-8			– ield Calibratio			on 4-14	1-20
Well Diameter:	2.0	inches	_		th to Water:	16.50		
Depth to Bottom:	_		feet		umn Thickne			_feet
Equipment Used:	WL Indic	ator	Turbidity Me		Air Tank		Dedicated E	_ feet
	YSI POL	55 19k1014			Compres		☐ Non-dedica	•
	In-Situ	incomme	MP-10 Contro			ontroller Box	POTSIES	29/.2
Time	рН	Sp. Cond.	Turbidity	Dissolved	1 .	T	<u> </u>	H 30
(5 minute int.)	(S.U.)			Oxygen	Temp.	ORP	DTW	Flow Rate
Stabilization	+/- 0.1	(uS/cm)°C +/- 3%	(NTU) if >10, +/- 10%	(mg/L) +/- 10%	(°C)	(mV)	(feet)	(mL/min)
1717	6.33	285.1	4.6		+/- 1°C	+/- 10 mV	<0.3 feet	<500
1722	5,98	235.4	7.0	5.29	3.5	304.2	17.35	2400
1727	5.80	233.0		5.63	8.6	306.Z	14.52	2400
1727		2=	2.0	5.77	8.6	317.3	17.57	2-400
1737	5.40	233.3 23777	2.0	5.31	8.6	332.3	14.55	2400
17117	5731	239,9	1.7	5.88	8.6	342.0	17.54	2400
1792	5.24	235.7	0.9	6.06	8.6	352,0	1755	2-400
1747	5.21	236,5	0.7	5.65	8.6	354.9	17.54	2400
1940		<u> 5 r</u>	MPLE					
1811	5,28	238,1	0.0	5.46	8.4	357.9	17.55	2400
					•			
			ž					
			,					
,								
			wasan and					
				5-1				
Purge Cycle (End)	9//20		30					· t.
-		otobilii		psi	Flow Rate (m	ıl/min End): _	2400	>
Purge volume (gall Total Purge Volum	o (Callara)							40.35
	· -	~ 5		Purge Water	Managemen	:Dil Wate	r Sepavata	- On-Sik
Purge Observation	is (color, odor	, turbidity, she	en): Clear	Grab E	ample			
Purge Stur	4Ca 171	<u>'5</u>						
Sample Time:		748	•		Field Filtered	(0.45µm):	9 Yes	☐ No
Sample Parameter	s/Analyto(s):		Petro (DRO)	CCR App				
Closed 5-year N	PDES (Diss [B:					D- D- O- O	pendix IV	
SO4, TDS, TSS)			,	V, SO4, NH3-N	Tot, TDS, TS	Be, Bo, Ca, Cu 3)	, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
└── Variance (Diss [Pb, Ni])	Be, Cd, Cr, L	∟LVWSP IV Dete	ects (As, Ba, Be, Cd, [Phase A IV D	etects (As. Ba. B		Phase B IV De	tects (As, Ba,
,		CI, CO, PD, IVIO,	TI, Rad 226-228) F	Pb, Li, Se, Rad 22	26-228)		ве, Сd, Сr, Со, I, Rad 226-228)	Pb, Li, Mo, Se,
Other Observations	/ Equipment	Operation Pro	blems:					
				,				
Sampler Signature:	12			74	11 111	_		
	1 way			Date: _	4-14-2	020	Page _	/ of /
DA/OC Signature	// \) (_		1 .1 -			

=	¥		

Date: 4/14/2020

GOLDEF	₹					v v Catrici.	· Trongy	10-
Project Name:	_Mt. 5-	torm Power ?	Station	Project No	./Task No.:	7 5/7 49	171	
Event:	15A20 A	+B NDDES/A	ITB CCR	_ Sampler(s		201399		
Well ID:	200	9 MW-10			-	1.600		**
Well Diameter:		inches		Initial Dent	th to Water:		~ 4/14/202	<u>U</u>
Depth to Bottom:			feet			22.9	<u>.</u>	_ feet
Equipment Used:		cator	_ Turbidity Me		umn Thicknes			_ feet
		DSS 16C103994	Peristaltic Pu		Air Tank		Dedicated E	•
	☐ In-Situ _		MP-10 Contro	•	Compres		Non-dedica	ted BP
			T TO CONTIN	7	YMP-15 Co	ontroller Box	<u> </u>	
Time	pН	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
(5 minute int.) Stabilization	(S.U.)	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
1526	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1	6.13	47.3	4.59	3.81	8.7	82.4	23.42	~350
1529	5.60	87.4	77.50	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	18.3	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
1594	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	871	4.59	8.7	241.7	25.44	~350
1553	4.84	46.4	8.36	4.98	8.7	256.4	25.5790	~350
1556	4.83	46.4	8.39	5.08	8.7	263.1	25.78	~35%
1559	4.82	96.4	9.00	5.17	8,6	270.8	26.02	-350
1603			5AM P	LED -			The second secon	730
1625	4.82	46.3	9.54	4.79	8.6	230,4	27.97	-7 -5
,			,		-C1: V		6111	1350
Purge Cycle (End):	22/8	see @	30	psi I	Flow Rate (m	l/min End\:		
Purge volume (gall	ons) prior to			Tube: Vol-r	Conth to Dum	"/''''' ⊏''''''	~350	:
Total Purge Volume	e (Gallons):	250					l/π):	-0.35
Purge Observation	_		. /	Purge Water	- ر	consite oil	Twater sep	amter
Puras ster.	t: 1527		en): Clear g	ab Samp	le, sult	si-like o	solar some	Suspende
7	1100				ova	nge par	ticles_	
Sample Time:	1005			F	Field Filtered	(0.45um):	Yes	☐ No
Sample Parameters	s/Analyte(s):		Petro (DRO)	CCR App	oendix III	CCR Ap	pendix IV	
Closed 5-year NF SO4, TDS, TSS)	PDES (Diss [B	a, Bo, Fe, Mn],	Phase A&B I	NPDES (Diss [A	Al, Sb, As, Ba,	Be Bo Cd Cr	ı, Fe, Pb, Mn, Hg,	Ni, Se, TII.CI.
☐ Variance (Diss [I	Be, Cd, Cr, [LVWSP IV Deter	Critot, NO2+NO3 Nots (As, Ba, Be, Cd, In Pad 336 339)	4, 304, NH3-N	10t. IDS 188	i)	Phase B IV De	
Pb, Ni])		Cr, Co, Pb, Mo, T	I, Rad 226-228)	b, Li, Se, Rad 22	etects (As, Ba, E 26-228)		Be, Cd, Cr, Co	, Pb, Li, Mo, Se,
Other Observations	/ Equipment]	TI, Rad 226-228)	
Observations	· -quipilleni	Operation Pro	piems:	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
	0-				-/			
Sampler Signature:	-h	26		Date:	1/14/20	Zò	Page	C of 1
QA/QC Signature:					11/11/	200 -	. ~3~ _	

Date: 4/14/20 20

GOLDEF	5					Weather	Cloudy, 30	5
Project Name:	. ,	orm Power:	444	Drainet Ne	/TL-N			
Event:			2	Project No./Task No.: 201399 36				
Well ID:	MW-2	ALB NPOES	/	Sampler(s): L. Gramm				
Well Diameter:	2.0		<u> </u>	eld Calibratio	n Completed		on 4/11/20	120
		_inches			th to Water:	15.87	,	feet
Depth to Bottom:			feet		umn Thickne	s <u>s:</u>		_feet
Equipment Used:			Turbidity Me		Air Tank		Dedicated I	3ladder Pump
		DSS 16C103994		-	Compres		Non-dedica	ted BP
	In-Situ _		MP-10 Contro	oller Box	MP-15 C	ontroller Box		
Time	pН	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
(5 minute int.) Stabilization	(S.U.)	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
	+/- 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	1225
	6.55	537	8.98	3,08	8.1	198,5	16.25	~225
0945	4.65	535	33.60	2.45	8,1	190.2	16.25	~275-
0950	6.79	533	36.10	3.00	8.2	205.00	16,27	2225
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 -		· ·	- Sampe	60-	ordered and the second			and a seal of the William State Stat
1058	6,96	503	10.79	3.70	8.4	153.2	16.36	~275
					•			- 3
			,			,		
				1.				
,								
Purge Cycle (End):	27/8 Se	°C @	30	psi	Flow Rate (m	nl/min End):	ルフラィー	
Purge volume (gall	//				Denth to Dur	"""" LIIU).	1/41.	1.60
Total Purge Volum	e (Gallons):	~ 7.5		Purge Water			/π): ~ ο	1.35
Purge Observation	_		. ai		4	1. Onsite oil /V	liter soperei	'or
Puige star	1: 0925		in. Crecive	grab Sci	up u			
Sample Time:	1009							
					Field Filtered	(0.45um):	Yes Yes	☐ No
Sample Parameters	s/Analyte(s):		Petro (DRO)	CCR Ap		☑ CCR Ap	pendix IV	
Closed 5-year NI SO4, TDS, TSS)	PDE9 (DISS [B		Phase A&B N Fr Tot, NO2+NO3 N	VPDES (Diss [/	Al, Sb, As, Ba,	Be, Bo, Cd, Cu	ı, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
Variance (Diss [Be, Cd, Cr, [LVWSP IV Deter	cts (As, Ba, Be, Cd.	Phase A IV F	TOU, TOO, TOO	7 1	Phase B IV De	
Pb, Ni])		Cr, Co, Pb, Mo, T	I, Rad 226-228) F	b, Li, Se, Rad 2	26-228)	,—	Be, Cd, Cr, Co II, Rad 226-228)	, Pb, Li, Mo, Se,
Other Observations	: / Equipment	Operation Prof	hlems:				.,uu 220-220)	
	,	- > p = 1 G H O H 1 1 O I						
Pomple :: O' :		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	/		1 /			
Sampler Signature:) C.	n gelejasutautatusus nuova v	Date:	4/14/20	26	Page	of \
DA/OC Signature:	/		and the same of th		11 11			<u> </u>

OLDE	
oject Name: rent:	

Date: 4-14-2020
Weather: Suffords, 70,

Project Name:	M. S	Low Pave	s Station	Project No	./Task No.:	70191	20.01	
Event:	15A20		T+II Gh			20150	14360	
Well ID:	MWF (AI)			eld Calibratio		- 600	<i>501</i>	· 1
Well Diameter:	2.0	inches	,		n Completed h to Water:	·_ <u>0810</u>	f simulation	1-2020
Depth to Bottom:			feet		ımn Thicknes		16.8T.	feet
Equipment Used:	WL Indic	ator	Turbidity Met		Air Tank	SS:		_feet
	YSI Pad	HILLOHZ)	Peristaltic Pu		Compress	sor	Dedicated I	
	In-Situ	<u> </u>	MP-10 Contro		MP-15 Co		Non-dedica	ted BP 286503
Time	pН	Sp. Cond.		Dissolved	T	T TONE BOX	10 19C 13 10	<u> 29420 </u>
(5 minute int.)			Turbidity	Oxygen	Temp.	ORP	DTW	Flow Rate
Stabilization	+/- 0.1	(uS/cm)° ^c +/- 3%	(NTU) if >10, +/- 10%	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
0727	6.18	247.7	7 4	+/- 10%	+/-1°C ·	+/- 10 mV	<0.3 feet	<500
0937	10.92	248.6	0.7	1.03	7.8	200,9	17.04	400
0937	6 87	7181	0.9	1.20	7.0	184.5	17.09	400
2942	6.32	2480	10	4.01	7.7	1 den	14.07	400
091/3	and the second s	- AMDI	13/1)	(e. De	4.4	132.5	17.09	400
1037	6.34	244.3			annagaturustu onigenein teta tapicakoi.kit.	The contract of the contr	in the Second se	
1000	w.39	29913	$-\mathcal{O} \cdot I$	6.90	7.8	1399	17.09	400
				36	·			
,								
Purge Cycle (End):	24/	le sec @	20 p	osi	low Rate (m	l/min End):	400	2
Purge volume (gallo	ons) prior to	stabilization mo	 nitoring (3/8" I.D.	Tube: Vol=1	enth to Pum	un v 0 006 gal	/#\\.	20.15
Total Purge Volume	(Gallons):	72,6		ourge Water			<i>-</i> 2	TEO
Purge Observations	- color, odor) (Gra			s segara	DI UM-DIY
Prof Fait (2)	0924	,			9 940	riple		
Sample Time:	09	4/3			Fiold Filtograd	(0.45)	Z-Yes	No
Sample Deremeters	// 1: / - >	ПР	etro (DRO)	CCR App	Field Filtered	•		L] INO
Sample Parameters Closed 5-year NF	/Analyte(s): PDES (Diss [Ba		and the same of th			CCR Ap	pendix IV	
SO4, TDS, TSS)		_	Phase A&B N r Tot, NO2+NO3 N	1, 394, NH3-N	10t, 1DS, 1SS	5)	, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
Variance (Diss [EPb, Ni])	Be, Cd, Cr, L	LVWSP IV Detection Cr, Co, Pb, Mo, T	ts (As, Ba, Be, Cd, 🗌	Phase A IV D	etects (As, Ba, F	Cd, Cr, Co,	Phase B IV De	tects (As, Ba, , Pb, Li, Mo, Se,
				b, Li, Se, Rad 22	0-228)	Т	l, Rad 226-228)	, p, Li, MO, Se,
Other Observations		Operation Prob	olems:					
MS and MS	i) take	en here						
Sampler Signature:	fait.			Date:	4-111	7 /\)	6	/
QA/QC Signature: _	20	On -	The state of the s		1/4-2		Page _	of
Olynature.	They			Date:	9/14/20	no		

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200	. THE	
		30

Date: 4-14-2020

	Project Name:	Mt.S	Form Power	Station	Project No	o./Task No.:	700	7609/	
	Event:	18A20		CCR III + I	Sampler/s)./ Task NO	2013	39936	
	Well ID:	MW FG	DW-6). In Completed	P. 10		111 2-
	Well Diameter:	2.0	inches	_ ''			0810	ON 4-	14-20
	Depth to Bottom:			feet		th to Water:	14.01	,	_feet
	Equipment Used:	WL Indic	ator	_ Turbidity Met		umn Thicknes	SS:		_feet
	_ q.m.pone 000d.		055 1911/014	Peristaltic Pu		Air Tank		Dedicated E	
		In-Situ	•	MP-10 Contro	•	Compres		☐ Non-dedicat	ted BP 2863
			T	T TO CONTROL			ontroller Box	PRISTER	450
	Time	рН	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
	(5 minute int.) Stabilization	(S.U.) +/- 0.1	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
Pu	1516	+/- U.1 /- / ·2	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
	1914	501-	201.9	91.0	2.25	8.9	194.2	18.85	-400
-	1521	7.76	75.7	51.0	5.38	88	210.8	19.49	-400
-	1520	5.82	67.5	44,3	5.51	8.7	245.7	19.51	2400
ŀ	1991	<u> </u>	71.6	40,3	5.47	8. Ce	255.0	19.52	7400
}	1336	5.07	75.7	27.0	5.37	8.7	255.0	19.55	2900
ŀ	1341	5.90	16.2	18.1	5.33	37	254.0	19.61	2400
ŀ	1346	5.91	78.6	17.2	5.27	8.7	252.3	19.72	2400
ŀ	1551	5,92	80.1	9.7	5.20	8.7	249.8	19.81	2400
-	1555 -	A STATE OF THE STA	SAMF	LED -	AND GREET TO THE PARTY OF THE P				750
-	1615	4.03	839	3.10	5.51	8,5	2500	19,4	2400
ŀ								,,,,	/ Cond
-									
L									
L									
L	,								
L									
L									
F	Purge Cycle (End):	20/1	0 sec @	20	L osi	Flow Pata (m	I/min [n.d).		
F	ourge volume (gallo					Flow Rate (m	Willin End): _	<u> </u>	P3
Т	otal Purge Volume	e (Gallons):	25,0			Management			0.25
	urge Observation	· -						ater Oep	912/01
y	Verse Ston	1/00/	5/2	11). C1841	2140 6	Dam ple		,	
S	ample Time:	15	55						
					- Andrewson - Company of the Company	Field Filtered	- manufacture	Yes	No
S	ample Parameters Closed 5-year NF	Analyte(s):		Petro (DRO)	CCR App		CCR Ap	pendix IV	
S	O4, TDS, TSS)	חבס (חופפ [ם		Phase A&B N Fr Tot, NO2+NO3 N	NPDES (Diss [/ I SO4 NH3-N	Al, Sb, As, Ba, I	Be, Bo, Cd, Cu	, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
ם	Variance (Diss [E	Be, Cd, Cr, [LVWSP IV Detec	cts (As, Ba, Be, Cd, 🛚	Phase A IV D	etects (As. Ba. II	Cd. Cr. Co	Phase B IV Det	ects (As, Ba,
P	b, Ni])		Cr, Co, Pb, Mo, T	I, Rad 226-228) P	b, Li, Se, Rad 22	26-228)		Be, Cd, Cr, Co, I, Rad 226-228)	Pb, Li, Mo, Se,
0	ther Observations	/ Equipment	Operation Prof	olems:			·		•
0	amplor Cian - to	13							
	ampler Signature:	le is ligazi		2	Date:	4-14-	2020	Page _	/ of /
Q	A/QC Signature <u>:</u>	1) (<u> </u>	- The second sec	Date:	4/14/2	020	_	400

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Date: 4/14/2070
Weather: Cloudy 30's

Project Name:	Mt. St	form Pou	verstation	Project No	./Task No.:	20139	921,	
Event:	1SAZO	ATB NPDI	35/A0BCL	_ 2_ Sampler(s):	16:	134	
Well ID:	Duplic	cate	Fi	eld Calibratio	n Completed:	C. Gin		11/2
Well Diameter:	7	inches	-	Initial Dent	th to Water:	<u> </u>	on 4/1	4/2020
Depth to Bottom:	epicene.		feet				,	feet
Equipment Used:	WL Indica	ator	_ Turbidity Met		umn Thicknes	S:	F 71.	_feet
	/	OSS 16003994			Air Tank		Dedicated E	•
	In-Situ		MP-10 Contro	=	Compress		Non-dedica	ted BP
			T TO CONTROL	γ	☑ MP-15 Co	ntroller Box		
Time	pН	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
(5 minute int.)	(S.U.)	(uS/cm) ^{oC}	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1030	C. 2000		SAMI	160-			Name and Address of the Owner, which was the Company of the Compan	na augustumum et en man et en m
							;	
<u>· </u>								
Purge Cycle (End):			The state of the s	psi	Flow Rate (m	l/min End):	(menum	
Purge volume (gallo	ons) prior to s	stabilization mo	nitoring (3/8" I.D.	. Tube: Vol=[Depth to Pum	– /p x 0.006 gal	ft):	(Paradalana)
Total Purge Volume	e (Gallons):	approximation .			Management		·	
Purge Observations	(color, odor,	, turbidity, shee	n): Clear o	arab se	1 , 7		W-27_	
			-		1.100	er. C 1111	NUL	
Sample Time:	1030)			-:	· · · · · · · · · · · · · · · · · · ·	Yes	
			Potro (DDO)		Field Filtered			∐ No
Sample Parameters Closed 5-year NF	:/Analyte(s): PDFS (Diss IBa		Petro (DRO)	CCR App		CCR App	oendix IV	
SO4, TDS, TSS)		C	Phase A&B Nor Yot, NO2+NO3 N	V, OOST, IVI 13-1V	101 1115 155	1	Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
Variance (Diss [E	Be, Cd, Cr,		ts (As, Ba, Be, Cd, 🛭	Phase A IV D	etects (As. Ba. E.	ACd. Cr. Co	Phase B IV De	tects (As, Ba,
Pb, Ni])		Cr, Co, Pb, Mo, T	I, Rad 226-228) P	b, Li, Se, Rad 22	26-228)		Be, Cd, Cr, Co, , Rad 226-228)	, Pb, Li, Mo, Se,
Other Observations	/ Equipment	Operation Prof	olems:					
	Λ							
Complete Of the Complete Of th	// \	0			//			
Sampler Signature:	/ A	1		Date:	1/14/202	0	Page	l of]
QA/QC Signature:	file			Date:	4/14/2	226		

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Date: <u>4/14/2020</u>
Weather: C/04/4, 4/5

Project Name:	174. St	son Power	(Station	_ Project No	./Task No.:	20139	1936	
Event:	ISAZO A	VPDES A+B	ICCR	_ Sampler(s):	L-Grim		
Well ID:	Field R	blank	_ Fi	– eld Calibratio	n Completed:			44.5
Well Diameter:	-	inches	_		h to Water:	5000	on 1/14/12	020
Depth to Bottom:			feet		umn Thicknes	c	,	feet
Equipment Used:	WL Indica	ator	Turbidity Met		Air Tank	3.	Dedicated	feet
	YSI	Consess.	Peristaltic Pu		Compress	٥٢		ladder Pump
	In-Situ		MP-10 Contro			ntroller Box	☐ Non-dedicat	ed BP
Time				Dissolved	Mr=13 CO	TU OHEL BOX		
	рН	Sp. Cond.	Turbidity	Oxygen	Temp.	ORP	DTW	Flow Rate
(5 minute int.) Stabilization	(S.U.) +/- 0.1	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
W/S	T/- U.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1110			SAMPL	ED -				

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,								
								
Purge Cycle (End):								
				osi	Flow Rate (ml	/min End): _		
Purge volume (gall	ons) prior to s	stabilization mo	nitoring (3/8" I.D.	Tube: Vol=I	Depth to Pum	o x 0.006 gal	/ft):	- Carlotte
Total Purge Volum				Purge Water	Managemen <u>t:</u>	None Control of Contro		
Purge Observation	s (color, odor,	, turbidity, she <u>e</u>	n): Clear q	sab sain	nple ta	ken nea	1 MW-2	2
Using la	buritary	Supplie	d DI water	er				
Sample Time:	1115	1 1			Field Filtered	() (5 um):	Yes	Ū∕ No
Sample Parameters	2/A 2014 (2)		Petro (DRO)	CCR App				40
Closed 5-year N	PDES (Diss [Ba					,E 001111p	pendix IV	
SO4, TDS, TSS)				1, 007, 141 13-14	101, 100, 100)	, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
Variance (Diss [Pb, Ni])	Be, Cd, Cr, L		ts (As, Ba, Be, Cd.	Phase A IV D	letects (As Ro t	, ⊋Ĉd, Cr, Co,	Phase B IV Det	ects (As, Ba,
. 2,		CI, CO, PD, MO, I	I, Rad 226-228)	b, Li, Se, Rad 22	26-228)		Be, Cd, Cr, Co, I, Rad 226-228)	Pb, Li, Mo, Se,
Other Observations	/ Equipment	Operation Prob	olems:					
			_					
Sampler Signature:		10			1			
9				Date:	4/14/202	(0)	Page _	/ of /
QA/QC Signature:	falir			Date:	4-14-2	026		



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

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Golder Associates Inc. Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

Qualifiers

Metals Qualifier	Qualifier Description
Н	Sample was prepped or analyzed beyond the specified holding time
Н	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 C	hemistry

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

Result is less than the sample detection limit.

Glossary

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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)

LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDI	Mathad Datastian Limit

Limit of Detection (DoD/DOE)

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
P∩I	Practical Quantitation

PQL	Practical Quantitation Limit
DDEC	Description

PRES	Presumptive
QC	Quality Control
RFR	Relative Error Ratio (

RER	Rela	ive I	Error I	Ratio	(Radioc	hem	istry)		
	_								

TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TNTC	Too Numerous To Count

Eurofins TestAmerica, Canton

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 1.6° C and 2.2° 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

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 1.6° C and 2.2° 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), MWFGDW2 (240-129038-2), MWFGDW2 (240-129038-2), 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.

Eurofins TestAmerica, Canton 6/19/2020 (Rev. 2)

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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), MWFGDW2 (240-129038-2), 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.

Eurofins TestAmerica, Canton 6/19/2020 (Rev. 2)

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 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.

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 1.6° C and 2.2° C.

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

Eurofins TestAmerica, Canton 6/19/2020 (Rev. 2)

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 1.1° C and 3.0° 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

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Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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.

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.

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

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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.

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Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 1.1° C and 3.0° 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.

Eurofins TestAmerica, Canton 6/19/2020 (Rev. 2)

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Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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

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Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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 1.6° C, 1.7° C, 2.0° C, 2.9° C and 4.7° 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.

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Client: Golder Associates Inc.

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

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 1.6° C, 1.7° C, 2.0° C, 2.9° C and 4.7° 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
320	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

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Sample Summary

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

	<u> </u>	<u> </u>			
Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset
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	

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Client: Golder Associates Inc.

Client Sample ID: MW-22

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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

Sample ID: 240-129038	-2
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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		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.

Client: Golder Associates Inc.

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

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		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 M	lethod	Prep Type
Barium	120		5.0	2.2	ug/L	1	_ ₆₀	020B	Total
									Recoverable
Calcium	32000		1000	580	ug/L	1	60	020B	Total
									Recoverable
Cobalt	0.19	J	1.0	0.19	ug/L	1	60	020B	Total
									Recoverable
Lithium	6.8	J	8.0	1.7	ug/L	1	60	020B	Total
									Recoverable
Chloride	1300		1000	280	ug/L	1	90	056A	Total/NA
Fluoride	42	J	50	24	ug/L	1	90	056A	Total/NA
Sulfate	11000		1000	350	ug/L	1	90	056A	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 Q	ualifier 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.

Eurofins TestAmerica, Canton

6/19/2020 (Rev. 2)

Detection Summary

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Lab Sample ID: 240-129039-6 Client Sample ID: MWFGDW-6 (Continued) Analyte Result Qualifier RL **MDL** Unit Dil Fac D Method Prep Type Sulfate 12000 1000 350 ug/L 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 SM 2540C Total/NA Client Sample ID: MWFGDW2 Lab Sample ID: 240-129060-2 Result Qualifier **MDL** Unit Dil Fac D Method RL Prep Type 10 SM 2540C **Total Dissolved Solids** 150 10 mg/L 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** SM 2540C 10 **Total Dissolved Solids** 10 mg/L Total/NA 140 Client Sample ID: MW-8 Lab Sample ID: 240-129060-5 Analyte Result Qualifier RL **MDL** Unit Dil Fac D Method **Prep Type** 10 mg/L SM 2540C **Total Dissolved Solids** 10 Total/NA 140 Client Sample ID: MW-10 Lab Sample ID: 240-129060-6 **MDL** Unit Analyte Result Qualifier RL Dil Fac D Method **Prep Type** SM 2540C **Total Dissolved Solids** 10 34 10 mg/L Total/NA Client Sample ID: MWFGDW-6 Lab Sample ID: 240-129060-14 Result Qualifier RL **MDL** Unit Analyte Dil Fac D Method **Prep Type Total Dissolved Solids** 46 10 10 mg/L 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**

10

10 mg/L

This Detection Summary does not include radiochemical test results.

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Total Dissolved Solids

Job ID: 240-129039-1

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SM 2540C

Total/NA

Project/Site: Mt. Storm Phase A CCR

Client Sample ID: MW-22 Lab Sample ID: 240-129038-1 Date Collected: 04/14/20 10:08

Matrix: Water

Job ID: 240-129039-1

Date Received: 04/16/20 09:20

Analyte		Result	Qualifier	RL		MDL	Unit		D	Prepared	Analyzed	Dil Fa
Boron		<23		100		23	ug/L		_	04/21/20 14:00	04/22/20 15:47	
Method: 6020B - M	etals (ICP	/MS) - Total F	Recovera	ble								
Analyte	•		Qualifier	RL		MDL	Unit		D	Prepared	Analyzed	Dil Fa
Arsenic		<0.75		5.0		0.75	ug/L		_	04/21/20 14:00	04/22/20 19:15	
Barium		210		5.0		2.2	ug/L			04/21/20 14:00	06/03/20 21:26	
Beryllium		<0.31		1.0		0.31	ug/L			04/21/20 14:00	04/22/20 19:15	
Calcium		96000		2000		1200	ug/L			04/21/20 14:00	06/03/20 21:28	
Cadmium		<0.20		1.0		0.20	ug/L			04/21/20 14:00	04/22/20 19:15	
Cobalt		2.3		1.0		0.19	ug/L			04/21/20 14:00	04/22/20 19:15	
Chromium		2.6		2.0		0.98	ug/L			04/21/20 14:00	04/22/20 19:15	
Molybdenum		<1.1		10		1.1	ug/L			04/21/20 14:00	04/22/20 19:15	
Lead		1.8		1.0		0.45	ug/L			04/21/20 14:00	04/22/20 19:15	
Antimony		<0.57		2.0		0.57	ug/L			04/21/20 14:00	04/22/20 19:15	
Selenium		<0.89		5.0		0.89	ug/L			04/21/20 14:00	04/22/20 19:15	
Lithium		9.2		8.0		1.7	ug/L			04/21/20 14:00	04/22/20 19:15	
Thallium		0.34	J	1.0		0.20	ug/L			04/21/20 14:00	04/22/20 19:15	
Method: 7470A - M	ercurv (C)	VAA)										
Analyte		•	Qualifier	RL		MDL	Unit		D	Prepared	Analyzed	Dil Fa
Mercury		<0.13	Н	0.20		0.13	ug/L			05/21/20 14:00	05/21/20 19:43	
General Chemistry												
Analyte		Result	Qualifier	RL		MDL	Unit		D	Prepared	Analyzed	Dil Fa
Chloride		760	J	1000		280	ug/L		_		05/01/20 23:40	
Fluoride		46	J	50		24	ug/L				05/01/20 23:40	
Sulfate		29000		1000		350	ug/L				05/04/20 11:56	
Method: 9315 - Rad	lium-226 ((GFPC)										
		,	Count	Total								
			Uncert.	Uncert.								
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	N	MDC	Unit		Prepared	Analyzed	Dil Fa
Radium-226	0.152		0.0884	0.0894	1.00	0	.100	pCi/L		04/20/20 16:31	05/13/20 04:31	
Carrier	%Yield	Qualifier	Limits							Prepared	Analyzed	Dil Fa
Ba Carrier	82.3		40 - 110								05/13/20 04:31	

Method: 9320 - Ra	dium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

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

Method: Ra226_	_Ra228 -	Combined	Radium-226	and F	Radium-228
			• •		

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

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4.0

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

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

Date Received: 04/16/20 09:20

Analyte

Carrier

Ba Carrier

Y Carrier

Radium-228

Lab Sample ID: 240-129038-2

Matrix: Water

Analyte	Metals (ICP)		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Boron		<23		100	23	ug/L		04/21/20 14:00	04/22/20 15:21	
Method: 6020B -	Metals (ICP/	MS) - Total F	Recovera	ble						
Analyte	•	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic		<0.75	-	5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:03	
Barium		240		5.0	2.2	ug/L		04/21/20 14:00	06/03/20 21:14	
Beryllium		<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:03	
Calcium		35000		1000	580	ug/L		04/21/20 14:00	04/22/20 19:03	
Cadmium		<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:03	
Cobalt		<0.19		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:03	
Chromium		<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:03	
Molybdenum		<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:03	
Lead		<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:03	
Antimony		<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:03	
Selenium		<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:03	
		5.3	J	8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:03	
Lithium						-		04/04/00 44:00	04/22/20 19:03	
Lithium Thallium Method: 7470A -	Mercury (CV	0.25 /AA)	J	1.0	0.20	ug/L		04/21/20 14.00	04/22/20 19.03	
Thallium Method: 7470A - Analyte	Mercury (CV	/AA) Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Thallium Method: 7470A -	Mercury (CV	/AA)	Qualifier		MDL		<u>D</u>	Prepared		Dil Fa
Thallium Method: 7470A - Analyte Mercury General Chemist	• •	Result <0.13	Qualifier H		MDL 0.13	Unit ug/L		Prepared 05/21/20 14:00	Analyzed 05/21/20 19:26	
Thallium Method: 7470A - Analyte Mercury General Chemist Analyte	• •	Result Result	Qualifier H	RL RL	MDL 0.13	Unit ug/L Unit	<u>D</u>	Prepared	Analyzed 05/21/20 19:26 Analyzed	
Thallium Method: 7470A - Analyte Mercury General Chemist Analyte Chloride	• •	Result 870	Qualifier H	RL 0.20	MDL 0.13	Unit ug/L		Prepared 05/21/20 14:00	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00	
Thallium Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride	• •	Result <0.13 Result 870 59	Qualifier H	RL 0.20 RL 1000 50	MDL 280 24	Unit ug/L Unit ug/L ug/L		Prepared 05/21/20 14:00	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00	Dil Fa
Thallium Method: 7470A - Analyte Mercury General Chemist Analyte Chloride	• •	Result 870	Qualifier H	RL 0.20	MDL 280 24	Unit ug/L		Prepared 05/21/20 14:00	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00	
Thallium Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride	try	Result <0.13 Result 870 59 41000	Qualifier H Qualifier J	RL 0.20 RL 1000 50 1000	MDL 280 24	Unit ug/L Unit ug/L ug/L		Prepared 05/21/20 14:00	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00	
Thallium Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride Sulfate	try	Result 870 59 41000 GFPC)	Qualifier H Qualifier J	RL 0.20 RL 1000 50 1000 Total	MDL 280 24	Unit ug/L Unit ug/L ug/L		Prepared 05/21/20 14:00	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00	
Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride Sulfate Method: 9315 - R	try Radium-226 (Result 870 59 41000 GFPC)	Qualifier H Qualifier J Count	RL 0.20 RL 1000 50 1000 Total Uncert.	MDL 280 24 350	Unit ug/L Unit ug/L ug/L ug/L	D	Prepared 05/21/20 14:00 Prepared	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00 05/04/20 12:17	Dil Fa
Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride Sulfate Method: 9315 - R Analyte	try Radium-226 (Result 870 59 41000 GFPC)	Qualifier H Qualifier J Count Uncert. (2σ+/-)	RL 0.20 RL 1000 50 1000 Total Uncert. (2σ+/-)	MDL 280 24 350	Unit ug/L Ug/L ug/L ug/L ug/L	D _	Prepared O5/21/20 14:00 Prepared Prepared	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00 05/04/20 12:17 Analyzed	
Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride Sulfate Method: 9315 - R	try Radium-226 (Result 870 59 41000 GFPC)	Qualifier H Qualifier J Count	RL 0.20 RL 1000 50 1000 Total Uncert.	MDL 280 24 350	Unit ug/L Unit ug/L ug/L ug/L	D _	Prepared 05/21/20 14:00 Prepared	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00 05/04/20 12:17 Analyzed	Dil Fa
Method: 7470A - Analyte Mercury General Chemist Analyte Chloride Fluoride Sulfate Method: 9315 - R Analyte	Result 0.0637	Result 870 59 41000 GFPC)	Qualifier H Qualifier J Count Uncert. (2σ+/-)	RL 0.20 RL 1000 50 1000 Total Uncert. (2σ+/-)	MDL 280 24 350	Unit ug/L Ug/L ug/L ug/L ug/L	D _	Prepared O5/21/20 14:00 Prepared Prepared	Analyzed 05/21/20 19:26 Analyzed 05/02/20 00:00 05/02/20 00:00 05/04/20 12:17 Analyzed 05/13/20 04:31 Analyzed	Dil Fa

Analyzed

Analyzed

05/05/20 18:49 05/12/20 08:24

 05/05/20 18:49
 05/12/20 08:24

 05/05/20 18:49
 05/12/20 08:24

Dil Fac

Dil Fac

Total

RL

1.00

MDC Unit

0.498 pCi/L

Prepared

Prepared

Uncert.

 $(2\sigma + / -)$

0.351

Count Uncert.

 $(2\sigma + / -)$

Limits

40 - 110

40 - 110

0.343

Result Qualifier

%Yield Qualifier

0.795

96.1

Client Sample Results

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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

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

Method: Ra226_Ra2	228 - Com	nbined Ra	dium-226 a	nd Radiun	n-228				
_			Count	Total					
			Uncert.	Uncert.					
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC Unit	Prepared	Analyzed	Dil Fac
Combined Radium	0.859		0.348	0.355	5.00	0.498 pCi/L		05/13/20 08:23	

226 + 228

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Project/Site: Mt. Storm Phase A CCR

Client Sample ID: MW-10 Lab Sample ID: 240-129038-5 Date Collected: 04/14/20 16:03

Matrix: Water

Job ID: 240-129039-1

Date Received: 04/16/20 09:20

Carrier

Ba Carrier

%Yield Qualifier

86.6

Limits

40 - 110

Analyte			Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Boron		<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:10	1
Method: 6020B - M	etals (ICP	/MS) - Total F	Recovera	ble						
Analyte	•		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		ug/L		04/21/20 14:00	04/22/20 19:27	1
Lithium		<1.7		8.0		ug/L		04/21/20 14:00	04/22/20 19:27	1
Thallium		<0.20		1.0		ug/L		04/21/20 14:00	04/22/20 19:27	1
Method: 7470A - M	ercury (C)	/ΔΔ)								
Analyte	ciculy (O		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury		<0.13		0.20		ug/L	— <u> </u>	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 - Rac	lium-226 ((GEPC)								
mothodi oo io i kat	220 (3.1.0)	Count	Total						
			Uncert.	Uncert.						
	- "				ъ.			B	A	D!! F
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL I	MDC Unit		Prepared	Analyzed	Dil Fac

Method: 9320 - I	Radium-228 (GFPC)								
	·	•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Analyzed

Dil Fac

Prepared

<u>04/20/20 16:31</u> <u>05/13/20 04:32</u>

Client Sample Results

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

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

Method: Ra226_Ra	228 - Con	nbined Ra	adium-226 a	nd Radiun	n-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.322	U	0.364	0.365	5.00	0.606	pCi/L		05/13/20 08:23	1

+ 228

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

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Boron	<23		100	23	ug/L		04/21/20 14:00	04/22/20 16:28	
Method: 6020B - Metals (IC	P/MS) - Total F	Recoverable							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	<0.75		5.0	0.75	ug/L		04/21/20 14:00	04/22/20 19:37	-
Barium	<2.2		5.0	2.2	ug/L		04/21/20 14:00	04/22/20 19:37	
Beryllium	<0.31		1.0	0.31	ug/L		04/21/20 14:00	04/22/20 19:37	
Calcium	<580		1000	580	ug/L		04/21/20 14:00	04/22/20 19:37	
Cadmium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:37	
Cobalt	<0.19		1.0	0.19	ug/L		04/21/20 14:00	04/22/20 19:37	
Chromium	<0.98		2.0	0.98	ug/L		04/21/20 14:00	04/22/20 19:37	
Molybdenum	<1.1		10	1.1	ug/L		04/21/20 14:00	04/22/20 19:37	
Lead	<0.45		1.0	0.45	ug/L		04/21/20 14:00	04/22/20 19:37	
Antimony	<0.57		2.0	0.57	ug/L		04/21/20 14:00	04/22/20 19:37	
Selenium	<0.89		5.0	0.89	ug/L		04/21/20 14:00	04/22/20 19:37	
Lithium	<1.7		8.0	1.7	ug/L		04/21/20 14:00	04/22/20 19:37	
Thallium	<0.20		1.0	0.20	ug/L		04/21/20 14:00	04/22/20 19:37	
Method: 7470A - Mercury (CVAA)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Mercury	<0.13	H	0.20	0.13	ug/L		05/21/20 14:00	05/21/20 19:57	-
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	<280		1000	280	ug/L			05/02/20 03:42	
Fluoride	<24		50	24	ug/L			05/02/20 03:42	
Sulfate	<350		1000	350	ug/L			05/04/20 15:58	

Method: 9315 - Ra	adium-226 ((GFPC)	Count	Total						
Analyte	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00325	Ū	0.0306	0.0306	1.00	0.0720	pCi/L	04/20/20 16:31	05/13/20 04:32	1
Carrier Ba Carrier	94.2	Qualifier	40 - 110					Prepared 04/20/20 16:31	Analyzed 05/13/20 04:32	Dil Fac

Method: 9320 -	Radium-228 (GFPC)	Count	Total						
Analyte	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analvzed	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.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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: Ra226_	_Ra228 -	Combined	Radium-226	and Radium-228

oui.oui.ituaaao_itu										
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0526	Ū	0.287	0.287	5.00	0.521	pCi/L		05/13/20 08:23	1
_ · <i>LL</i> 0										

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Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

Client Sample ID: DUPLICATE

Lab Sample ID: 240-129038-10

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

Method: 6010D - Metals (ICP)	Method: 6010D - Metals (ICP) - Total Recoverable												
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac					
Boron		100	23	ua/l		04/21/20 14:00	04/22/20 16:32						

-					ug/L			0==:=0 .0.0=	•
Method: 6020B - Meta	ls (ICP/MS) - Total F	Recoverable)						
Analyte	•	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 (CVA	A)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.13	Н	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 - F	Radium-226 (GFPC)								
	· ·	,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00306	Ū	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.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

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

Count	Total
Uncert.	Uncert.

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

+ 228

7

0

10

12

13

Method: 9320 - Radium-228 (GFPC)

Result Qualifier

%Yield Qualifier

-0.0850 U

98.2

82.6

Analyte

Carrier

Ba Carrier

Y Carrier

Radium-228

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

Analyte		Result	Qualifier	RL	I	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Boron		<23		100		23	ug/L		04/21/20 14:00	04/22/20 16:37	
Method: 6020B - Me	tals (ICP	/MS) - Total F	Recovera	ble							
Analyte	•		Qualifier	RL	ı	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic		<0.75		5.0		0.75	ug/L		04/21/20 14:00	04/22/20 19:42	
Barium		120		5.0		2.2	ug/L		04/21/20 14:00	06/03/20 22:08	
Beryllium		<0.31		1.0		0.31	ug/L		04/21/20 14:00	04/22/20 19:42	
Calcium		32000		1000		580	ug/L		04/21/20 14:00	04/22/20 19:42	
Cadmium		<0.20		1.0		0.20	ug/L		04/21/20 14:00	04/22/20 19:42	
Cobalt		0.19	J	1.0		0.19	ug/L		04/21/20 14:00	04/22/20 19:42	
Chromium		<0.98		2.0		0.98	ug/L		04/21/20 14:00	04/22/20 19:42	
Molybdenum		<1.1		10		1.1	ug/L		04/21/20 14:00	04/22/20 19:42	
Lead		<0.45		1.0		0.45	ug/L		04/21/20 14:00	04/22/20 19:42	
Antimony		<0.57		2.0		0.57	ug/L		04/21/20 14:00	04/22/20 19:42	
Selenium		<0.89		5.0		0.89	ug/L		04/21/20 14:00	04/22/20 19:42	
Lithium		6.8	J	8.0		1.7	ug/L		04/21/20 14:00	04/22/20 19:42	
Thallium		<0.20		1.0		0.20	ug/L		04/21/20 14:00	04/22/20 19:42	
Method: 7470A - Me	rcurv (C\	/AA)									
Analyte	•		Qualifier	RL	ı	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Mercury		<0.13	Н	0.20		0.13	ug/L		05/21/20 12:00	05/21/20 21:52	-
General Chemistry											
Analyte		Result	Qualifier	RL	I	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride		1300		1000		280	ug/L			05/02/20 04:22	
Fluoride		42	J	50		24	ug/L			05/02/20 04:22	
Sulfate		11000		1000		350	ug/L			05/04/20 16:38	
Method: 9315 - Radi	um-226 (GFPC)									
			Count	Total							
			Uncert.	Uncert.							
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	N	MDC Unit		Prepared	Analyzed	Dil Fa
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	
Carrier	%Yield	Qualifier	Limits						Prepared	Analyzed	Dil Fa
Ba Carrier	98.2		40 - 110						04/21/20 13:39	05/14/20 11:19	

Analyzed

Analyzed

04/21/20 13:39 05/11/20 16:04

04/21/20 13:39 05/11/20 16:04

04/21/20 13:39 05/11/20 16:04

Dil Fac

Dil Fac

Count

Uncert.

 $(2\sigma + / -)$

Limits

40 - 110

40 - 110

0.199

Total

RL

1.00

MDC Unit

0.381 pCi/L

Prepared

Prepared

Uncert.

 $(2\sigma + / -)$

0.199

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

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

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

Method: Ra226_Ra	228 - Com	bined Ra	idium-226 a	nd Radiun	n-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.0148	U	0.215	0.215	5.00	0.381	pCi/L		05/15/20 07:54	1

+ 228

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

Analyte		Result	Qualifier	RL		MDL		D	Prepared	Analyzed	Dil Fa
Boron		<23		100		23	ug/L		04/21/20 14:00	04/22/20 16:41	
Method: 6020B	- Metals (ICP	/MS) - Total I	Recovera	ble							
Analyte	•	Result	Qualifier	RL		MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic		<0.75		5.0		0.75	ug/L		04/21/20 14:00	04/22/20 19:45	
Barium		30		5.0		2.2	ug/L		04/21/20 14:00	04/22/20 19:45	
Beryllium		<0.31		1.0		0.31	ug/L		04/21/20 14:00	04/22/20 19:45	
Calcium		12000		1000		580	ug/L		04/21/20 14:00	04/22/20 19:45	
Cadmium		<0.20		1.0		0.20	ug/L		04/21/20 14:00	04/22/20 19:45	
Cobalt		<0.19		1.0		0.19	ug/L		04/21/20 14:00	04/22/20 19:45	
Chromium		<0.98		2.0		0.98	ug/L		04/21/20 14:00	04/22/20 19:45	
Molybdenum		<1.1		10		1.1	ug/L		04/21/20 14:00	04/22/20 19:45	
Lead		< 0.45		1.0		0.45	ug/L		04/21/20 14:00	04/22/20 19:45	
Antimony		<0.57		2.0		0.57	ug/L		04/21/20 14:00	04/22/20 19:45	
Selenium		<0.89		5.0		0.89	ug/L		04/21/20 14:00	04/22/20 19:45	
Lithium		2.0	J	8.0		1.7	ug/L		04/21/20 14:00	04/22/20 19:45	
Thallium		<0.20		1.0		0.20	ug/L		04/21/20 14:00	04/22/20 19:45	
Analyte Mercury		<0.13	Qualifier H	- RL 0.20			Unit ug/L	_ D	Prepared 05/21/20 12:00	Analyzed 05/21/20 21:54	Dil Fa
- -		10.10		0.20		0.10	ug/L		00/21/20 12:00	00/21/20 21:04	
General Chemis Analyte	stry	Result	Qualifier	RL		MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride		51000	Qualifier	1000			ug/L			05/02/20 05:22	
Fluoride		31000	1	50			ug/L			05/02/20 05:22	
Sulfate		15000	3	1000			ug/L			05/04/20 17:38	
Sunate		15000		1000		550	ug/L			03/04/20 17:30	
Method: 9315 - I	Radium-226 ((GFPC)									
		(Count	Total							
			Uncert.	Uncert.							
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	N	MDC Unit		Prepared	Analyzed	Dil Fa
Radium-226	0.0453	<u>U</u>	0.0670	0.0671	1.00	0	.115 pCi/L		04/21/20 13:39	05/14/20 11:19	
Carrier	%Yield	Qualifier	Limits						Prepared	Analyzed	Dil Fa
Ba Carrier	100		40 - 110						04/21/20 13:39	05/14/20 11:19	
•											
Method: 9320 - I	Radium-228 ((GFPC)									
			Count	Total							

Analyzed

Analyzed

04/21/20 13:39 05/11/20 16:04

04/21/20 13:39 05/11/20 16:04

04/21/20 13:39 05/11/20 16:04

Dil Fac

Dil Fac

Uncert.

 $(2\sigma + / -)$

0.227

Limits

40 - 110

40 - 110

Result Qualifier

%Yield Qualifier

-0.106 U

100

81.9

Analyte

Carrier

Ba Carrier

Y Carrier

Radium-228

Uncert.

 $(2\sigma + / -)$

0.227

RL

1.00

MDC Unit

0.427 pCi/L

Prepared

Prepared

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

Method: Ra226_R	a228 - Con	nbined Ra	adium-226 a	ınd Radiui	m-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0603	Ū	0.237	0.237	5.00	0.427	pCi/L		05/15/20 07:54	1

9

11

13

Project/Site: Mt. Storm Phase A CCR

Client Sample ID: MWFGDW-6

Method: 9320 - Radium-228 (GFPC)

Result Qualifier

%Yield Qualifier

0.0779 U

101

87.5

Analyte

Carrier

Ba Carrier

Y Carrier

Radium-228

Date Collected: 04/14/20 15:55 Date Received: 04/16/20 09:20 Lab Sample ID: 240-129039-6

Matrix: Water

Job ID: 240-129039-1

Analyte		Result	Qualifier	RL		MDL	Unit		Prepared	Analyzed	Dil Fa
Boron		<23		100		23	ug/L		04/21/20 14:00	04/22/20 16:46	
Method: 6020B - I	Metals (ICP	MS) - Total F	Recovera	ble							
Analyte	•	Result	Qualifier	RL		MDL	Unit		Prepared	Analyzed	Dil Fa
Arsenic		<0.75		5.0		0.75	ug/L		04/21/20 14:00	04/22/20 19:47	
Barium		120		5.0		2.2	ug/L		04/21/20 14:00	06/03/20 22:13	
Beryllium		<0.31		1.0		0.31	ug/L		04/21/20 14:00	04/22/20 19:47	
Calcium		9900		1000		580	ug/L		04/21/20 14:00	04/22/20 19:47	
Cadmium		0.27	J	1.0		0.20	ug/L		04/21/20 14:00	04/22/20 19:47	
Cobalt		2.6		1.0		0.19	ug/L		04/21/20 14:00	04/22/20 19:47	
Chromium		<0.98		2.0		0.98	ug/L		04/21/20 14:00	04/22/20 19:47	
Molybdenum		<1.1		10		1.1	ug/L		04/21/20 14:00	04/22/20 19:47	
Lead		0.60	J	1.0		0.45	ug/L		04/21/20 14:00	04/22/20 19:47	
Antimony		<0.57		2.0		0.57	ug/L		04/21/20 14:00	04/22/20 19:47	
Selenium		<0.89		5.0		0.89	ug/L		04/21/20 14:00	04/22/20 19:47	
Lithium		<1.7		8.0		1.7	ug/L		04/21/20 14:00	04/22/20 19:47	
Thallium		<0.20		1.0		0.20	ug/L		04/21/20 14:00	04/22/20 19:47	
Method: 7470A - I	Mercury (C\	/AA)									
Analyte			Qualifier	RL		MDL	Unit		Prepared	Analyzed	Dil Fa
Mercury		<0.13	Н	0.20		0.13	ug/L		05/21/20 12:00	05/21/20 21:56	
General Chemistr	ry										
Analyte		Result	Qualifier	RL		MDL	Unit	0	Prepared	Analyzed	Dil Fa
Chloride		2200		1000		280	ug/L		 	05/02/20 05:42	
Fluoride		50		50		24	ug/L			05/02/20 05:42	
Sulfate		12000		1000		350	ug/L			05/04/20 17:59	
Method: 9315 - Ra	adium-226 (GFPC)									
		-	Count	Total							
			Uncert.	Uncert.							
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	F	MDC U	nit	Prepared	Analyzed	Dil Fa
Radium-226	0.224		0.132	0.133	1.00	0	.160 p	Ci/L	04/21/20 13:39	05/14/20 11:19	
Carrier	%Yield	Qualifier	Limits						Prepared	Analyzed	Dil Fa
Ba Carrier	101		40 - 110						04/24/20 12:20	05/14/20 11:19	

Analyzed

Analyzed

04/21/20 13:39 05/11/20 16:04

04/21/20 13:39 05/11/20 16:04

04/21/20 13:39 05/11/20 16:04

Dil Fac

Dil Fac

Count

Uncert.

 $(2\sigma + / -)$

Limits

40 - 110

40 - 110

0.286

Total

RL

1.00

MDC Unit

0.502 pCi/L

Prepared

Prepared

Uncert.

 $(2\sigma + / -)$

0.286

Client: Golder Associates Inc. Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

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

Count	Total			
Uncert.	Uncert.			
(2~+/)	(2~+/)	DI	MDC Unit	Dropored

Analyte Result Qualifier Analyzed Dil Fac 05/15/20 07:54 0.302 U 0.315 0.315 5.00 0.502 pCi/L Combined Radium 226

+ 228

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

330

Total Dissolved Solids

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

10

10 mg/L

General Chemistry
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac

5

5

04/21/20 10:29

6

g

9

10

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

Matrix: Water

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

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

3

5

7

8

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Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

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

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

2

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6

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13

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

Date Collected: 04/14/20 17:48

Date Received: 04/16/20 09:20

Matrix: Water

General ChemistryAnalyteResult Total Dissolved SolidsQualifier 140RL 10MDL 10 mg/L mg/LUnit mg/LD mg/LPrepared Prepared 104/21/20 10:29Analyzed Dil Fac 104/21/20 10:29

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6

8

10

11

13

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

Matrix: Water

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

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

А

5

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8

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111

13

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

. Matrix: Water

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

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

3

E

6

8

46

11

13

Client: Golder Associates Inc.

Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

Date Collected: 04/14/20 11:15

Date Received: 04/16/20 09:20

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

2

5

8

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13

Client: Golder Associates Inc. Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

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

Matrix: Water

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

General Chemistry	D 1/ O 1/0			_			5
Analyte	Result Qualifier	RL	MDL Unit	ט	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.

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

Method: 9315 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

240-129038-1 M 240-129038-2 M 240-129038-2 MS M 240-129038-2 MSD M 240-129038-5 M	Client Sample ID MW-22 MWFGDW2 MWFGDW2 MWFGDW2	Ba Carrier (40-110) 82.3 82.0 83.8	
240-129038-1 M 240-129038-2 M 240-129038-2 MS M 240-129038-2 MSD M 240-129038-5 M	MW-22 MWFGDW2 MWFGDW2 MWFGDW2	82.3 82.0 83.8	
240-129038-2 MS M 240-129038-2 MS M 240-129038-2 MSD M 240-129038-5 M	MWFGDW2 MWFGDW2 MWFGDW2	82.0 83.8	
240-129038-2 MS M 240-129038-2 MSD M 240-129038-5 M	MWFGDW2 MWFGDW2	83.8	
240-129038-2 MSD M 240-129038-5 M	MWFGDW2		
240-129038-5			
		84.8	
	MW-10	86.6	
240-129038-9 F	FIELD BLANK	94.2	
240-129038-10	DUPLICATE	87.5	
240-129039-3 N	MW-5	98.2	
240-129039-4 N	MW-8	100	
240-129039-6 N	MWFGDW-6	101	
_CS 160-468173/1-A L	Lab Control Sample	80.5	
_CS 160-468451/1-A L	Lab Control Sample	96.6	
LCSD 160-468173/2-A L	Lab Control Sample Dup	81.1	
_CSD 160-468451/2-A L	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			

Method: 9320 - Radium-228 (GFPC)

Y Carrier = Y Carrier

Matrix: Water Prep Type: Total/NA

				Percent Yield (Acceptance Limits)
		Ba Carrier	Y Carrier	
Lab Sample ID	Client Sample ID	(40-110)	(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	

Job ID: 240-129039-1

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

Spike

Added

Added

1000

1000

1000

Lab Sample ID: LCS 240-431532/2-A

Matrix: Water

Analyte

Analyte

Analyte

Boron

Boron

Boron

Analysis Batch: 431758

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

%Rec.

D %Rec Limits

80 - 120

107

Lab Sample ID: 240-129038-2 MS

Matrix: Water

Analysis Batch: 431758

Sample Sample

<23

Result Qualifier

Result Qualifier

<23

MB MB

Spike MS MS

LCS LCS

1070

Result Qualifier

Result Qualifier Unit D %Rec

Unit

ug/L

ug/L

ug/L

Prep Batch: 431532

%Rec.

Client Sample ID: MWFGDW2

Client Sample ID: MWFGDW2

Prep Type: Total Recoverable

Limits

75 - 125 106

107

Lab Sample ID: 240-129038-2 MSD

Matrix: Water

Analysis Batch: 431758

Spike Sample Sample Added

MSD MSD Result Qualifier

1070

1060

Unit D %Rec

Prep Type: Total Recoverable Prep Batch: 431532

%Rec. **RPD** Limits **RPD** Limit

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

75 - 125

Prep Batch: 431532

	MB	MB							
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 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**

%Rec.

Limits

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

Eurofins TestAmerica, Canton

10

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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

Lab Sample ID: LCS 240-431532/26-A

Matrix: Water

Analysis Batch: 431864

Spike

Analyte

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 431532

Resc.

Added

Result

Qualifier

Unit

D %Rec Limits

	Opino						/0. to o.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Sample Sample Sample Spike MS MS

Client Sample ID: MWFGDW2

Prep Type: Total Recoverable

Prep Batch: 431532

%Rec.

Analysis Balch: 431004	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 **Client Sample ID: MWFGDW2 Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 436849 **Prep Batch: 431532** Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 1000 80 - 120 Barium 240 1230 ug/L 100

Lab Sample ID: 240-129038-2 MSD

Matrix: Water

Client Sample ID: MWFGDW2
Prep Type: Total Recoverable

Matrix: Water

Analysis Batch: 431864

Sample Sample Spike MSD MSD

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit

_	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

Job ID: 240-129039-1

05/21/20 12:00 05/21/20 21:10

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

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

Lab Sample ID: 240-129038-2 MSD Matrix: Water									ample ID: be: Total I		
Analysis Batch: 431864									Prep Ba		
_	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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									ample ID: pe: Total I		
	Analysis Batch: 436849									Prep Ba	tch: 43	31532
	-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
l	Barium	240		1000	1250		ug/L		101	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Mercury

Lab Sample ID: MB 240-435233/1-A **Client Sample ID: Method Blank Matrix: Water Prep Type: Total/NA** Analysis Batch: 435361 **Prep Batch: 435233** MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 0.13 ug/L

0.20

<0.13

Lab Sample ID: LCS 240-435233/2-A				Clie	nt Saı	mple ID	: Lab Control Sample
Matrix: Water							Prep Type: Total/NA
Analysis Batch: 435361							Prep Batch: 435233
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Lab Sample ID: MB 240-43 Matrix: Water Analysis Batch: 435361		мр						ole ID: Method Prep Type: To Prep Batch:	otal/NA
Analyte		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				Clie	ent Sample II	D: Lab Control Sample
Matrix: Water						Prep Type: Total/NA
Analysis Batch: 435361						Prep Batch: 435237
	Spike	LCS	LCS			%Rec.
Analyte	Added	Result	Qualifier	Unit	D %Rec	Limits
Mercury	5.00	5 12		ua/l		80 - 120

Lab Sample ID: 240-129038-2 MS								lient S	ample ID: MWFGDW2
Matrix: Water									Prep Type: Total/NA
Analysis Batch: 435361									Prep Batch: 435237
	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Mercury	<0.13	Н	1.00	1.10	Н	ug/L		110	80 - 120

Job ID: 240-129039-1

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

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

Lab Sample ID: 240-129038-2 MSD Client Sample ID: MWFGDW2 Prep Type: Total/NA

Matrix: Water

Analyte

Mercury

Analysis Batch: 435361

Sample Sample

Spike Result Qualifier Added <0.13 H 1.00

MSD MSD Result Qualifier

0.998 H

Unit ug/L

%Rec 100

Limits RPD 80 - 120

%Rec.

Prep Batch: 435237

10

RPD

Limit

Dil Fac

1

20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-432893/4 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 432893

MR MR

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

Lab Sample ID: LCS 240-432893/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 432893

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

Lab Sample ID: 240-129038-2 MS **Client Sample ID: MWFGDW2** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 432893

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

Lab Sample ID: 240-129038-2 MSD **Client Sample ID: MWFGDW2** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 432893

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

Lab Sample ID: 240-129039-3 MS Client Sample ID: MW-5 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 432893

Sample Sample Spike MS MS %Rec. **Analyte Result Qualifier** Added Result Qualifier Unit %Rec I imits 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 Client Sample ID: MW-5 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 432893

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

10

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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

Lab Sample ID: 240-129039-3 MSD Client Sample ID: MW-5 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 432893

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

Lab Sample ID: MB 240-433038/4 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 433038

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

Lab Sample ID: LCS 240-433038/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 433038

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

Lab Sample ID: 240-129038-2 MS Client Sample ID: MWFGDW2 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 433038

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

Lab Sample ID: 240-129038-2 MSD **Client Sample ID: MWFGDW2** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 433038

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

Lab Sample ID: 240-129039-3 MS Client Sample ID: MW-5 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 433038

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

Lab Sample ID: 240-129039-3 MSD Client Sample ID: MW-5 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 433038

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

10

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Prep Type: Total/NA

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

Lab Sample ID: MB 180-313383/2 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 313383

MB MB

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

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 180-313383/1 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 313383

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

Lab Sample ID: 240-129060-1 DU Client Sample ID: MW-22 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 313383

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

Lab Sample ID: 240-129060-2 DU **Client Sample ID: MWFGDW2 Matrix: Water** Prep Type: Total/NA

Analysis Batch: 313383

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-468173/23-B **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 470263

Prep Type: Total/NA **Prep Batch: 468173** Count Total

MR MR Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-226 0.02495 Ū 0.0470 0.0471 1.00 0.0846 pCi/L 04/20/20 16:31 05/13/20 04:33

MΒ MΒ

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

Lab Sample ID: LCS 160-468173/1-A

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

Analysis Batch: 470263 Prep Batch: 468173

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

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

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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

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

LCSD LCSD

Carrier %Yield Qualifier Limits Ba Carrier 40 - 110 81.1

Lab Sample ID: 240-129038-2 MS **Client Sample ID: MWFGDW2**

Matrix: Water

Analysis Batch: 470263

Total

Prep Type: Total/NA

Prep Batch: 468173

Prep Batch: 468173

		Sample Sample	Spike	MS	MS	Uncert.				%Rec.
Radium-226 0.0637 U 11.3 11.15 1.15 1.00 0.119 pCi/L 98 75 1.38	Analyte	Result Qual	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits
· · · · · · · · · · · · · · · · · · ·	Radium-226	0.0637 U	11.3	11.15		1.15	1.00	0.119 pCi/L	98	75 - 138

MS MS

Carrier %Yield Qualifier Limits Ba Carrier 40 - 110 83.8

Lab Sample ID: 240-129038-2 MSD **Client Sample ID: MWFGDW2**

Matrix: Water Prep Type: Total/NA

Analysis Batch: 470263

						Total						
	Sample	Sample	Spike	MSD	MSD	Uncert.				%Rec.		RER
Analyte	Result	Qual	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits	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

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

Client Sample ID: Method Blank Lab Sample ID: MB 160-468451/23-A

Matrix: Water			Prep Type: Total/NA
Analysis Batch: 470398			Prep Batch: 468451
-	Count	Total	

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

Carrier	%Yield 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 **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA Analysis Batch: 470398 **Prep Batch: 468451**

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

1.35

RL

1.00

Total

RL

1.00

RL

1.00

MDC Unit

0.594 pCi/L

Uncert.

 $(2\sigma + / -)$

1.45

10

Job ID: 240-129039-1

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 160-468451/1-A

Matrix: Water

Analysis Batch: 470398

LCS LCS

Carrier %Yield Qualifier Limits Ba Carrier 40 - 110 96.6

Lab Sample ID: LCSD 160-468451/2-A

Matrix: Water

Analyte

Analysis Batch: 470398

Total Spike LCSD LCSD Uncert. Added $(2\sigma + / -)$

Result Qual

11.93

Radium-226 15.1 LCSD LCSD

%Yield Qualifier Carrier Limits Ba Carrier 96.0 40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-468454/23-A

Analysis Batch: 469973

Matrix: Water

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ Radium-228 -0.1479 U 0.287 0.287

MB MB Carrier **%Yield Qualifier** Limits Ba Carrier 97.0 40 - 110 85.2 Y Carrier 40 - 110

Lab Sample ID: LCS 160-468454/1-A

Matrix: Water

Analyte

Analysis Batch: 469997

Radium-228 11.8 LCS LCS Carrier %Yield 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

Total LCSD LCSD **Spike** Uncert. Added Result Qual $(2\sigma + / -)$ 1.33

Spike

Added

LCS LCS

Result Qual

11.66

Analyte Radium-228 11.8 10.53 **Prep Batch: 468451**

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

Client Sample ID: Lab Control Sample

Prep Batch: 468451

%Rec. **RER** RL**MDC** Unit Limits Limit %Rec RER

1.00 0.163 pCi/L 75 - 125 0.50 79

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468454

MDC Unit Prepared Analyzed Dil Fac 0.548 pCi/L 04/21/20 13:39 05/11/20 16:05

> Dil Fac Prepared Analyzed 04/21/20 13:39 05/11/20 16:05 04/21/20 13:39 05/11/20 16:05

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468454

%Rec. **MDC** Unit %Rec Limits

0.624 pCi/L 99 75 - 125

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

Prep Batch: 468454

%Rec. **RER** %Rec Limits RER Limit 89 75 - 125 0.41

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

Prep Type: Total/NA

Prep Batch: 468454

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

Lab Sample ID: LCSD 160-468454/2-A

Matrix: Water

Analysis Batch: 469997

LCSD LCSD

Carrier	%Yield	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

Count Total

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ Radium-228 0.1384 U 0.308 0.308

Spike

Added

Spike

LCS LCS

MS MS

Result Qual

11.25

Result Qual

12.73

MB MB Carrier %Yield Qualifier Limits Ba Carrier 86.1 40 - 110 Y Carrier 82.6 40 - 110

Lab Sample ID: LCS 160-469667/1-A

Analyte

Matrix: Water

Analysis Batch: 470214

Radium-228 11.8 LCS LCS

Carrier %Yield 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

Analyte Result Qual Added Radium-228 0.795 11.8

Sample Sample

MS MS Carrier %Yield 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

MSD MSD Sample Sample Spike Uncert. Analyte Result Qual Added Result Qual

Radium-228 0.795 11.8 10.54 $(2\sigma + / -)$ 1.31

Total

RL 1.00

MDC Unit

0.531 pCi/L

RL

1.00

RL

1.00

MDC Unit

0.656 pCi/L

MDC Unit

0.516 pCi/L

RL

1.00

Total

Uncert.

 $(2\sigma + / -)$

1.53

Total

Uncert.

 $(2\sigma + / -)$

1.35

MDC Unit 0.488

pCi/L

%Rec 83

%Rec

89

%Rec. Limits 45 - 150

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RER RER Limit 0.27

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

Client Sample ID: Lab Control Sample Dup

Prep Batch: 469667

Prepared Analyzed Dil Fac

Prepared Analyzed Dil Fac 05/06/20 12:07 05/12/20 08:29

05/06/20 12:07 05/12/20 08:29

Client Sample ID: Lab Control Sample

05/06/20 12:07 05/12/20 08:29

Prep Type: Total/NA

Prep Batch: 469667

%Rec. %Rec Limits

75 ₋ 125 108

Client Sample ID: MWFGDW2

Limits

45 - 150

Prep Type: Total/NA **Prep Batch: 469667**

%Rec.

Client Sample ID: MWFGDW2 Prep Type: Total/NA

Prep Batch: 469667

QC Sample Results

Client: Golder Associates Inc. Job ID: 240-129039-1

Project/Site: Mt. Storm Phase A CCR

Lab Sample ID: 240-129038-2 MSD

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

Matrix: Water

Analysis Batch: 470215

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

Client Sample ID: MWFGDW2 Prep Type: Total/NA

Prep Batch: 469667

QC Association Summary

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

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	<u> </u>
240-129039-4	MW-8	Total/NA	Water	7470A	
240-129039-6	MWFGDW-6	Total/NA	Water	7470A	

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Client: Golder Associates Inc.

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

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	

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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	
40-129038-5	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	
40-129039-4	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	
.CS 240-433038/5	Lab Control Sample	Total/NA	Water	9056A	
40-129038-2 MS	MWFGDW2	Total/NA	Water	9056A	
40-129038-2 MSD	MWFGDW2	Total/NA	Water	9056A	
40-129039-3 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	

QC Association Summary

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

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	

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A

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Lab Sample ID: 240-129038-1

Matrix: Water

Job ID: 240-129039-1

Client Sample ID: MW-22

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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Client Sample ID: MW-10

Date Received: 04/16/20 09:20

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

Matrix: Water

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Date Collected: 04/14/20 11:15

Date Received: 04/16/20 09:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Date Collected: 04/14/20 10:30

Date Received: 04/16/20 09:20

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

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Lab Sample ID: 240-129038-10

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Matrix: Water

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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

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

Client Sample ID: MW-8

Total/NA

Total/NA

Total/NA

Date Collected: 04/14/20 17:48

Prep

Analysis

Analysis

PrecSep_0

Ra226_Ra228

9320

Date Received: 04/16/20 09:20

Lab	Sample	ID:	240-	12	9039	-4
				2.0		

TAL SL

TAL SL

TAL SL

Matrix: Water

Γ	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

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468454 04/21/20 13:39 MMO

469973 05/11/20 16:04 CJQ

470556 05/15/20 07:54 SMP

Client Sample ID: MW-8

Date Received: 04/16/20 09:20

Lab Sample ID: 240-129039-4 Date Collected: 04/14/20 17:48

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

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

Lab Sample ID: 240-129039-6

TAL SL

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Client Sample ID: MW-22

Analysis

Ra226_Ra228

Total/NA

Lab Sample ID: 240-129060-1 Date Collected: 04/14/20 10:08 **Matrix: Water** Date Received: 04/16/20 09:20

470556 05/15/20 07:54 SMP

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

Client Sample ID: MWFGDW2

Date Collected: 04/14/20 09:43

Date Received: 04/16/20 09:20

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

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Lab Sample ID: 240-129060-2

Page 63 of 70

Matrix: Water

Client: Golder Associates Inc.

Project/Site: Mt. Storm Phase A CCR

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

Matrix: Water

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

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

Date Collected: 04/14/20 17:48

Date Received: 04/16/20 09:20

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

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

Date Collected: 04/14/20 16:03 **Matrix: Water**

Date Received: 04/16/20 09:20

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

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

Date Collected: 04/14/20 15:55 **Matrix: Water**

Date Received: 04/16/20 09:20

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

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

Date Collected: 04/14/20 11:15 **Matrix: Water**

Date Received: 04/16/20 09:20

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

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

Date Collected: 04/14/20 10:30 **Matrix: Water**

Date Received: 04/16/20 09:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C			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.

Project/Site: Mt. Storm Phase A CCR

Job ID: 240-129039-1

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	F	Program	Identification Number	Expiration Date
West Virginia DEP	5	State	381	10-31-20
The following analyte the agency does not	•	port, but the laboratory is i	not certified by the governing authority.	This list may include analytes for which
Analysis Method	Prep Method	Matrix	Analyte	
Ra226 Ra228		Water	Combined Radium 226 + 22	8

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Eurofins TestAmerica, Canton

4101 Shuffel Street NW

		Environment Testing
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in of Custod	20000	
Cha		

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica Form No. CA-C-WI-002, Rev. 4.26, dated 7/25/2019 Sample Specific Notes: TestAmerica Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) 920 For Lab Use Only: FALS Project #: 1856 1VE Walk-in Client: ab Sampling: Job / SDG No. Date/Time: Therm ID No Date/Time: Date/Time: COC No 240-129039 Chain of Custody | Shon-Hazard | Flammable | Skin Irritant | Poison B | Unknown | Return to Client | Disposal by Lab | Archive for Special Instructions/QC Requirements & Comments: All samples preserved on ice. Level II Data Package requested. Please see reporting group H for additional details. Corr'd Company: Company: Company: Carrier: FEDEX Date: 4/14/ (°C); Obs'd; Lab Contact: John McFadden Site Contact: Rachel Powell Received in Laboratory by: Cooler Temp. Radium 226, 228. Total - 9000 ✓ Other: V CI-' EI-' 204 - 3026A Received by Received by Hg, Mo, Se, TI 'I7 '9c RCRA B, Ca, Sb, As, Ba, Be, Cd, Cr, Co Perform MS / MSD (Y / N) Filtered Sample (Y / N) 83i Please List any EPA Waste Codes for the sample in the □ NPDES Se Se # of Cont. Date/Time: Date/Time: ☐ WORKING DAYS Matrix TAT if different from Below STANDARD Analysis Turnaround Time MO 🗆 Project Manager: Rachel Powell Type (C=Comp, G=Grab) Sample Regulatory Program: Company: Golder Associates Email: ripowell@golder.com 2 weeks 1 week 2 days 1 day Tel/Fax: 804-517-3381 348 THE Sample 1555 0.30 CALENDAR DAYS Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Custody Seal No Company: Sample Company: Date Are any samples from a listed EPA Hazardous Waste? Comments Section if the lab is to dispose of the sample No Sample Identification Phone North Canton, OH 44720-6900 phone 330.497.9396 fax 330.497.0772 Cell Yes Client Contact 2108 West Laburnum Ave, Suite 200 MONJ Possible Hazard Identification: VIL Project Name: Phase A CCR Custody Seals Intact Golder Associates Inc. Site: Mt. Storm, WV Richmond/VA/USA P O # 20139936 Relinquished by: Relinquished by: (804) 358-7900 804) 517-3381 Relinquished by

rofins TestAmerica Canton Sample Receipt Form/Narrative	Login # : 129039
ent Golder Site Name	Cooler unpacked by:
oler Received on 4-16-20 Opened on 4-16-20	1
dEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier	Other
ceipt After-hours: Drop-off Date/Time Storage Location	
stAmerica 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	
Cooler temperature upon receipt See Multiple Cooler Fo	
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	
Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 9	s No
	s No NA
***	s No
	s No NA
	s No
117 4	s No Tests that are not
•••• • • • • • • • • • • • • • • • • • •	5 No checked for pH by
	s No Receiving:
	s No VOAs
	s No Oil and Grease
C M I	s No TOC
	s 🚱
If yes, Questions 12-16 have been checked at the originating laboratory.	
Were all preserved sample(s) at the correct pH upon receipt?	No NA pH Strip Lot# HC902937
Were VOAs on the COC?	
Were air bubbles >6 mm in any VOA vials? Larger than this.	s No NA
. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #Ye	s Xb
Was a LL Hg or Me Hg trip blank present?Ye	s 169
ntacted PM Date by via Verbal V	Voice Mail Other
ncerning	
CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by:
SAMPLE CONDITION	
mple(s) were received after the recommended hold	ling time had expired.
	d in a broken container.
mple(s) were received with bubble >6 mm	
SAMPLE PRESERVATION	
mple(s) were fit	urther preserved in the laboratory.
mple(s) were fu ne preserved: Preservative(s) added/Lot number(s):	union preserved in the faboratory.
DA Sample Preservation - Date/Time VOAs Frozen:	

WI-NC-099

Login #: 129039

Coolant	cipt Multiple Cooler Fo	Observed	IR Gun#	otion		oler D	Co
(Circle)	Temp °C	Temp °C	(Circle)		cle)		0
Wef Ice Blue Ice Dry Water None	22	1.5	IK-10 IR-11	Other	Вох	Client	TA
Wet ice Blue ice Dry Water None	1-4	0.9	JK-10 IR-11	Other	Вох	Client	TA
Wet Ice Blue Ice Dry Water None	1.6	0.9	W-10 IR-11	Other	Вох	Client	(A
Wet ice Blue ice Dry Water None	30	23	PR-10 IR-11	Other	Вох	Client	TA
Wet Ice Blue Ice Dry	47	4-0	R-10 IR-11	Other	Вох	Client	(TA
Water None Wet Ice Blue Ice Dry	1-1	0-4	UR-10 IR-11	Other	Вох	Client	FA
Water None Wet Ice Blue Ice Dry	7-0	1-3	IR-10 IR-11	Other	Box	Client	TA
Water None Wet Ice Blue Ice Dry	29	2-2	IR-10 IR-11	Other	Вох	Client	B
Water None Wet Ice Blue Ice Dry	1-7	1-0	IR-10 IR-11	Other	Box	Client	6
Water None Wet Ice Blue Ice Dry	1-1	1-0	IR-10 IR-11	Other	Box	Client	TA
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other	Вох	Client	TA
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other	Вох	Client	TA
Water None Wet Ice Blue Ice Dry			IR-10 IR-11			Client	TA
Water None			IR-10 IR-11	Other	Вох	STATE OF	-
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA
Wet ice Blue ice Dry Water None			100 May 100 May 17	Other	Box	Client	TA
Wet Ice Blue Ice Dry Water None			- IR-10 IR-11	Other	Вох	Client	TA
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA
Wet Ice Blue Ice Dry Water None		^	IR-10 IR-11	Other	Box	Client	TA
Wet ice Blue ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA
Wet ice Blue ice Dry			IR-10 IR-11	Other	Box	Client	TA
Water None Wet Ice Blue Ice Dry		The second second second second	IR-10 IR-11	Other	Box	Client	TA
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other	Box	Client	TA
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other	Box	Client	TA
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other		Client	
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other		Client	-
Water None Wet Ice Blue Ice Dry			IR-10 IR-11	Other		Client	-
Water None Wet Ice Blue Ice Dry			IR-10 IR-11			Client	-
Water None			IR-10 IR-11	Other		-	
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other		Client	-
Wet Ice Blue Ice Dry Water None						Client	0.00
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Вох	Client	TA
Wet Ice Blue Ice Dry Water None			IR-10 IR-11	Other	Box	Client	TA

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

723	200					
4	ıa	~	10	n	-	•
4	1-6	n	,,			•

Login Container Summary Report

240-129039

Temperature readings:			
Client Sample ID	Lab ID	Container Type	Container Preservative pH Temp Added (mls) Lot #
MW-22	240-129039-C-1	Plastic 500ml - with Nitric Acid	
MW-22	V-14- (5-14-14-14-14-14-14-14-14-14-14-14-14-14-		2
MW-22 MW-22	240-129039-D-1	Plastic 1 liter - Nitric Acid	2
MWFGDW-2	240-129039-E-1 240-129039-A-2 MS	Plastic 1 liter - Nitric Acid	<2
MWFGDW-2		Plastic 1 liter - Nitric Acid Plastic 1 liter - Nitric Acid	7
MWFGDW-2	240-129039-A-2 MSD	Plastic I 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	1
MWFGDW-2	240-129039-G-2	Plastic 500ml - with Nitric Acid	<2
MWFGDW-2	240-129039-H-2	Plastic 500ml - with Nitric Acid	<21
MWFGDW-2	240-129039-I-2	Plastic 500ml - with Nitric Acid	<2 1
MWFGDW-2	240-129039-J-2	Plastic 1 liter - Nitric Acid	<2
MWFGDW-2	240-129039-K-2	Plastic 1 liter - Nitric Acid	<21
MWFGDW-2	240-129039-L-2	Plastic 1 liter - Nitric Acid	<21
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	
DUPLICATE	240-129039-D-8	Plastic 1 liter - Nitric Acid	<2
DUPLICATE	240-129039-E-8	Plastic 1 liter - Nitric Acid	<2



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
\boxtimes	CCR Appendix III to Part 257
\boxtimes	CCR Appendix IV to Part 257
	VSWMR Phase II Parameters:
	Other:

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

<u>See Note</u> 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: <u>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.</u>

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:

<u>Yes</u> 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

<u>Yes</u> 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.

Ν	lo	tes:	

5.0 OUTLIER EVALUATION

<u>Yes</u> 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

<u>Yes</u> 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).

<u>Yes</u> The report provides the reporting limit for each constituent.

<u>Yes</u> The proper reporting limits have been used (*e.g.* NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

7.0 FIELD DUPLICATE PRECISION

<u>Yes</u> 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

https://golderassociates.sharepoint.com/sites/124100/project files/6 deliverables/phase a/2021-01-31 msps phase a ccr amr/appendices/2021-01-31 msps phase a 1sa20 ccr data review.docx



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



WELL GAUGING LOG

Project Name: MSPS Phase A&B

Project No./Task No.: 20139931

Sampler(s): Catelyn Joyner, Patrick Trout

Equipment: Water Level Indicator

	Desire and a		DTW	DTD		Well Co	ondition Summ	ary	
Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Protective Casing	Well Casing	Label	Lock	Pad Condition
MW-22	03	1230	22.61	-	OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damaged
MWFGDW2	CJ	1238	\$ 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	25	1449	61-39	-	OK Damaged	OK Damaged	OK Inadequate	Yes No	OK P
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	Damager
MW-10	CJ	1314	27.40	-	OK Damaged	OK Damaged	OK Inadequate	Yes No	-OK Damage
MW-12R	25	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	9	OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damaged
MWFGDW4	C5	1507	30.14	_	OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damage
MWFGDW5	CJ	1515	13.36	~	OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damaged
MWFGDW6	45	1519	20.39	-	OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damage
					OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damage
		1 1			OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damage
		u I			OK Damaged	OK Damaged	OK Inadequate	Yes No	OK Damage

			Carrier - N		L	amageu	Damaged	massquare	100	Damage
Obseryat	ons/Notes:	43TOP	= Belo	W Top	of	Pomo	MWFGI	PTG SWC	= 25.0	SOF
	MWER C	racked		1						
Signature:	un	Gaz			_	,		10-12-202		
QA/QC Sig	gnature:	hert)	-				Date:	10-12-20	000	

Page ___

1			id.	
		3	340	
	- 1			

Date:

				, and the contract	100	100	0.0	Philana
GOLDER		_				Weather	_ain 5	101
Project Name:	Mit s	toran P.S		Project No	o./Task No.:	20139	934	
Event:	25A 200	TO NPDES	ArB /Phase Art	Sampler(s		6.32y	n.e.	
Well ID:	MW-)		/ / /			10-13-20	000 17	35
Well Diameter:		inches	*		th to Water:		2.63	
Depth to Bottom:	6	3.92	feet		umn Thickne		11,29	_feet
Equipment Used:	WL Indica	ator	Turbidity Met		Air Tank	~	2 /	_feet
	YSI <u>Ro</u> ()55 160104376			Compres		Dedicated B	
	🔲 In-Situ 🖺	and a second	MP-10 Contro	•	f	ontroller Box	☐ Non-dedicat	ea Rh
Time	pН	Sp. Cond.	Turbidity	Dissolved	Temp.	ORP	DTW	
(5 minute int.)	(S.U.)	(uS/cm)° ^c	(NTU)	Oxygen (mg/L)	(°C)			Flow Rate
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	(mV) +/- 10 mV	(feet) <0.3 feet	(mL/min) <500
0844	6.37	566	23.5	3,50	9.5	220.3	23.19	400
0847	6.58	<i>5</i> 7 <i>3</i>	20.7	3.16	9,4	218.9	23.3	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	2/6.0	23.17	400
0856	6.64	571	13.3	2.46	9.4	214-9	23.05	700 400
0859	6.65	570	10.7	2,39	9:4	214.2	23.21	400
0901	4:00400/stages-colleges-colleges-colleges-colleges		accessive annual contraction and a second second	AMPLE			1,77.6	100
1000	6.70	566	11.0	2.86	9,4	2019	23,25	Un.
					· · · · · · · · · · · · · · · · · · ·		C 17/27	%0 ₀
,								
Purge Cycle (End):	25 50%.	5 sec @	40	osi	Flow Rate (m	l/min End):	400	
Purge volume (gallo	ons) prior to s	stabilization mo		Tube: Vol=l	Depth to Bus	"/ ⊑ u). 	190	100
Total Purge Volume	e (Gallons):	14						433
Purge Observations		. turbidity, shee	en): Heav c	Tala (dan	wanayemen . !.	L oil wat	er separator	
BURAZ TIME	NEMO		511). U Coly 3.	<u> </u>	12			
Sample Time:		901					<u> </u>	
·				1	Field Filtered		X Yes	∐ No
Sample Parameters Closed 5-year NF	Analyte(s):		Petro (DRO)	CCR Ap		CCR Ap	pendix IV	
SO4, TDS, TSS)	DES (DISS [DS	a, bo, Fe, Minj, (Phase A&B N 2r Tot, NO2+NO3 N	NPDES (Diss [/ I SO4 NH3-N	Al, Sb, As, Ba,	Be, Bo, Cd, Cu	ı, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
Variance (Diss [E	Be, Cd, Cr,	JLVWSP IV Dete	cts (As, Ba, Be, Cd, 🗜	Phase A IV D	etects (As. Ba. I	o) Bitaca crco	Phase B IV Det	ects (As, Ba,
Pb, Ni])		Cr, Co, Pb, Mo, 1	П, Rad 226-228) ГР	b, Li, Se, Rad 2	26-228)		Be, Cd, Cr, Co, II, Rad 226-228)	Pb, Li, Mo, Se,
Other Observations	/ Equipment	Operation Pro	blems:	0702 50	1721			
	·			<u> </u>	3 · 3 _3			
Sampler Signature:	Win	an-		Date:	10-12.20	20	-	j . 1
QA/QC Signature:	27				10-13-20	<i>~</i>	Page _	<pre> of ℓ </pre>
www.oignature;			the same and accompanies and an arrangement.	Date:	11/1-125 -	2020		

Date:

404 %			FIELD SAM	MPLING LOG		Date:	10//	<u>3/20 20 </u>
GOLDER	- " ettiga - 5.4494					Weather:	- Hain	<u> </u>
Project Name:	M. S	tom B.	Neit Stas	Trov Project	ct No./Task No.:	200	< 9026	
Event:	ZSAZ		+ Phase A+30	Ch.	Sampler(s):) F	
	MW FGD1		1 9 30 7 30 - 30 - 30	Field Calibra	tion Completed:	073	5 01	(0/13/20
Well Diameter:	2.0	inches	•	Initial Depth to	-	BIOI)	feet
Depth to Bottom:	· Canada	-	feet		umn Thickness:		war en	feet
Equipment Head:	WL Indicato	-	Turbidity Met	er	Air Tank		Disposable:	•Pailor
Equipment Used:			Peristaltic Pur		Compressor		Non-dedica	and the same of th
	In Situ Troll		MP-10 Contro		MP-15 Contro		Other_D	dicated (
Time	_U	Sn Cand	T L.: J:4	Dissolved	1	I	- No	Blade
Time	pН	Sp. Cond.	Turbidity	Oxygen	Temp.	ORP	Gallons⊸ Flo _M	DTW
	(S.U.)	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	Mymin	(ft)
08.44	6.56	401.4	5.14	4.75	11.2	170.5	400	BTOP
0847	6.40	403, 0	3.98	4.72	11.2	1901	400	BTOP
0850	6.46	402.7	3.59	4.66	11.2	189.9	400	BOD
0853	6.50	402.5	3.31	4.67	162	189.5	400	GOTS
0854		SAN	DOLES		ANALOG AND			1
29419	6.65	401.9	3.01	4,13	11.2	189.1	400	3702
0110	10:03	701.7	0,01	-1715	1112	107.1	100	10101
<u> </u>		1	· · · · × / · ·		<u> </u>		L	
Galculated Well-\		(de lass)	010	- ~	سيد تو	(Gallons): 〒作	e Witte	~ 0.20
Purge Water Mar	_	90h-5it		ruse le	1 = 12/25/2	21 7. TS		
Purge Observation	ons (product obs	servea, color, o RUÓ	gor, turbiality, she	een): Enal	<u> </u>	Grab 2	> POR	7-2
FUROS STA	0/2/	20.2/3	FION FOR	oge touch	<u> </u>) relymie		
Sample Date/Tim	ie: 19/13/2	1070	I D - L - (DDO)		Field Filtered (makes or .	Yes	s L No
Sample Paramet Closed 5-year SO4, TDS, TSS)	ers/Analyte(s): NPDES (Diss [Ba	 ı, Bo, Fe, Mn],	Phase A&	CCR Appe B NPDES (Diss [Al, 04, NH3-N Tot, TDS,	Sb, As, Ba, Be, Bo	CCR App o, Cd, Cu, Fe, Pb,		, TI],Cl, Cr Tot,
Variance (Dis Ni])	s [Be, Cd, Cr, Pb,		Detects (As, Ba, Be, Mo, Tl, Rad 226-228)	Phase A IV Dete Rad 226-228)	ccts (As, Ba, Be, Cd,	Cr, Co, Pb, Li, Se,	Be, Cd, C	V Detects (As, Ba, Cr, Co, Pb, Li, Mo, ad 226-228)
Other Observation) /	Operation Prol	olems:	Samp	(col (a)	0854		
5100 = 5	relaw log	0 of Jew	40 DTF	25.63	364	,		
Sampler Signatu	re: /			Date:	10/13/2	7020	- Page	(
QA/QC Signature	· (m	n ffre	yn	Date:	10-14-2	020		



Date: 16-13-2020
Weather: P1+14clovely 605

Project Name:	Mt 5	torn PS.	,	_ Project No) /Task No ·	2013	943/	
Event:	2542029 A	PDES AND 1	Phase ALCR	_ Sampler(s).	1. Juyan	1116	
Well ID:	MW-	. 5					070 C	0730
Well Diameter:	4	inches	-	Initial Dent	th to Water:	- 10-13-E	70	
Depth to Bottom:		52,10	feet		umn Thicknes			_feet
Equipment Used:	WL Indic	ator	- Turbidity Me	ter	Air Tank			_feet
	X YSI PAS	1855 16010437	6☐ Peristaltic P∟	ımp	Compres		Dedicated B	
			MP-10 Contr		MP-15 Co		☐ Non-dedicat	= -
Time	рН	Sp Cond	T	Dissolved	T .	T TONC BOX	I	
(5 minute int.)		Sp. Cond.	Turbidity	Oxygen	Temp.	ORP	WTG	Flow Rate
Stabilization	(S.U.) +/- 0.1	(uS/cm)° ^C +/- 3%	(NTU) if >10, +/- 10%	(mg/L) +/- 10%	(°C)	(mV)	(feet)	(mL/min)
1549	6.13	215.1	54.5	3.47	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1552	6.35	214.2	50.8		26	78.7	3895	700
1553	b. 55	213.7	38.4	3.28	9,6	63,9	39,05	400
1553	6.63	215.8	31.7	3.18	126	60.2	39-11	400
1601	6,68	216.7	23,3	3.99	7.6	49,4	39.19	400
1604	6,71	219,3	19.3	3.92	9.6	49-0	39,45	400
1607	is 13	2193	16.6		0.10	45,0	39,45	400
1610	6.74	218,8	661	3,81	9,6	33.7	39.51	400
1613	6.75	321.6	17-b	2.86	7.6	38.9	39,59	400
1615	4.17	001,6	1.8	2.82	9.6	43.9	39.64	<u> 400</u>
1636	6.83	245.1	7,4M	PLE	2 -			
1000		072-1	1-6	7.56	9.7	52.1	40.05	400
Purge Cycle (End):	77 (0)	12 (1)	30					
	· · · · · · · · · · · · · · · · · · ·			psi	Flow Rate (m	l/min End): _	५००)
Purge volume (gallo	ons) prior to :	stabilization mo	nitoring (3/8" I.D	. Tube: Vol≈[Depth to Pum	p x 0.006 gal	/ft):	v0.31
Total Purge Volume		~2.5		Purge Water	Management	: oily wa	ste sepes	ator
Purge Observations	S (Color, odor	, turbidity, shee	en): Eleger go	us compl	e		•	
purse time 1:	276	-						
Sample Time:	161	5		F	Field Filtered	(0.45um):	Yes	☐ No
Sample Parameters	/Analyte(s):	□ F	Petro (DRO)	🛭 CCR App		CCR Ap	nendix IV	
Closed 5-year NF SO4, TDS, TSS)	DES (Diss [Ba		Phase A&B	NPDES (Diss (4	Al Sh As Ba (So Bo Cd Cu	, Fe, Pb, Mn, Hg,	Ni Se Til Ci
Variance (Diss [E	Be Cd Cr [O TI VANSBUV Datas						
Pb, Ni])	, o, ou, or, _	Cr, Co, Pb, Mo, T	cts (As, Ba, Be, Cd, l, Rad 226-228)	🗶 Phase A IV D Pb, Li, Se, Rad 22	etects (As, Ba, [26-228)	Cd, Cr, Co,	Phase B IV Det Be, Cd, Cr, Co,	ects (As, Ba, Pb, Li, Mo, Se,
Other Observations	/ Courie on a cat	O # 50		1-0	,	T	I, Rad 226-228)	•
Other Observations	/ ⊏quipment	Operation Prob	olems:	11:50				
	<i>P</i> =	-				·		
Sampler Signature:	war o			Date:	10-13-20	20	Page	1 of 1
QA/QC Signature	1				10/02/		, ago	<u> </u>

		MICE	ROPURGE S	AMPLING	LOG	Date:	10/13/2	1070
GOLDER	3 11/					Weather:	Eldols	SO5
Project Name:	Mt. S	torm for	verstatio.	✓ Project No	/Task No ·	20	2/3 <i>9</i> 93/	
Event:	ZSAZ		+ Phase ACCI			P. 100	101700	
Well ID:	MW-8)		ield Calibratio				
Well Diameter:	2.0	inches	-		h to Water:	· <u>0733</u>	ON 10/13	3/20
Depth to Bottom:			feet			5/.(<u>/ う・</u>	_feet
Equipment Used:	: WL Indic	ator	_ Turbidity Me		ımn Thickne: Air Tank			_feet
)55 18L104	Peristaltic Pu		Compres		Dedicated B	•
	In-Situ _	- 692	MP-10 Contro	•	- Table 1	ontroller Box	Non-dedicat	ed BP
Time	-U	0.0.		Dissolved		THE BOX	<u> </u>	
	рН	Sp. Cond.	Turbidity	Oxygen	Temp.	ORP	DTW	Flow Rate
(5 minute int.) Stabilization	(S.U.) +/- 0.1	(uS/cm)° ^c +/- 3%	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
1543	6.14	21/2/2	if >10, +/- 10%	+/- 10%	+/-1°C	+/- 10 mV	<0.3 feet	<500
1546	12.18	273 2	1.01	2.00	9.3	226.5	52.69	-400
1549	1011	219.0	0.00	2.00	9.5	111.0	53.29	~400
1501	1.10	2827	7.70	2.90	9-5	223.7	53.61	~900
1667 -	U.11)	202:7	0.51	6:11	9.5	223,6	53.95	-400
1772	6.34	2070		MINS				
1612	0.59	297.2	21.29	2.36	9,3	214,8	57.52	2400
					,			
			,					
	-							
1								
Purge Cycle (End <u>):</u>	23/7	7xc @	38	psi	Flow Rate (m	l/min End):	nd)	22
Purge volume (gali	ons) prior to	stabilization moi	nitorina (3/8" I.D	Tube: Vol=1	Denth to Dum	vp. v. 0. 000	JEW.	-0.5
Total Purge Volume	e (Gallons):	~25		Purge Water			/Jt):	50, 5
Purge Observation	 color, odorی ا	, turbidity, shee	n. Clear	ay of	ivianayemeni	. 011 J. f.	e OW-	<i></i>
Kurac Starte	2 153	3	-7.	1100	ung ne			
Sample Time:		552						
					Field Filtered	(0.45um):	Yes	☐ No
Sample Parameters	s/Analyte(s):		etro (DRO)	LO CCR App		CCR AP	pendix IV	
Closed 5-year NF SO4, TDS, TSS)	PDES (DISS [Ba		Phase A&B	NPDES (Diss [A	Al, Sb, As, Ba,	Be, Bo, Cd, Cu	, Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
☐ Variance (Diss [Be, Cd, Cr,		ts (As. Ba. Be. Cr.	4, OOH, 141 13-14	101, 105, 155)	Phase B IV Det	
Pb, Ni])		Cr, Co, Pb, Mo, Tl	I, Rad 226-228) F	b, Li, Se, Rad 22	26-228)		Be, Cd, Cr, Co,	Pb, Li, Mo, Se,
Other Observations	/ Equipment	Operation Prot	oleme:			ı	I, Rad 226-228)	
DTP=53.0		SPORGIOTI FIOL	= 135	4101				
				91 Soft	. /	,		
Sampler Signature:	Talue			Date:	10/13/2	020	Page	1 of /
QA/QC Signature:	Mun	July	w	Date:	10-14-20	20	J	



Date: 10-13-2e20

Project Name: M+ Storm Project Name: Project Name: 2013 9 43 6
Well Diameter: Depth to Bottom: Equipment Used:
Well Diameter:
Well Diameter: 2 inches Initial Depth to Water: 2 1/.2 feet feet Water Column Thickness: 3 9, 40 feet
Initial Depth to Water:
Depth to Bottom:
Equipment Used: W. Indicator
YSI
In-Situ
Time pH Sp. Cond. Turbidity Oxygen (mg/L) (Sminute int.) (S.U.) (uS/cm) ⁹⁰ (NTU) (mg/L) (°C) (mV) (feet) (mL/min End): (Stabilization +/-0.1 +/-3% if >10.4 +/-10% +/-10% +/-10°C +/-10 mV <0.3 feet
(5 minute int.) (S.U.) (us/cm)°c (NTU) (mg/L) (°C) (mV) (feet) (mL/min int) (1/36
Stabilization +1-0.1 +1-3% if>10, +1-10% +1-10% +1-10 mV <0.3 feet <0.00
1436 4.62 53.2 10.9 1.12 10.2 259.4 25.31 300 1439 4.66 52.9 9.9 0.95 10.0 294.4 75.95 300 1442 4.65 52.8 11.1 0.89 10.0 306.4 26.11 300 1445 4.64 53.7 10.320 0.90 9.9 317.0 26,7-2 300 1447 506 4.62 53.4 9.9 1.58 10.1 377 2 28.60 300 300 300 300 300 300 300 300 300 3
1439 466 52.9 9.9 10.0 294.4 75.95 300 1442 465 528 11.1 0.89 10.0 306.9 26.11 300 1445 4.64 52.7 10.3825 0.90 9.9 317.0 26.70 300 1447 5 4.67 52.4 9.9 1.58 10.1 377 0 28.60 300 Purge Cycle (End): 25 58.4 552. @ 38 psi Flow Rate (ml/min End): 202
1442 4.65 528 11.1 0.39 10.0 306.4 26.11 300 1445 4.64 52.7 10.820 0.90 9.9 317.0 26.72 300 1447 584 9.9 1.58 10.1 377.0 28.60 300
1445 4.64 53.7 10.8800 0.90 94 317.0 26,70 300 1447
1447 SAMPLE 377 0 28,60 300 SAMPLE SAMPL
Purge Cycle (End): 25 58 / 5 58 c @ 38 psi Flow Rate (ml/min End): 202
Purge Cycle (End): 25 58 c @ 38 psi Flow Rate (ml/min End): 20.3
Purge Cycle (End): 25 52 6 @ 38 psi Flow Rate (ml/min End): 202
300
urge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft):
atal D is VIII volume to 1 P
and the state of the september
light tan organics suspended in
ample Time: 1447 Field Filtered (0.45um): Yes No
ample Parameters/Analyte(s): Petro (DRO) CCR Appendix III CCR Appendix IV
Closed 5-year NPDES (Diss [Ba, Bo, Fe, Mn], Phase A&B NPDES (Diss [Al, Sh, As, Ba, Be, Bo, Cd, Cu, Fe, Dh, Ma, Ha, Ni, Sa, Tana)
Useriance (Diss [Be, Cd, Cr, Co, Pb, Mo, Tl, Rad 226-228) Variance (Diss [Be, Cd, Cr, Co, Cr, Co, Pb, Mo, Tl, Rad 226-228) Phase A IV Detects (As, Ba, Bc, Cd, Cr, Co, Pb, Li, Se, Rad 226-228) Phase B IV Detects (As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se
TI, Rad 226-228)
ther Observations / Equipment Operation Problems: $DT^{\ell} = 57.5$
ampler Signature: Man Gran Date: 10-13-20 Page of
VQC Signature:

			IVIICE	ROPURGE S	SAMPLING	GLOG .	Date.		12020
	GOLDE	R //	2/ 0	2//			Weather	: Clouds	503
	Project Name:	Mr. St	DIM Your	Station	Project No	o./Task No.:	2	013993	<u>'</u>
\bigcup	Event:	23A22	2 NADES	+ Phase ACEL			12.70		
	Well ID:	MWFG		F		on Completed			(3/2020
	Well Diameter:	2.0	inches			oth to Water:	20.4		
	Depth to Bottom	:		feet		lumn Thickne		,	feet
	Equipment Used			_ Turbidity Me		Air Tank			feet
		YSI Pear	Y5518404092	🧷 🗌 Peristaltic Pu	Imp	Compres		☐ Non-dedica	Bladder Pump
		In-Situ _		MP-10 Contr	oller Box		ontroller Box		irea Rh
	Time	pН	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
,\	(5 minute int.)	(S.U.)	(uS/cm)° ^C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	1
	Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	(mL/min) <500
	1900	5.84	375.0	16.86	1.55	11.0	139.7	21.55	2450
(2) (m)	1400	10,90	226.1	24.90	1.83	11.0	119.7	77.75	2150
King Plan	1407-1911	4.25	165.7	32.05	2.25	11.1	142.2	22.05	-450
1 1/2 /20	7412 1410	6.22	196.7	29.74	3.04	11.2	150.3	22.05	2450
17/2	460 1421	4.10	150.0	16.87	1.95	11.2	159.3	22.05	2450
. A.	1426	4.10	149.7	10.59	1.91	11.2	159.8		2/50
	1431	(a. 84	198.7	9.85	1.85	11.1	160.2	22.10	2450
	1996 -			141116	VED-				
/**\	1453	Ce.11	133,4	9.33	2.26	11.6	172.4	22.10	~450
									750
	,								
				·					
Ĺ									
ļ	Purge Cycle (End)	: 24/6	5°C @	7/	l psi			7///-/	
!	Purge volume (gal				раі - Тира: V-1-	Flow Rate (m	ii/min End): _	245-6	
-	Total Purge Volum	ne (Gallons):	24					"/	0.30
	Purge Observation	-	turbidity shoo		Purge Vvater	Management	: <i>Ou</i> Si	te Ow	<u>S</u>
مو	War Start	1402	, turbidity, snee	en): Clear	avab	<u> Saug</u>	de		
/	Vice VIGO (100	2						
·	Sample Time:	1/20			The same of the sa	Field Filtered	(0.45um):	Yes	☐ No
5	Sample Parameter	s/Analyte(s):		Petro (DRO)	CCR Ap		CCR AP	pendix IV	
5	Closed 5-year N SO4, TDS, TSS)	IPDES (Diss [Ba		Phase A&B I	NPDES (Diss [Al, Sb, As, Ba, I	Be, Bo, Cd, Cu	ı, Fe, Pb, Mn, Hg,	Ni, Se, TII.Cl.
	☐ Variance (Diss	[Be, Cd, Cr,	_ LVWSP IV Detect	cts (As. Ba. Be. Cr. [Phase B IV Det	
F	^p b, Nij)		Cr, Co, Pb, Mo, T	I, Rad 226-228) F	b, Li, Se, Rad 2	26-228)		Be, Cd, Cr, Co,	, Pb, Li, Mo, Se,
/_ c	Other Observation	s / Fauipment	Operation Prof	olemes.			,	l, Rad 226-228)	
() i	TP = 35, 3	3 m	B=410117101	5.4 -					
				0011					
S	Sampler Signature	· Forto			Date:	10/19	3/200	Page	of (
,	QA/QC Signature:_	Mi	1 far		Date:	10-14-	-7020	Ŭ 	
			, ,						



Date: 10-13-2020

GOLDER	₹					vvcainei.	1510 >0.	3
Project Name:	M4 Sto	rm PS		Project No	o./Task No.:	0.0	9431	
Event:	2542020	MOES ALB/P	huse Argela	Sampler(s		C.5040	1 2 6	
Well ID:	Field Blo	ANK			on Completed:			25
Well Diameter:	* Appendix of the second	inches			th to Water:	10-12. 00	<u> </u>	
Depth to Bottom:	19000000	-	feet		umn Thicknes:		**************************************	feet
Equipment Used	: WL Indic	ator	Turbidity Me		Air Tank	S		_feet
		chemical and a second	Peristaltic Pu		Compress	or		Bladder Pump
	🗌 In-Situ _	grave.	MP-10 Contro	•	•	ntroller Box	Non-dedica	tea BP
Time	pН	Sp. Cond.	Turbidity	Dissolved	T			<u> </u>
(5 minute int.)	(S.U.)	(uS/cm)°C	(NTU)	Oxygen	Temp.	ORP	DTW	Flow Rate
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	(mg/L) +/- 10%	(°C) +/- 1°C	(mV) +/- 10 mV	(feet)	(mL/min)
1005	A STATE OF THE PROPERTY OF THE	and the second s	SA	A SECTION ASSESSMENT	- T/- (C	+/- IO IIIO	<0.3 feet	<500
			3,1,1					
,								
Purge Cycle (End)		·		psi	Flow Rate (ml	/min End): _		600.
Purge volume (gal	lons) prior to	stabilization mo	onitoring (3/8" I.D	. Tube: Vol=	Depth to Pump	o x 0.006 gai/	'ft):	-0-4-10-10-10-10-10-10-10-10-10-10-10-10-10-
Total Purge Volum	-			Purge Water	Management:	- Andrew Control of the Control of t	m.	
Purge Observation	is (color, odor	, turbidity, she	en): Likur ar	ab some	012 ta K	in neur	MW-2	2
Using 1016	Supplie	d DI	vater 1		,			
Sample Time:	100	5			Field Filtered ((0.45um):	Yes	☑ No
Sample Parameter	n/Analida(n):		Petro (DRO)	-	pendix III	M	_	۱۱۰۰ بطر
Closed 5-year N	s/Analyte(s): PDES (Diss [B				5	CCR Ap	pendix IV	
SO4, TDS, TSS)			Phase A&B ! CrTot, NO2+NO3 t	N, ÖCH, MIJO-N	1 101, 105, 155,)	Fe, Pb, Mn, Hg,	Ni, Se, TI],CI,
└ Variance (Diss [Pb, Ni])	Be, Cd, Cr, L	∟LVWSP IV Dete	cts (As, Ba, Be, Cd, Tl, Rad 226-228)	Phase A IV I	Detects (As Ba (Cd, Cr, Co,	Phase B IV De	etects (As, Ba, , Pb, Li, Mo, Se,
				o, II, Se, Rad 2	26-228)	₹¶ TI	l, Rad 226-228)	, Pp, Li, Mb, Se,
Other Observations	s / Equipment	Operation Pro	blems:					
				-				
Sampler Signature:	1ster	-/1		Doto	10 .0 -	programme gramme		4
-	-1	11 111		Date:	10-13 - 3		Page	
QA/QC Signature:_	15	7 P2		Date:	10/16/	2020		

KILL			
\sim			

Date: /0-13-2020

GOLDER	₹					vvcatrici.	1 477	
Project Name: Event:	Mt. Sto.	CM P.S.		Project No	/Task No ·	20130	7921	
Event:	SAZJZO	NPDESAGR	Phine ArRec	- R Sampler(s')·	7 -	17.6	
Well ID:	Diplicas	te .	Fi	eld Calibratio	n Completed:	10 13 7	20013	P
Well Diameter:	7 7	inches			n completed. h to Water:			
Depth to Bottom:	**************************************		feet				-	_feet
Equipment Used:		ator	reet Turbidity Met		ımn Thicknes	s:		_feet
_ qp	YSI	*Contract.	Peristaltic Pu		Air Tank		Dedicated E	•
	In-Situ	time**	MP-10 Contro	•	Compress		Non-dedicat	ed BP
			T IMP-10 CORD		MP-15 Co	ntroller Box		
Time	рН	Sp. Cond.	Turbidity	Dissolved Oxygen	Temp.	ORP	DTW	Flow Rate
(5 minute int.)	(S.U.)	(uS/cm)°C	(NTU)	(mg/L)	(°C)	(mV)	(feet)	(mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	(IIIL/IIIII) <500
0930.	~~~~		Columbia de la Martina de Arte, esta de Carrella de Carrella de Carrella de Carrella de Carrella de Carrella d	SAMPLE				
	· ·							
- '								
Purge Cycle (End):	*ARTHUR	@	Nephropointes (III)	osi i	low Rate (mi	/min End)·	epole (Medical Control)	
Purge volume (gallo	ons) prior to	stabilization mo	nitoring (3/8" I.D.	Tube: Vol=F	enth to Pum	n v 0 006 aal	/f+\·	- Annual Control of the Control of t
Total Purge Volume	e (Gallons):	*finalisasespenorestre			Management:		/ity. _	
Purge Observations	_	turbidity shee	en): (/a = = =	ab samp			W-22	
See MW-22	Samplin.	loc for	1. 6 1 1 =	an surp	10 15KL	n at M	W- EE	
Comple Time	7 3	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' 	VETAILS					
Sample Time:	<u> </u>	0		F	Field Filtered	(0.45um):	Yes	☐ No
Sample Parameters	s/Analyte(s):		Petro (DRO)	🛭 CCR App	endix III	CCR Ap	pendix IV	
Closed 5-year NF SO4, TDS, TSS)	PDES (Diss [B		Phase A&B N	NPDES (Diss [A	I, Sb, As, Ba, E	Se Bo Cd: Cu	, Fe, Pb, Mn, Ha.	Ni. Se TII CI
Variance (Diss [Be, Cd, Cr.	I VAVSP IV Detec		1, 004, 14113-14	101, 105, 155	}		
Pb, Ni])	,,, -	Cr, Co, Pb, Mo, T	ots (As, Ba, Be, Cd, D I, Rad 226-228) P	b, Li, Se, Rad 22	etects (As, Ba, 月 6-228)	Cd, Cr, Co,	Phase B IV Det Be, Cd, Cr, Co,	tects (As, Ba, Pb, Li, Mo, Se,
Other Change 41-	/ - :	•			•	` Т	l, Rad 226-228)	
Other Observations	/ Equipment	Operation Prol	olems:					
Sampler Signatur <u>e:</u>	line	Gran	and a	Date:	10-13-7	020	ח	J . B
QA/QC Signature:	- R 1	110	42	Date:	. n fly	1242 0	Page _	1 of /
	1 3	1 1	- \	LIGIO	1 1 1 2 1 1 1 1			



Environment Testing America

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

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station

SDG: Phase A CCR

Qualifiers

Metals

Qualifier **Qualifier Description**

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 Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

Relative Percent Difference, a measure of the relative difference between two points **RPD**

TFF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

3

Case Narrative

Client: Golder Associates Inc.

Job ID: 240-138359-3 SDG: Phase A CCR Project/Site: Mount Storm Power Station

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 1.6° C, 1.6° C, 1.7° C, 2.1° C, 2.2° C, 2.3° C, 2.4° C, 3.0° C, 3.2° C, 3.3° C and 3.9° 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.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station 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
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.

Client Sample ID: MW-22

Project/Site: Mount Storm Power Station

Lab Sample ID: 240-138359-1

Job ID: 240-138359-3

SDG: Phase A CCR

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.

Eurofins TestAmerica, Canton

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station 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 N	Method	Prep Type
Barium	140		5.0	2.2	ug/L	1	_ 6	6020B	Total
									Recoverable
Beryllium	0.49	J	1.0	0.31	ug/L	1	6	6020B	Total
									Recoverable
Cadmium	0.28	J	1.0	0.20	ug/L	1	6	6020B	Total
									Recoverable
Calcium	3900		1000	580	ug/L	1	6	6020B	Total
									Recoverable
Chromium	1.1	J	2.0	0.98	ug/L	1	6	6020B	Total
									Recoverable
Cobalt	2.1		1.0	0.19	ug/L	1	6	6020B	Total
									Recoverable
Lead	0.47	J	1.0	0.45	ug/L	1	6	6020B	Total
									Recoverable
Chloride	830	J	1000	280	ug/L	1	9	9056A	Total/NA
Fluoride	44	J	50	24	ug/L	1	9	9056A	Total/NA
Sulfate	8200		1000	350	ug/L	1	9	9056A	Total/NA
Total Dissolved Solids	240		10	10	mg/L	1	5	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		6010D	Total
						Recoverable

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

Client Sample ID: DUPLICATE

Lab Sample ID: 240-138359-16

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac	D I	Method	Prep Type
Barium	290	5.0	2.2	ug/L		_ (6020B	Total
								Recoverable
Calcium	100000	1000	580	ug/L	1	6	6020B	Total
								Recoverable
Cobalt	0.42 J	1.0	0.19	ug/L	1	6	6020B	Total
								Recoverable
Lithium	7.3 J	8.0	1.7	ug/L	1	6	6020B	Total
								Recoverable
Chloride	770 J	1000	280	ug/L	1	ę	9056A	Total/NA
Fluoride	45 J	50	24	ug/L	1	9	9056A	Total/NA
Sulfate	26000	1000	350	ug/L	1		9056A	Total/NA
Total Dissolved Solids	320	10	10	mg/L	1	9	SM 2540C	Total/NA

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR **Client Sample ID: MW-22**

Lab Sample ID: 240-138359-1

Matrix: Water

Date Collected: 10/13/20 09:01 Date Received: 10/15/20 09:45

Sulfate

Total Dissolved Solids

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 - Meta	ls (ICP/MS) - Total F	Recoverable							
Analyte		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 - Merc	ury (CVAA)								
Analyte		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

Method: 9315 - R	adium-226 (GFPC)								
	·	,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

1000

10

350 ug/L

10 mg/L

26000

330

Method: 9320 - R	adium-228 ((GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Ra	dium-226 a	ind Radium	า-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

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11/04/20 01:25

10/19/20 11:41

Date Collected: 10/13/20 08:54

Date Received: 10/15/20 09:45

Sulfate

Total Dissolved Solids

Project/Site: Mount Storm Power Station **Client Sample ID: MW-FGDW2**

Lab Sample ID: 240-138359-2

Matrix: Water

Job ID: 240-138359-3

SDG: Phase A CCR

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 F	Recoverable							
Analyte	•	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 - Mercur	v (CVAA)								
Analyte	• •	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

Method: 9315 -	Radium-226 (GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

1000

10

350 ug/L

10 mg/L

39000

240

Method: 9320 - Rad	dium-228 ((GFPC)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

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11/04/20 01:47

10/19/20 11:41

Client Sample ID: MW-5

Date Collected: 10/13/20 16:15

Project/Site: Mount Storm Power Station

SDG: Phase A CCR

Lab Sample ID: 240-138359-3

Matrix: Water

Job ID: 240-138359-3

Date	Received:	10/15/20 09:45	•
_			

Method: 6010D - Metals (ICP) -	- Total Reco	verable							
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

Ocheral Ohenhous									
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	·	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	(20+/-)	(20+/-)		IVIDC	OIIIL	Fiepaieu	Allalyzeu	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)

Wethou. 3320 - I	Kadidili-220 (Gi i C)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

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Project/Site: Mount Storm Power Station

SDG: Phase A CCR

Lab Sample ID: 240-138359-6

Client Sample ID: MW-8 Date Collected: 10/13/20 15:52 Date Received: 10/15/20 09:45

Matrix: Water

Job ID: 240-138359-3

Analyte		Result	Qualifier	RL		MDL			D	Prepared	Analyzed	Dil F
Boron		<23		100		23	ug/L			10/19/20 14:00	10/20/20 19:05	
Method: 6020B - Met	als (ICP	/MS) - Total F	Recovera	ble								
Analyte	•	Result	Qualifier	RL		MDL	Unit	:	D	Prepared	Analyzed	Dil F
Arsenic		<0.75		5.0		0.75	ug/L			10/19/20 14:00	10/21/20 12:24	
Barium		110		5.0		2.2	ug/L			10/19/20 14:00	10/21/20 12:24	
Beryllium		<0.31		1.0		0.31	ug/L			10/19/20 14:00	10/21/20 12:24	
Cadmium		<0.20		1.0		0.20	ug/L			10/19/20 14:00	10/21/20 12:24	
Calcium		32000		1000		580	ug/L			10/19/20 14:00	10/21/20 12:24	
Chromium		2.2		2.0		0.98	ug/L			10/19/20 14:00	10/21/20 12:24	
Cobalt		2.5		1.0		0.19	ug/L			10/19/20 14:00	10/21/20 12:24	
Lead		0.89	J	1.0		0.45	ug/L			10/19/20 14:00	10/21/20 12:24	
Lithium		1.8	J	8.0		1.7	ug/L			10/19/20 14:00	10/21/20 12:24	
Selenium		0.97		5.0		0.89				10/19/20 14:00	10/21/20 12:24	
Thallium		<0.20		1.0		0.20					10/21/20 12:24	
Method: 7470A - Mer	curv (C\	/AA)										
Analyte	ou., (o	•	Qualifier	RL		MDL	Unit		D	Prepared	Analyzed	Dil F
Mercury		<0.13		0.20		0.13	ug/L	•		10/19/20 14:00	10/22/20 16:06	
General Chemistry												
Analyte		Result	Qualifier	RL		MDL	Unit	:	D	Prepared	Analyzed	Dil F
Chloride		44000		1000	-	280	ug/L				11/04/20 03:58	-
Fluoride		62		50		24	ug/L				11/04/20 03:58	
Sulfate		22000		1000		350	ug/L				11/04/20 03:58	
Total Dissolved Solids		160		10		10	mg/l	-			10/19/20 11:41	
Method: 9315 - Radiu	ım-226 ((GFPC)										
			Count	Total								
			Uncert.	Uncert.								
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	N	NDC	Unit		Prepared	Analyzed	Dil F
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	
Carrier		Qualifier	Limits							Prepared	Analyzed	Dil I
Ba Carrier	81.5		40 - 110							10/30/20 12:33	12/19/20 11:52	
Method: 9320 - Radiu	ım- <mark>228</mark> ((GFPC)										
			Count	Total								
			Uncert.	Uncert.								
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL		NDC	Unit		Prepared	Analyzed	Dil F
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	

Method: Ra226	Ra228 - Combined	Radium-226 and	Radium-228

Limits

40 - 110

40 - 110

%Yield Qualifier

81.5

72.5

Carrier

Ba Carrier

Y Carrier

			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

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Analyzed

Dil Fac

Prepared

10/30/20 13:09 12/18/20 12:40

10/30/20 13:09 12/18/20 12:40

Date Collected: 10/13/20 14:47

Date Received: 10/15/20 09:45

Project/Site: Mount Storm Power Station

SDG: Phase A CCR **Client Sample ID: MW-10**

Lab Sample ID: 240-138359-7

Matrix: Water

Job ID: 240-138359-3

Analyte		Result	Qualifier	RL		MDL	Unit	:	D	Prepared	Analyzed	Dil F
Boron		<23		100		23	ug/L			10/19/20 14:00	10/20/20 19:09	
Method: 6020B - Meta	als (ICP	/MS) - Total I	Recovera	ble								
Analyte	•	•	Qualifier	RL	I	MDL	Unit		D	Prepared	Analyzed	Dil F
Arsenic		<0.75		5.0		0.75	ug/L			10/19/20 14:00	10/21/20 12:27	
Barium		140		5.0			ug/L			10/19/20 14:00	10/21/20 12:27	
Beryllium		0.49	J	1.0		0.31	ug/L			10/19/20 14:00	10/21/20 12:27	
Cadmium		0.28	J	1.0		0.20	ug/L			10/19/20 14:00	10/21/20 12:27	
Calcium		3900		1000			ug/L			10/19/20 14:00	10/21/20 12:27	
Chromium		1.1	J	2.0		0.98	ug/L			10/19/20 14:00	10/21/20 12:27	
Cobalt		2.1		1.0		0.19	ug/L			10/19/20 14:00	10/21/20 12:27	
Lead		0.47	J	1.0		0.45	_			10/19/20 14:00	10/21/20 12:27	
Lithium		<1.7		8.0		1.7	ug/L			10/19/20 14:00	10/21/20 12:27	
Selenium		<0.89		5.0		0.89	ug/L			10/19/20 14:00	10/21/20 12:27	
Thallium		<0.20		1.0		0.20	ug/L			10/19/20 14:00	10/21/20 12:27	
							Ū					
Method: 7470A - Mer	cury (C\	/AA)										
Analyte		Result	Qualifier	RL	İ	MDL	Unit	:	D	Prepared	Analyzed	Dil F
Mercury		<0.13		0.20		0.13	ug/L			10/19/20 14:00	10/22/20 16:08	
General Chemistry Analyte			Qualifier			MDL			D	Prepared	Analyzed	Dil F
Chloride		830					ug/L				11/04/20 05:03	
Fluoride			J	50			ug/L				11/04/20 05:03	
Sulfate		8200		1000			ug/L				11/04/20 05:03	
Total Dissolved Solids		240		10		10	mg/L	_			10/19/20 11:41	
Method: 9315 - Radiu	ım- <mark>226</mark> (GFPC)										
			Count	Total								
			Uncert.	Uncert.								
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	N	/IDC	Unit		Prepared	Analyzed	Dil F
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	
Carrier	% Viold	Qualifier	Limits							Prepared	Analyzed	Dil l
Ba Carrier	49.0	Qualifier	40 - 110								12/19/20 11:52	ווט
Sa Carrier	43.0		40 - 110							10/30/20 12:33	12/19/20 11:02	
Method: 9320 - Radiu	ım- <mark>22</mark> 8 (GFPC)										
			Count	Total								
			Uncert.	Uncert.								
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	N	/IDC	Unit		Prepared	Analyzed	Dil F
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	
Carrier	%Yield	Qualifier	Limits							Prepared	Analyzed	Dil F

Mothod: Da226	Ra228 - Combined	Padium_226 and	Padium_222
MELITOU. Nazzo	Nazzo - Combineu	Naululli-220 allu	Naululli-220

40 - 110

40 - 110

49.0

73.3

Ba Carrier

Y Carrier

_			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

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10/30/20 13:09 12/18/20 12:41

10/30/20 13:09 12/18/20 12:41

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

Client Sample ID: MW-FGDW6

Date Collected: 10/13/20 14:32 Date Received: 10/15/20 09:45

Total Dissolved Solids

Lab Sample ID: 240-138359-14

Matrix: Water

Method: 6010D - Metals ((ICP) - Total Reco	overable							
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 F	Recoverable)						
Analyte	•	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	•	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

Method: 9315 - R	adium-226 (GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

10 mg/L

Method: 9320 - R	adium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.404	U	0.337	0.338	5.00	0.495	pCi/L		12/23/20 21:48	1

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10/19/20 13:02

Project/Site: Mount Storm Power Station **Client Sample ID: FIELDBLANK**

Lab Sample ID: 240-138359-15

Matrix: Water

Job ID: 240-138359-3

SDG: Phase A CCR

Date Collected: 10/13/20 10:05 Date Received: 10/15/20 09:45

Analyte		Result	Qualifier	R	L	MDL	Unit		D	Prepared	Analyzed	Dil Fa
Boron		32	J	10	00	23	ug/L			10/19/20 14:00	10/20/20 19:52	
Method: 6020B - Meta	ls (ICP	/MS) - Total F	Recovera	ble								
Analyte	•	•	Qualifier	R	2L	MDL	Unit		D	Prepared	Analyzed	Dil Fa
Arsenic		<0.75		5.	.0	0.75	ug/L		-	10/19/20 14:00	10/21/20 12:39	
Barium		<2.2		5.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Beryllium		<0.31		1.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Cadmium		<0.20		1.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Calcium		<580		100	00	580	ug/L			10/19/20 14:00	10/21/20 12:39	
Chromium		<0.98		2.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Cobalt		<0.19		1.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Lead		<0.45		1.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Lithium		<1.7		8.	.0	1.7	ug/L			10/19/20 14:00	10/21/20 12:39	
Selenium		<0.89		5.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
Thallium		<0.20		1.	.0		ug/L			10/19/20 14:00	10/21/20 12:39	
							•					
Method: 7470A - Merc	ury (C\	/AA)										
Analyte		Result	Qualifier	R	L	MDL	Unit		D	Prepared	Analyzed	Dil Fa
Mercury		<0.13		0.2	20	0.13	ug/L			10/19/20 14:00	10/22/20 16:22	
General Chemistry												
Analyte		Result	Qualifier	R	· 1	MDI	Unit		D	Prepared	Analyzed	Dil Fa
Chloride		<280	quannon	100		280	ug/L		· =	- 1000100	11/04/20 12:14	
Fluoride		<24			50	24	ug/L				11/04/20 12:14	
Sulfate		<350		100		350					11/04/20 12:14	
Total Dissolved Solids		<10			0		mg/L				10/19/20 13:02	
							_					
Method: 9315 - Radiui	m-226 ((GFPC)	. .									
			Count	Total								
A L . 4 .	D 14	0	Uncert.	Uncert.	D.		400	1114		B	A l	D'' 5
Analyte		Qualifier	(2σ+/-)	(2σ+/-)	RL		MDC			Prepared	Analyzed	Dil Fa
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	
Carrier	%Yield	Qualifier	Limits							Prepared	Analyzed	Dil Fa
Ba Carrier	83.0		40 - 110							10/30/20 12:33	12/19/20 11:50	
Method: 9320 - Radiui	m-228 (GEPC)										
Wethou. 3320 - Radiul	11-220 (G11 0)	Count	Total								
			Uncert.	Uncert.								
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL		MDC	Unit		Prepared	Analyzed	Dil Fa
Radium-228	0.196		0.266	0.267	1.00			pCi/L		10/30/20 13:09	12/18/20 12:42	
Carriar	0/ V :-1:1	Ouglifie:	l imait-							Duananad	A mak	D# F -
Carrier Ra Carrier		Qualifier	Limits 40 - 110							Prepared 10/20/20 12:00	Analyzed 12/18/20 12:42	Dil Fa
Ba Carrier	83.0											
Y Carrier	85.6		40 - 110							10/30/20 13:09	12/18/20 12:42	

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Analyzed

12/23/20 21:48

Prepared

RL

5.00

MDC Unit

0.444 pCi/L

Uncert.

 $(2\sigma + / -)$

0.294

Uncert.

 $(2\sigma + / -)$

0.293

Result Qualifier

0.246 U

Analyte

+ 228

Combined Radium 226

Dil Fac

Date Collected: 10/13/20 09:30

Date Received: 10/15/20 09:45

Analyte

Mercury

Project/Site: Mount Storm Power Station **Client Sample ID: DUPLICATE**

Lab Sample ID: 240-138359-16

Analyzed

Prepared

10/19/20 14:00 10/22/20 16:24

Dil Fac

Matrix: Water

Job ID: 240-138359-3

SDG: Phase A CCR

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 - Meta	als (ICP/MS) - Total F	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

General Chemistry	Pasself	Ovelities.	DI	MDI	11	ъ	Duamanad	Amahasad	D:: F
Analyte	Result	Qualifier	RL	MDL	Unit	ט	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

RL

0.20

MDL Unit

0.13 ug/L

Result Qualifier

<0.13

Method: 9315 - Ra	dium-226 (GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - Ra	ndium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0728		0.258	0.258	1.00		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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Eurofins TestAmerica, Canton

Tracer/Carrier Summary

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

Method: 9315 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

		Ва	Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ба (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	

Method: 9320 - Radium-228 (GFPC)

Prep Type: Total/NA **Matrix: Water**

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					Percent Yield (Acceptance Limits)
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			Ва	Y	
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	Lab Sample ID	Client Sample ID	(40-110)	(40-110)	
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	240-138359-1	MW-22	69.8	75.5	
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	240-138359-2	MW-FGDW2	74.2	76.6	
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	240-138359-2 MS	MW-FGDW2	60.7	69.2	
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	240-138359-2 MSD	MW-FGDW2	61.3	76.3	
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	240-138359-3	MW-5	78.6	77.8	
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	240-138359-6	MW-8	81.5	72.5	
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	240-138359-7	MW-10	49.0	73.3	
240-138359-16 DUPLICATE 80.4 81.1 LCS 160-487342/1-A Lab Control Sample 78.9 76.6	240-138359-14	MW-FGDW6	80.4	84.5	
LCS 160-487342/1-A Lab Control Sample 78.9 76.6	240-138359-15	FIELDBLANK	83.0	85.6	
	240-138359-16	DUPLICATE	80.4	81.1	
MB 160-487342/17-A Method Blank 79.2 82.6	LCS 160-487342/1-A	Lab Control Sample	78.9	76.6	
	MB 160-487342/17-A	Method Blank	79.2	82.6	

Y = Y Carrier

10

Client: Golder Associates Inc.

Project/Site: Mount Storm Power Station

Job ID: 240-138359-3 SDG: Phase A CCR

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

Prep Type: Total Recoverable

Client Sample ID: MW-FGDW2

Prep Type: Total Recoverable

MB MB

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Analyte 100 10/19/20 14:00 10/20/20 17:49 Boron <23 23 ug/L

Lab Sample ID: LCS 240-456639/2-A

Matrix: Water

Analyte

Analyte

Boron

Boron

Analysis Batch: 457006

Spike Added 1000

1000

LCS LCS Result Qualifier

Unit ug/L

D %Rec 100

%Rec. Limits 80 - 120

Client Sample ID: Lab Control Sample

Lab Sample ID: 240-138359-2 MS

Matrix: Water

Analysis Batch: 457006

Analysis Batch: 457006

Lab Sample ID: 240-138359-2 MSD

Sample Sample Result Qualifier

<23

Spike Added 1000

MS MS Result Qualifier 1130

MSD MSD

Unit %Rec ug/L

Limits 75 - 125

Prep Batch: 456639

Prep Batch: 456639

%Rec.

Client Sample ID: MW-FGDW2 **Prep Type: Total Recoverable**

Prep Batch: 456639

%Rec. **RPD** RPD Limit

Analyte Boron

Matrix: Water

Spike Sample Sample Result Qualifier Added 1000 <23

Result Qualifier Unit 1110 ug/L

D %Rec 111 Limits 75 - 125

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

	MB	MB							
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 11:53	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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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	

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

_	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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

Client Sample ID: MW-FGDW2 Prep Type: Total Recoverable

Analysis Batch: 457219									Prep Ba	itch: 4	56639
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

MB MB Result Qualifier RL MDL Unit Dil Fac Analyte Prepared Analyzed 0.20 10/19/20 14:00 10/22/20 15:43 Mercury < 0.13 0.13 ug/L

10

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

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

Lab Sample ID: LCS 240-456705/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 457442 Prep Batch: 456705**

Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit D %Rec Mercury 5.00 4.59 ug/L 92 80 - 120

Client Sample ID: MW-FGDW2 Lab Sample ID: 240-138359-2 MS **Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 457442 Prep Batch: 456705

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 1.00 80 - 120 Mercury < 0.13 0.968 ug/L 97

Lab Sample ID: 240-138359-2 MSD Client Sample ID: MW-FGDW2

Matrix: Water

Prep Type: Total/NA **Analysis Batch: 457442 Prep Batch: 456705**

Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Limits RPD Limit Unit %Rec Mercury <0.13 1.00 0.996 80 - 120 20 ug/L

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-459149/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 459149

MB MB **Analyte** Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Chloride <280 1000 280 ug/L 11/04/20 00:42 Fluoride <24 50 24 ug/L 11/04/20 00:42 Sulfate <350 1000 350 ug/L 11/04/20 00:42

Lab Sample ID: LCS 240-459149/4 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 459149

-	Spike	LCS	LCS				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%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 Client Sample ID: MW-FGDW2 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 459149

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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

Job ID: 240-138359-3

10

Client: Golder Associates Inc.

Project/Site: Mount Storm Power Station

SDG: Phase A CCR

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

Lab Sample ID: 240-138359-2 MSD **Client Sample ID: MW-FGDW2**

Matrix: Water

Analysis Batch: 459149

Prep Type: Total/NA

•	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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 **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 334592

Prep Type: Total/NA

MB MB **MDL** Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 10 **Total Dissolved Solids** <10 10 mg/L 10/19/20 11:41

Lab Sample ID: LCS 180-334592/1 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 334592

Spike LCS LCS %Rec. Added Result Qualifier D Limits Unit %Rec **Total Dissolved Solids** 714 692 mg/L 97 80 - 120

Lab Sample ID: 240-138359-1 DU Client Sample ID: MW-22 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 334592

DU DU Sample Sample **RPD** Analyte Result Qualifier Result Qualifier **RPD** Limit Unit Total Dissolved Solids 330 334 mg/L

Lab Sample ID: MB 180-334594/2 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 334594

MB MB

RL Analyte Result Qualifier **MDL** Unit Prepared Analyzed Dil Fac Total Dissolved Solids 10 10/19/20 13:02 <10 10 mg/L

Lab Sample ID: LCS 180-334594/1 **Client Sample ID: Lab Control Sample Matrix: Water**

Prep Type: Total/NA

Analysis Batch: 334594

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits **Total Dissolved Solids** 714 690 mg/L 80 - 120

Lab Sample ID: 240-138359-16 DU **Client Sample ID: DUPLICATE Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 334594

DU DU RPD Sample Sample Result Qualifier Result Qualifier Unit RPD Limit Total Dissolved Solids 320 327 mg/L

2

Client: Golder Associates Inc.

Project/Site: Mount Storm Power Station

Job ID: 240-138359-3 SDG: Phase A CCR

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-487338/17-A

Lab Sample ID: LCS 160-487338/1-A

Matrix: Water

Matrix: Water

Analysis Batch: 492452

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 487338

			Count	iolai						
	MB	MB	Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

MB MB

 Carrier
 %Yield Ba Carrier
 Qualifier 79.2
 Limits 40 - 110
 Prepared 10/30/20 12:33
 Analyzed 12/19/20 11:55
 Dil Fac 10/30/20 12:33

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 487338

tal

				iotai					
	Spike	LCS	LCS	Uncert.				%Rec.	
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits	
Radium-226	11.3	9.612		1.22	1.00	0.246 pCi/L	85	75 - 125	

LCS LCS
Carrier %Yield Qualifier

Lab Sample ID: 240-138359-2 MS

Analysis Batch: 492451

 Carrier
 % Yield Plant
 Qualifier Plant
 Limits Plant

 Ba Carrier
 78.9
 40 - 110

Client Sample ID: MW-FGDW2

Prep Type: Total/NA Prep Batch: 487338

Analysis Batch: 492451

Matrix: Water

Sample Sample Uncert. %Rec. Spike MS MS %Rec Analyte Result Qual Added $(2\sigma + / -)$ RL **MDC** Unit Limits Result Qual 0.0473 U Radium-226 11.3 1.38 1.00 0.351 pCi/L 92 75 - 138 10.52

 MS MS

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

Lab Sample ID: 240-138359-2 MSD Client Sample ID: MW-FGDW2

Total

Matrix: Water

Analysis Batch: 492451

Prep Type: Total/NA

Prep Batch: 487338

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit 0.0473 U Radium-226 11.4 9.697 1.29 1.00 0.299 pCi/L 85 75 - 138 0.31

> MSD MSD %Yield Qualifier

> > 0.01875 U

 Carrier
 %Yield Ba Carrier
 Qualifier 61.3
 Limits 40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-487342/17-A

Matrix: Water

Radium-228

Analysis Batch: 492430

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 487342

Count Total

MB MB Uncert. Uncert.

Analyte Result Qualifier (2σ+/-) (2σ+/-) RL MDC Unit Prepared Analyzed Dil Fac

1.00

0.446 pCi/L

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10/30/20 13:09 12/18/20 12:42

0.249

0.249

3

5

7

8

10

11

13

15

Added

40 - 110

7.57

7.832

Result Qual

Client: Golder Associates Inc. Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

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

	MB	МВ				
Carrier	%Yield	Qualifier Li	imits	Prepared	Analyzed	Dil Fac
Ba Carrier	79.2	40	D - 110	10/30/20 13:09	12/18/20 12:42	1
Y Carrier	82.6	40	0 - 110	10/30/20 13:09	12/18/20 12:42	1

Lab Sample ID: LCS 160-487342/1-A

Analyte

Y Carrier

Matrix: Water				Prep Type: Total/NA
Analysis Batch: 492430				Prep Batch: 487342
			Total	
	Spike	LCS LCS	Uncert.	%Rec.

 $(2\sigma + / -)$

0.821

RL

1.00

MDC Unit

0.508 pCi/L

Radium-228 7.57 5.673 LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 78.9 40 - 110

Lab Sample ID: 240-138359-2 MS

76.6

Analysis Batch: 492430

Client Sample ID: MW-FGDW2 **Matrix: Water** Prep Type: Total/NA **Prep Batch: 487342**

Total Sample Sample Spike MS MS Uncert. %Rec. Analyte Result Qual Added $(2\sigma + / -)$ Limits Result Qual RLMDC Unit %Rec Radium-228 0.0399 U 7.57 6.289 1.04 1.00 0.835 pCi/L 45 - 150

MS MS Carrier %Yield Qualifier Limits Ba Carrier 60.7 40 - 110 69.2 Y Carrier 40 - 110

Lab Sample ID: 240-138359-2 MSD

Matrix: Water

Radium-228

Analysis Bat	cn: 49243	U								Ргер ва	itcn: 4	3/342
						Total						
	Sample	Sample	Spike	MSD	MSD	Uncert.				%Rec.		RER
Analyte	Result	Qual	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits	RER	Limit

1.10

1.00

0.592 pCi/L

MSD MSD Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 61.3 Y Carrier 76.3 40 - 110

0.0399 U

Client Sample ID: Lab Control Sample

Limits

75 - 125

Client Sample ID: MW-FGDW2

45 - 150

103

Prep Type: Total/NA

0.72

%Rec

75

10

QC Association Summary

Client: Golder Associates Inc.

Job ID: 240-138359-3 SDG: Phase A CCR Project/Site: Mount Storm Power Station

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 240-138359-1	Client Sample ID MW-22	Prep Type Total Recoverable	Matrix Water	Method 6020B	Prep Batch 456639
240-138359-2	MW-FGDW2	Total Recoverable	Water	6020B	456639
240-138359-3	MW-5	Total Recoverable	Water	6020B	456639

QC Association Summary

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

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 240-138359-14	Client Sample ID MW-FGDW6	Prep Type Total/NA	Matrix Water	Method SM 2540C	Prep Batch
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	

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QC Association Summary

Client: Golder Associates Inc.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station SDG: Phase A CCR

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

Date Collected: 10/13/20 09:01 Date Received: 10/15/20 09:45 Lab Sample ID: 240-138359-1

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Date Collected: 10/13/20 08:54 Date Received: 10/15/20 09:45

Lab Sample ID: 240-138359-2

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Date Collected: 10/13/20 16:15

Date Received: 10/15/20 09:45

Lab	Sample	e ID:	240-1	383	359-3
				-	

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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.

Client Sample ID: MW-5

Date Collected: 10/13/20 16:15

Date Received: 10/15/20 09:45

Project/Site: Mount Storm Power Station

Job ID: 240-138359-3 SDG: Phase A CCR

Lab Sample ID: 240-138359-3

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Lab Sample ID: 240-138359-6 **Client Sample ID: MW-8**

Date Collected: 10/13/20 15:52 **Matrix: Water**

Date Received: 10/15/20 09:45

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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 Lab Sample ID: 240-138359-7 Date Collected: 10/13/20 14:47 **Matrix: Water**

Date Received: 10/15/20 09:45

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

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Lab Chronicle

Client: Golder Associates Inc.

SDG: Phase A CCR Project/Site: Mount Storm Power Station

Client Sample ID: MW-10 Lab Sample ID: 240-138359-7 **Matrix: Water**

Date Collected: 10/13/20 14:47 Date Received: 10/15/20 09:45

	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	Ra226 Ra228		- <u> </u>	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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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
otal/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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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

Eurofins TestAmerica, Canton

Job ID: 240-138359-3

Lab Chronicle

Client: Golder Associates Inc.

Date Collected: 10/13/20 09:30

Date Received: 10/15/20 09:45

Project/Site: Mount Storm Power Station

Client Sample ID: DUPLICATE

SDG: Phase A CCR

Lab Sample ID: 240-138359-16

Job ID: 240-138359-3

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	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.

Job ID: 240-138359-3 Project/Site: Mount Storm Power Station 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
lowa	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

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

Chain of Custody Record

Eurofins TestAmerica, Canton 4101 Shuffel Street NW

Eurofins TestAmerica, Canton		Chain	Chain of Custody Record		& eurofins	
					Environment Testing TestAmerica	B.C.
North Canton, OH 44/20-6900 phone 330.497.9396 fax 330.497.0772	Regulatory Program:	□ DW ☑ NPDES	☐ RCRA ☐ Other;	TestAmerica Laboratories, Inc.	oratories, Inc. d/b/a Eurofins TestAmerica	e [
	Project Manager: Rachel Powell	rell				_
Client Contact	Email: ripowell@golder.com		Site Contact: Rachel Powell	Date: 19/13/2020	/ of Z cocs	
Golder Associates Inc.	Tel/Fax: 804-517-3381		Lab Contact: Roxanne Cisneros	Carrier: FEDEX	TALS Project #:	
2108 West Laburnum Ave, Suite 200	Turna	d Time			Sampler: Catelyn Joyner/Patrick Trout	
Richmond/VA/USA	☐ CALENDAR DAYS ☐ WC	☐ WORKING DAYS	(cn)		For Lab Use Only:	
(804) 358-7900 Phone	TAT if different from Berow STANDARD	TANDARD	° 2¢		Walk-in Client:	
(804) 517-3381 Cell	2 weeks		eu 'N!'		Lab Sampling:	
Project Name: Phase A&B NPDES	1 week		, Be, Hg,	-		
Site: Mt. Storm, WV	2 days		, Ba, mr, mr		Job / SDG No.:	T
P O # 20139936	1 day		As , As , Deb, I		Co	
Samula Identification	Sample Sample (C=Comp.	# of	illered Seform Moses (kl. Sberdorm Moses (kl. Sberdorm Moses (Fe. 1) (Sperdorm		AnalyzoloH(s.w) Copy	1
MW-22	1000	GW	X X X X X X X X		570	16
MM FADIN ?	10824	00/	> X > > > > > > > > > > > > > > > > > >	240-	7943 1050 UNS	W.
1000	1.11	10		138;	1 20 /4:	VI.
WW - 3	1012	0	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	359	16.t) [[1:6	
MW-COR	1029	6	V X X X X X X V	Cha	1028 6.94 421.3 10.3	0-
F-WM	1336	9	N X X X X X X X X X X X X X X X X X X X	in of	8.8 P. 144 38.9 9.5	
MW-8	1552	7)	VM/XXXXX/V	Cus	1951 610 2877 93	Ina
01-1111	Ł/hh/	9	V X X X X X X X	tody	66 F.ZS MIH SAM	L
MW-12B	Ohll	7	V XXXXXX		11.39 452 28.1 10.9	100
MW-13	1035	9	VWXXXXXXV		1053 4.68 87.1 10.7	
H-MW	25//	9	VWXXXXXXX		1155 4.43 210.7 10.2	10
MW FGDW3	1230	9	VWXXXXXXX		1229 5,06 36.0 10.2	100
MWFGDWY	V 1307 V	n A	VAXXXXXXXV		1336 4.8 31.0 105	T la
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3;	3; 5=NaOH; 6= Other		4 4 4 1 3 1 3			
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Pl. Comments Section if the lab is to dispose of the sample.	Please List any EPA Waste Codes for the sample in the	r the sample in t	Sample Disposal (A fee may b	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	ned longer than 1 month)	
Non-Hazard	Poison B	nown	Return to Client	Disposal by Lab	Months	_
Special Instructions/QC Requirements & Comments: A	All samples preserved on ice. Le	vel II Data Pack	ige requested. Please see reporti	ng group F for additonal details		
Custody Seals Intact:	Custody Seal No.:		Cooler Temp. (°C): Obs'd	os'd: Corr'd:	Therm ID No.:	_
Relinquished by:	Company: Golder Associates Inc.	Date/Time:	Received by:	Company:	Date/Time: 945	_
Relinquished by:	Company:	Date/Time:	Received by:	Company:	/Time:	
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:	

4101 Shuffel Street NW			cilalii oi custotay necord		Seurofins Environment Testing	5.0
North Canton, OH 44720-6900					TestAmerica	
phone 330.497.9396 fax 330.497.0772	rogram:	☐ DW ☑ NPDES	RCRA Other:	TestAmerica Laboratories, Inc.	oratories, Inc. d/b/a Eurofins TestAmerica	2
	Project Manager: Rachel Powell	vell			COC No:	
Client Contact	Email: ripowell@golder.com		Site Contact: Rachel Powell	Date: 10/13/2020	2 of 2 COCs	
Golder Associates Inc.	Tel/Fax: 804-517-3381		Lab Contact: Roxanne Cisneros	Carrier: ÉEDEX	TALS Project #:	
2108 West Laburnum Ave, Suite 200	Analysis Turnaround Time	d Time	_		Sampler. Catelyn Joyner/Patrick Trout	
Richmond/VA/USA	☐ CALENDAR DAYS ☐ WO	WORKING DAYS	(Cu)	V/4	For Lab Use Only:	П
(804) 358-7900 Phone	TAT if different from Below STANDARD	TANDARD	cq'		Walk-in Client:	
(804) 517-3381 Cell	2 weeks		uəf	7,54	Lab Sampling:	
Project Name: Phase A&B NPDES	1 week		D (76		
Site: Mt. Storm, WV			SM \ Am, mui ium		Job / SDG No.:	
P O # 20139936	1 day		A, ds , dq , qp, mon	()		1
Sample Identification	Sample Sample (CeComp.	# of Watrix Cont.	Perform Diss (Al, 5 Diss (Re, 5 Diss (Fe Total Ch Witrite+N Witrite+N Total Am	11'33 17'19)	Analy Zee Dal (5.4) Colomb Sample Specific North	311
MWFGOWS	0/24/2	GW	XXX			49
MWELDING	14321	7	XXXXXXX		F841 (63) 187	
Lield Blook	30865x	10	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			
777-1010	1921	0/ //	ファファファン		1	T
	>	>			-	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	3; 5=NaOH; 6= Other		4 4 4 1 3 1 3			
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Ple	Please List any EPA Waste Codes for the sample in the	or the sample in the	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	assessed if samples are retai	ined longer than 1 month)	
Comments Section if the lab is to dispose of the sample.	E			2		
Special Instructions/QC Requirements & Comments: All samples preserved		Unknown Level II Data Packa	☐ Unknown ☐ ☐ Return to Client ☐ ☐ Disposal by Lab ☐ ☐ Archive for on ice. Level II Data Package requested. Please see reporting group F for additional details.	∠ Disposal by tab orting group F for additional details Archive for additional details Ar	r Months	T
Custody Seals Intact:	Custody Seal No.:		Cooler Temp. (°C): Obs'd:	s'd: Corr'd:	Therm ID No.:	П
Relinquished by:	Company: Golder Associates	Date/Time:	Received by:	Company:	Date/Time: 9UC	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:	
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:	
				Form No. C	Form No. CA-C-WI-002, Rev. 4.26, dated 7/25/2019	119

Chain of Custody Record

Eurofins TestAmerica, Canton

Eurofins TestAmeric	ca Canton Sample Rece	eipt Form/Narrati	ve		138359
Client Golder		Site Name		Cooler unp	packed by:
Cooler Received on	10-15-20	Opened on/	0-15-20	The	<u> </u>
FedEx: 1st Grd Exp	UPS FAS Clipper	Client Drop Off	TestAmerica Courier	Other	
Receipt After-hours:			Storage Location_		0.00
TestAmerica Cooler #			Box Othes		
		Foam Plastic Bag			
	Wet Ice Blue Ice	Dry Ice Wate	r None See Multiple Cooler Fo		
IR GUN #IR-12	(CF +0.9 °C) Observed (CF +0.5 °C) Observed	Cooler Temp	°C Corrected Cooler	Temp	°C °C
-Were the seals of -Were tamper/cu -Were tamper/cu 3. Shippers' packing s 4. Did custody papers 5. Were the custody p 6. Was/were the perso 7. Did all bottles arriv 8. Could all bottle lab 9. For each sample, d 10. Were correct bottle 11. Sufficient quantity 12. Are these work sha If yes, Questions 1 13. Were all preserved 14. Were VOAs on th 15. Were air bubbles 3 16. Was a VOA trip b	ody seals on the outside of on the outside of the coole on the outside of the coole on the bottle(so astody seals intact and uncomplete of the cooler of some of the cooler of some of the cooler of t	er(s) signed & dated (s) or bottle kits (LLF compromised? s)? eled in the appropriat imples clearly identificated? enciled with the Coervatives (Y/N), # or icated? at the originating lab. H upon receipt?	Hg/MeHg)? Ye Hg/MeHg)? Ye Y	S No S No S No	Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC grab/comp(Y)N)?
Contacted PM	Date	by	via Verbal	Voice Mail Oth	ner
Concerning					
	TODY & SAMPLE DIS	CREPANCIES		Samples pro	
19. SAMPLE COND	ITION	wara rassinad sA	ar the recommended hal	ding time had a	vnired
Sample(s)		were received and	were receive	ed in a broken co	ontainer.
Sample(s)		were rece	ived with bubble >6 mm	in diameter. (N	lotify PM)
20. SAMPLE PRESI	ERVATION				
6 123				urther measure -	in the laborators
Sample(s)	Preservative(s)	added/Lot number(s	were fi	urmer preserved	in the laboratory.
VOA Sample Preserva	ation - Date/Time VOAs I	Frozen:			

Login #: 138359

Cooler Des (Circ	cription le)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client I	Box Other	IR-10 (R-1)	2.1	3.0	Wet Ice Blue Ice Dry Ic
GA Client I	Box Other	IR-10 AR-11	1.4	23	Wet-ice Blue ice Dry id Water None
(IA' Client	Box Other	IR-10 (R-11	0.8	1-7	Wet ice Blue ice Dry is Water None
TA Client	Box Other	IR-10 IR-11	2-3	3.2	Wet ice Blue ice Dry is Water None
TA Client	Box Other	IR-10 18-11	1-3	2-2	Wet ice Blue ice Dry id Water None
TA Client	Box Other	IR-10 AR-11	0.7	1.6	Wet Ice Blue Ice Dry Ic Water None
TA Client	Box Other	IR-10 (R-11	2-4	3.3	Wet Ice Blue Ice Dry I
TA Client	Box Other	IR-10 R-11	1.5	24	Wet ice Blue ice Dry i
TA Client	Box Other	IR-10 JR-1-1	0-7	1-6	Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 (IR-)1	1.2	2-1	Wefice Blue Ice Dry I
(TA) Client	Box Other	IR-10 (IR-1)	30	3.9	Wet ice Blue ice Dry is Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11	A CONTRACT OF STREET		Wet ice Blue ice Dry i Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet ice Blue ice Dry is Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry I Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ic Water None
TA Client	Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None

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

Temperature readings:

240-138359

Container Preservative

3

4

6

9

12

14

Client Samula ID	Lab ID	Containon Timo	LI Town Added (mls) Let #	
Client Sample ID	<u>Lab ID</u>	Container Type	pH Temp 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	

			Control Description	
Client Sample ID	Lab ID	Container Type	Container Preservative pH Temp 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	3
MW-12R	240-138359-C-8	Plastic 500ml - with Sulfuric Acid	<2	4
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	6
MW-13	240-138359-C-9	Plastic 500ml - with Sulfuric Acid	<2	_ 7
MW-13	240-138359-D-9	Plastic 500ml - with Nitric Acid	<2	
MW-13	240-138359-E-9	Plastic 500ml - w/ Nitric - Dis.	<2	8
MW-14	240-138359-A-10	Plastic 250ml - with Sulfuric Acid	<2	9
MW-14	240-138359-C-10	Plastic 500ml - with Sulfuric Acid	<2	
MW-14	240-138359-D-10	Plastic 500ml - with Nitric Acid	<2	1
MW-14	240-138359-E-10	Plastic 500ml - w/ Nitric - Dis.	<2	1
MW-FGD3	240-138359-A-11	Plastic 250ml - with Sulfuric Acid	<2	1
MW-FGD3	240-138359-C-11	Plastic 500ml - with Sulfuric Acid	<2	
MW-FGD3	240-138359-D-11	Plastic 500ml - with Nitric Acid	<2	13
MW-FGD3	240-138359-E-11	Plastic 500ml - w/ Nitric - Dis.	<2	_ 14
MW-FGD4	240-138359-A-12	Plastic 250ml - with Sulfuric Acid	<2	
MW-FGD4	240-138359-C-12	Plastic 500ml - with Sulfuric Acid	<2	1
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

Client Information (Sub Contract Lab)	Sampler			Cisner	Lab PM Cisneros, Roxanne	xanne		Car	Carrier Tracking No(s):	COC No. 240-127308.1	
Client Contact:	Phone:			E-Mail.		1			State of Origin	Page	
Snipping/Receiving				roxa	ne.cisn	eros@	roxanne.cisneros@Eurofinset.com		est Virginia	Page 1 of 1	
Company. TestAmerica Laboratories, Inc.					Accredita State P	tions Re rogram	Accreditations Required (See note): State Program - West Virginia DEP	e): inia DEP		Job #. 240-138359-3	
Address; 13715 Rider Trail North, ,	Due Date Request 11/12/2020	ed:					An	Analysis Requested	sted	Preservation Codes	des:
Olty Earth City	TAT Requested (days):	ays):								A - HCL B - NaOH C - Zo Acetate	M - Hexane N - None
State, Zip: MO, 63045						700				D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2SO3
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	#O4				(0		poute			F - MeOH G - Amchlor H - Accorbio Acid	R - Na2S2O3 S - H2SO4 T - TSB Dodochudota
Email:	#OM				_		oal Me				U - Acetone V - MCAA
Project Name. Mount Storm Power Station	Project # 24021758				4/11/11/19		op) ro			Ainers K-EDTA L-EDA	W - pH 4-5 Z - other (specify)
Site:	SSOW#.				VIII 2945/5	aratos:	PC/ (M			oconi Other:	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp, G=grab) B	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Ar)	Field Filtered S Pertorm MS/MS	9315_Ra226/Prec	Ra226Ra228_GF			o redmuM istoī	Special Instructions Motor
	\langle	X		on Code:	X						isti dellons/Note.
MW-FGDW2 (240-138359-2)	10/13/20	08:54 Fastern		Water		×	×			2 Run once, report t	Run once, report twice (job series-2,-3)
										18 91	
						-					
1											
										ORD B	
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.	America places the ownershi matrix being analyzed, the si ent to date, return the signer	p of method, a amples must b	nalyte & accredit	ation compliar to the Eurofins said complicar	ce upon o TestAmen	ut subcc ca labor ofins Tes	ntract laborato atory or other in Wmerica.	les. This sample sh structions will be pre	ipment is forwarded und	der chain-of-custody. If the Jabor accreditation status should be b	atory does not currently rought to Eurofins
Possible Hazard Identification					Sam	ple Di	sposal (A f	e may be asse	ssed if samples ar	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	month)
Unconfirmed					1	Retui	Return To Client	Disp	Disposal By Lab	Archive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank:	able Rank:	2		Spec	ial Inst	ructions/QC	Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:			Time:				Method of Shipment:		
Reinquished by:	4-7	0 12	30	Sompany 240	œ	Received by	by:	FED EX	Date/Time		Company
Relinquished by FED EX	Date/Time:		<u>U</u>	Company	В	Secely Dy	0	17	Date/Time	10150 101 A 0059	Company
Relinquished by:	Date/Time		O	Company	2	of bayland) hq		Date/Time	1	Company
Custody Seals Intact: Custody Seal No.:					0	ooler Te	mperature(s) "	Cooler Temperature(s) ^o C and Other Remarks:	3:		

Client: Golder Associates Inc.

Job Number: 240-138359-3 SDG Number: Phase A CCR

List Source: Eurofins TestAmerica, Pittsburgh

List Creation: 10/17/20 04:39 PM

Login Number: 138359 List Number: 2

Creator: Watson, Debbie

Creator: Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Client: Golder Associates Inc.

Job Number: 240-138359-3 SDG Number: Phase A CCR

Login Number: 138359 List Source: Eurofins TestAmerica, St. Louis List Number: 3

List Creation: 10/21/20 04:57 PM

Creator: Korrinhizer, Micha L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey</td <td>True</td> <td>Comment</td>	True	Comment
meter.	iiue	
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	
ls 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
\boxtimes	CCR Appendix III to Part 257
\boxtimes	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
-		-	'	·

<u>NA</u> Surrogate recoveries are provided for each analytical method, where applicable.

<u>NA</u> Surrogate recoveries for each method are within the acceptable limits.

Notes: ____

<u>Yes</u> 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)
			-

<u>Yes</u> 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.

<u>Yes</u> 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:	
INULES.	

7.0 FIELD DUPLICATE PRECISION

<u>Yes</u> 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

https://golderassociates.sharepoint.com/sites/124100/project files/6 deliverables/phase a/2021-01-31 msps phase a ccr amr/appendices/2021-01-31 msps phase a 2sa20 ccr data review.docx





golder.com