2022 Annual Groundwater Monitoring Report

Monroe Power Plant Bottom Ash Impoundment
Inactive Coal Combustion Residual Unit

3500 East Front Street
Monroe, Michigan

July 2022

Prepared For:

DTE Electric Company

Prepared By:

TRC
1540 Eisenhower Place
Ann Arbor, Michigan 48108

Vincent E. Buening, C.P.G.
Senior Project Manager

David B. McKenzie, P.E.
Senior Project Engineer

Sarah B. Holmstrom, P.G.
Senior Hydrogeologist

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

Executive Summary

On April 17, 2015, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule). The CCR Rule, as amended, applies to the DTE Electric Company (DTE Electric) Monroe Power Plant (MONPP) Bottom Ash Impoundment (BAI) Inactive CCR unit. On August 5, 2016, the USEPA published the CCR Rule companion *Extension of Compliance Deadlines for Certain Inactive Surface Impoundments*, which established the compliance deadlines for CCR units that were inactive prior to April 17, 2018. Pursuant to the CCR Rule, no later than August 1, 2019, and annually thereafter, the owner or operator of an inactive 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 for the preceding year in accordance with §257.90(e).

DTE Electric remained in detection monitoring at the MONPP BAI CCR Unit in the 2022 monitoring period. The semiannual detection monitoring events for 2022 were completed in October 2021 and April 2022, and included sampling and analyzing groundwater within the groundwater monitoring system for the indicator parameters listed in Appendix III to the CCR Rule. As part of the statistical evaluation, the data collected during detection monitoring events are evaluated to identify statistically significant increases (SSIs) in detection monitoring parameters to determine if concentrations in detection monitoring well samples exceed background levels. Detection monitoring data that has been collected and evaluated in the 2022 reporting period are presented in this report.

A SSI for sulfate was detected at one monitoring well during the October 2021 monitoring event and was found to be from natural variation in local and regional groundwater quality as documented in an Alternate Source Demonstration (ASD). For the April 2022 detection monitoring event, a SSI for total dissolved solids (TDS) was detected at MW-14, as verified by resampling.

According to §257.94(e), if the facility determines, pursuant to §257.93(h), that there is a SSI over background levels for one or more of the Appendix III constituents, the facility will, within 90 days of confirming a SSI, establish an assessment monitoring program or demonstrate that:

- A source other than the CCR unit caused the SSI, or
- The SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

In response to the TDS SSI noted during the April 2022 monitoring event, DTE Electric is evaluating potential alternative sources for the SSI and will develop an ASD if appropriate.

1.0 Introduction

1.1 Program Summary

On April 17, 2015, the United States Environmental Protection Agency (USEPA) published the final rule for the regulation and management of Coal Combustion Residuals (CCR) under the Resource Conservation and Recovery Act (RCRA) (the CCR Rule). The CCR Rule, as amended, applies to the DTE Electric Company (DTE Electric) Monroe Power Plant (MONPP) Bottom Ash Impoundment (BAI) Inactive CCR unit. On August 5, 2016, the USEPA published the CCR Rule companion *Extension of Compliance Deadlines for Certain Inactive Surface Impoundments*, which established the compliance deadlines for CCR units that were inactive prior to April 17, 2018. Pursuant to the CCR Rule, no later than August 1, 2019, and annually thereafter, the owner or operator of an inactive 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 for the preceding year in accordance with §257.90(e).

As documented in the *Annual Groundwater Monitoring Report for the Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit (2021 Annual Report)* (TRC, July 2021), covering the 2021 reporting period (July 1, 2020 through June 30, 2021) activities, DTE Electric reported that the fluoride concentrations within groundwater at MW-3S and MW-9, and the sulfate concentration within groundwater at monitoring well MW-13 were outside established statistical background limits. As a result, an Alternate Source Demonstration (ASD) was performed pursuant to §257.94(e) and concluded that the SSIs can be attributed to the variability in groundwater quality. Therefore, no SSIs were associated with the MONPP BAI CCR unit in the 2021 reporting period and DTE Electric continued detection monitoring during the 2022 reporting period pursuant to §257.94 of the CCR Rule. The August 2021 ASD is provided in Appendix A.

TRC prepared this 2022 Annual Groundwater Monitoring Report (2022 Annual Report) for the MONPP BAI CCR unit on behalf of DTE Electric for the reporting period that extends from July 1, 2021 through June 30, 2022 and presents the monitoring results and the statistical evaluation of the detection monitoring parameters for the October 2021 and April 2022 semiannual groundwater monitoring events for the MONPP BAI Inactive CCR unit.

These events are the sixth and seventh detection monitoring events performed to comply with §257.94. The monitoring was performed in accordance with the *Groundwater Monitoring Work Plan Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin DTE Monroe Plant* (Work Plan) (AECOM, September 2017) and statistically evaluated per the *Groundwater Statistical Evaluation Plan Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin DTE Monroe Plant* (Stats Plan) (AECOM, April 2019, Revision 1 August 2019). As part of the statistical evaluation, the data collected during detection monitoring events are evaluated to identify statistically significant increases (SSIs) of detection monitoring parameters compared to background levels.

1.2 Site Overview

The MONPP is located in Section 16, Township 7 South, Range 9 East, at 7955 East Dunbar Road, Monroe in Monroe County, Michigan (Figure 1). The MONPP BAI Inactive CCR unit was operated from the mid-1970s through 2015 and is located within the southern portion of the MONPP parcel at latitude 41° 52' 30" North and longitude 83° 20' 70" West. The MONPP BAI Inactive CCR unit is bounded by the MONPP facility to the north and northeast, Lake Erie to the southeast and south, and Plum Creek / the discharge canal to the west (Figure 2). The implementation for the BAI closure by removal is ongoing.

1.3 Geology/Hydrogeology

As presented in the Stats Plan, the bedrock in the site vicinity is overlain by approximately 40 to 50 feet of unconsolidated deposits of glacial origin. The deposits are comprised of two (2) distinct units: a hard glacial till immediately overlying bedrock and lacustrine (lakebed or lake shore) deposits which overlay the till unit. The till is comprised of highly compacted gray silty to sandy clay with some cobbles and boulders, and ranges from approximately 20 to 50 feet in thickness. The overlying lacustrine deposits are composed of 10 to 30 feet of fine-grained sand and silt with some soft clay except where there is a thin, discontinuous coarse sand unit at the base of the lacustrine sequence.

Under parts of the Plant, and the Inactive BAI, this sand unit ranges in thickness from 5 to 20 feet and yields groundwater. The sand unit thins progressively to the west, having a thickness of approximately 12 feet on the east side of the discharge canal and thinning to less than a few feet within 150 feet to the west of the discharge canal. Farther to the west the sand unit is not present as shown by soil borings for monitoring wells drilled in 2016 around the Fly Ash Basin. This is consistent with the expectation that lake-deposited materials will decrease in thickness with distance away from Lake Erie. Accordingly, it appears that this sand unit is a localized lakeshore beach deposit formed by westward aggradation with rising lake level and subsequently blanketed by finer lacustrine deposits. Groundwater in the sand unit is under semi-confined conditions with groundwater elevations ranging between approximately 572.6 and 575.6 feet above mean sea level (msl).

A detailed summary of the site hydrogeology is presented in the *Monitoring Well Installation Report Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin DTE Monroe* (Well Installation Report) (AECOM, April 2019, Revision 1 August 2019).

2.0 Groundwater Monitoring

2.1 Monitoring Well Network

A groundwater monitoring system has been established for the MONPP BAI Inactive CCR unit as detailed in the Well Installation Report. The detection monitoring well network for the MONPP BAI Inactive CCR unit currently consists of eleven monitoring wells that are screened in the uppermost aquifer. The monitoring well locations are shown on Figure 2.

As discussed in the Stats Plan, the groundwater monitoring system wells do not serve as simple upgradient or downgradient monitoring points because of two main factors:

- The sand unit located at the bottom of the lacustrine deposits is limited in extent. The unit is present in the inactive Bottom Ash Impoundment area and extends a limited distance north into the main Monroe Plant area. As noted above, the sand unit extends westward but also thins out and is not present in monitoring wells located greater than 500 feet west of the CCR unit. Therefore, there is no representative upgradient or background monitoring position available for the unit; and
- There is a strong confined hydraulic pressure in the sand unit aquifer. The overlying finer grained lacustrine deposits are relatively dry but water levels in the monitoring wells installed in the sand unit rise to within 2.5 to 12.0 feet below ground surface (bgs), likely driven by hydraulic pressure from the underlying bedrock aquifer system.

As such, an intrawell statistical approach was selected. An intrawell statistical approach requires that each of the downgradient wells doubles as the background and compliance well, where data from each individual well during a detection monitoring event is compared to a statistical limit developed using the background dataset from that same well. The monitoring system is comprised of monitoring wells MW-1S through MW-3S, MW-7S, and MW-9 through MW-15 located around the perimeter of the MONPP BAI (total of eleven background/downgradient monitoring wells). Additional discussion related to the selection of an intrawell statistical approach is presented in the Stats Plan.

2.2 Semiannual Groundwater Monitoring

The semiannual monitoring parameters for the detection groundwater monitoring program were selected per the CCR Rule's Appendix III to Part 257 – Constituents for Detection Monitoring. The Appendix III indicator parameters consist of boron, calcium, chloride, fluoride, pH (field reading), sulfate, and total dissolved solids (TDS) and were analyzed in accordance with the sampling and analysis plan included within the Work Plan. In addition to pH, the collected field parameters included oxidation reduction potential, dissolved oxygen, specific conductivity, temperature, and turbidity.

2.2.1 Data Summary

The first semiannual groundwater detection monitoring event for the 2022 monitoring period was performed October 18, 2021, by TRC personnel and samples were analyzed by Eurofins TestAmerica Laboratories, Inc. (Test America) in accordance with the Work Plan. Static water elevation data were collected at all eleven monitoring well locations. Groundwater samples were

collected from the eleven detection monitoring wells for the Appendix III indicator parameters and field parameters. A summary of the groundwater data collected during the October 2021 event is provided on Table 1 (static groundwater elevation data), Table 2 (field data), and Table 3 (analytical data).

The second semiannual groundwater detection monitoring event was performed April 4-5, 2022, by TRC personnel and samples were analyzed by Test America in accordance with the Work Plan. Static water elevation data were collected at all eleven monitoring well locations. Groundwater samples were collected from the eleven detection monitoring wells for the Appendix III indicator parameters and field parameters. A summary of the groundwater data collected during the April 2022 event is provided on Table 1 (static groundwater elevation data), Table 2 (field data), and Table 4 (analytical data). The laboratory analytical reports are included in Appendix B.

2.2.2 Data Quality Review

Data from the October 2021 and April 2022 detection monitoring events and associated verification resampling were evaluated for completeness, overall quality and usability, method-specified sample holding times, precision and accuracy, and potential sample contamination. The data were found to be complete and usable for the purposes of the CCR monitoring program. Data quality reviews are presented in Appendix C.

2.2.3 Groundwater Flow Rate and Direction

Groundwater elevation data collected during the October 2021 and April 2022 sampling events continue to show that groundwater within the uppermost aquifer generally flows toward Lake Erie to the southeast, south and to the plant's discharge channel to the southwest. Groundwater potentiometric surface elevations measured across the Site during the October 2021 and April 2022 sampling event are provided on Table 1 and were used to construct groundwater potentiometric surface maps shown on Figure 3 and Figure 4, respectively.

The groundwater flow rate and direction is consistent with previous monitoring events. The average hydraulic gradient throughout the Site during the October 2021 event is estimated at 0.0016 ft/ft using the 575 foot contour line and MW-9, MW-11, and MW-13, resulting in an estimated average seepage velocity of approximately 0.85 ft/day or 310 ft/year. The average hydraulic gradient throughout the Site during the April 2022 event is estimated at 0.0019 ft/ft using the 575 foot contour line and MW-9, MW-11, and MW-13, resulting in an estimated average seepage velocity of approximately 1.0 ft/day or 370 ft/year. Both events used the hydraulic conductivity of 164 ft/day averaged from the hydraulic conductivity values calculated for MW-1S, MW-3S, and MW-7S during aquifer testing and the assumed effective porosity of 0.3 described in the Well Installation Report.

The general flow direction is similar to that identified in previous monitoring rounds and continues to demonstrate that the downgradient wells are appropriately positioned to detect the presence of Appendix III parameters that could potentially migrate from the MONPP BAI Inactive CCR unit.

3.0 Statistical Evaluation

3.1 Establishing Background Limits

Per the Stats Plan, background limits were established for the Appendix III indicator parameters following the collection of at least eight background monitoring events using data collected from each of the eleven established detection monitoring wells (MW-1S through MW-3S, MW-7S, and MW-9 through MW-15). The statistical evaluation of the background data is presented in the 2019 Annual Report (TRC, July 2019). The Appendix III background limits for each monitoring well will be used throughout the detection monitoring period to determine whether groundwater has been impacted from the MONPP BAI Inactive CCR unit by comparing concentrations in the detection monitoring wells to their respective background limits for each Appendix III indicator parameter.

3.2 Data Comparison to Background Limits – First Semiannual Event (October 2021)

The concentrations of the indicator parameters in each of the detection monitoring wells (MW-1S through MW-3S, MW-7S, and MW-9 through MW-15) were compared to their respective statistical background limits calculated from the background data collected from each individual well (i.e., monitoring data from MW-1S is compared to the background limit developed using the background dataset from MW-1S, and so forth). The comparisons are presented on Table 3.

The statistical evaluation of the October 2021 Appendix III indicator parameters shows potential SSIs over background for:

- Boron at MW-10;
- Fluoride at MW-15;
- Sulfate at MW-13, MW-14, and MW-15; and
- Total dissolved solids at MW-11.

The boron exceedance at MW-10 during the Second Semiannual Event in October 2021 has previously been demonstrated to be from natural variability and is not from a release from the CCR unit (TRC, July 2021). In addition, the sulfate exceedance at MW-13 has previously been attributed to natural variability unrelated to the CCR unit as presented in the demonstration that was submitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) on August 11, 2021 (TRC, August 2021). These ASDs continue to be applicable given the conditions in which the October 2021 exceedances for boron at MW-10 and sulfate at MW-13 occurred, and the basis of attributing these concentrations to natural variability of local and regional groundwater quality are consistent with the previous demonstrations.

The initial observation of a constituent concentration above the established background limits does not constitute a SSI. Per the Stats Plan, if there is an initial exceedance of a prediction limit for one or more of the constituents that have not been attributed to an alternate source, the well(s) of concern can be resampled within 30 days of the completion of the initial statistical analysis for verification purposes. There were no potential SSIs compared to background for

pH, calcium, or chloride.

3.3 Verification Resampling – First Semiannual Event (October 2021)

Verification resampling is recommended per the Stats Plan and the *USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance, USEPA, 2009) to achieve performance standards as specified by §257.93(g) in the CCR Rule. Per the Stats Plan, if there is an exceedance of a prediction limit for one or more of the parameters, the well(s) of concern will be resampled within 30 days of the completion of the initial statistical analysis. Only constituents that initially exceed their statistical limit (i.e., have no previously recorded SSIs) will be analyzed for verification purposes. As such, verification resampling was conducted on December 8, 2021, by TRC personnel for fluoride at MW-15, sulfate at MW-14 and MW-15, and TDS at MW-11. A summary of the groundwater data collected during the verification resampling events are provided on Table 3. The associated data quality review is included in Appendix C.

The December 2021 verification sampling confirmed the SSI for sulfate at monitoring well MW-14. TRC reviewed the data and determined that sulfate is a result of natural variability in groundwater quality and not attributable to the MONPP BAI CCR unit as presented in the *Alternate Source Demonstration: Second Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit 3500 East Front Street, Monroe, Michigan*, dated February 24, 2022 (February 2022 ASD) (Appendix D). As all SSIs were affirmed to be attributed to natural variations in groundwater quality, detection monitoring was continued at the MONPP BAI CCR unit in accordance with §257.94 of the CCR Rule.

3.4 Data Comparison to Background Limits – Second Semiannual Event (April 2022)

The data comparisons for the April 2022 groundwater monitoring event are presented on Table 4. Based on the statistical evaluation of the April 2022 Appendix III indicator parameters potential SSIs were identified and a resample of the following was collected in accordance with the Stats Plan:

- Boron at MW-10, MW-11, and MW-15;
- Calcium at MW-10 and MW-14;
- Fluoride at MW-9;
- Sulfate at MW-14; and
- Total dissolved solids at MW-14.

The boron exceedance at MW-10 and MW-11 during the first semiannual event in April 2022 has previously been demonstrated to be from natural variation in local and regional groundwater quality and is not from a release from the CCR unit (TRC, July 2021). In addition, the fluoride exceedance at MW-9 and sulfate at MW-10 have previously been demonstrated to be from natural variability unrelated to the CCR unit as documented in the ASDs that were submitted to the EGLE on August 11, 2021 (TRC, August 2021) and February 24, 2022 (TRC, February 2022), respectively. These ASDs continue to be applicable given the conditions in which the

April 2022 exceedances for boron at MW-10 and MW-11, fluoride at MW-9, and sulfate at MW-14 occurred, and the basis of attributing these concentrations to natural variability are consistent with the previous demonstrations.

3.5 Verification Resampling – Second Semiannual Event (April 2022)

Verification resampling was conducted on June 1, 2022, by TRC personnel. Groundwater samples were collected for boron at monitoring well MW-15, calcium at MW-10 and MW-14, and TDS at MW-14 in accordance with the Stats Plan. A summary of the groundwater data collected during the verification resampling event is provided on Table 4. The associated data quality review is included in Appendix C.

The boron at monitoring well MW-15 and calcium at MW-10 and MW-14 verification results were within the prediction limits and no SSI exists from the April 2022 event for these parameters in accordance with the Stats Plan and the Unified Guidance.

The June 2022 verification sampling confirmed the SSI for TDS at monitoring well MW-14. Per §257.94(e), DTE Electric is in the process of evaluating potential alternate sources for the TDS SSI at MW-14.

4.0 Conclusions and Recommendations

SSIs over background limits from the October 2021 monitoring event were affirmed to be from an alternate source. For the April 2022 monitoring event a SSI of TDS concentration was observed at one monitoring well location, as verified by resampling. The source of the SSI is being further evaluated, and an ASD will be developed, if appropriate.

According to §257.94(e), in the event that the facility determines, pursuant to §257.93(h), that there is a SSI over background levels for one or more of the Appendix III constituents, the facility will, within 90 days of confirming a SSI, establish an assessment monitoring program or demonstrate that:

- A source other than the CCR unit caused the SSI, or
- The SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

The owner or operator must complete a written demonstration (i.e., Alternative Source Demonstration, ASD), of the above within 90 days of confirming the SSI. Based on the outcome of the ASD the following steps will be taken:

- If a successful ASD is completed, a certification from a qualified professional engineer is required, and the CCR unit may continue with detection monitoring.
- If a successful ASD is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under §257.95. The facility must also include the ASD in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

In response to the TDS SSI over the background limit noted during the April 2022 event, DTE Electric is evaluating whether a source other than the MONPP BAI Inactive CCR unit caused the SSI and will develop an ASD, if appropriate.

The next semiannual monitoring event at the MONPP BAI is scheduled for the fourth calendar quarter of 2022.

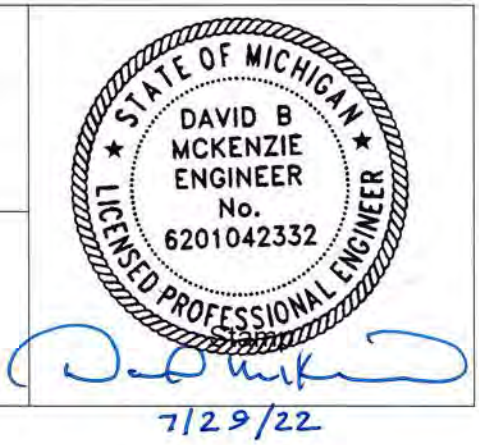
5.0 Groundwater Monitoring Report Certification

The U.S. EPA's Disposal of Coal Combustion Residuals from Electric Utilities Final Rule Title 40 CFR Part 257 §257.90(e) requires that the owner or operator of an existing CCR unit prepare an annual groundwater monitoring and corrective action report.

Annual Groundwater Monitoring Report Certification
Monroe Power Plant Bottom Ash Impoundment
Monroe, Michigan

CERTIFICATION

I hereby certify that the annual groundwater and corrective action report presented within this document for the MONPP BAI CCR unit has been prepared to meet the requirements of Title 40 CFR §257.90(e) of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.90(e).

Name: David B. McKenzie, P.E.	Expiration Date: December 17, 2023	
Company: TRC Engineers Michigan, Inc.	Date: July 28, 2022	7/29/22

6.0 References

AECOM. September 2017. Groundwater Monitoring Work Plan Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

AECOM. April 2019, Revision 1 August 2019. Groundwater Statistical Evaluation Plan Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

AECOM. April 2019, Revision 1, August 2019. Monitoring Well Installation Report Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

TRC. July 2020. 2020 Annual Groundwater Monitoring Report – DTE Electric Company, Monroe Power Plant Bottom Ash Impoundment, Inactive Coal Combustion Residual Unit. Prepared for DTE Electric Company.

TRC. July 2021. Annual Groundwater Monitoring Report – Monroe Power Plant Bottom Ash Impoundment, Inactive Coal Combustion Residual Unit. Prepared for DTE Electric Company.

TRC. August 2021. Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit. Technical Memorandum to DTE Electric Company dated August 11, 2021.

TRC. February 2022. Alternate Source Demonstration: Second Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit. Technical Memorandum to DTE Electric Company dated February 24, 2022.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA facilities, Unified Guidance. Office of Conservation and Recovery. EPA 530/R-09-007.

USEPA. April 2015. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. 80 Federal Register 74 (April 17, 2015), pp. 21301-21501 (80 FR 21301).

USEPA. July 2018. 40 CFR Part 257. Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One, Part One); Final Rule. 83 Federal Register 146 (July 30, 2018), pp. 36435-36456 (83 FR 36435).

USEPA. April 2018. Barnes Johnson (Office of Resource Conservation and Recovery) to James Roewer (c/o Edison Electric Institute) and Douglas Green, Margaret Fawal (Venable LLP). Re: Coal Combustion Residuals Rule Groundwater Monitoring Requirements. April 30, 2018. United States Environmental Protection Agency, Washington, D.C. 20460. Office of Solid Waste and Emergency Response, now the

Office of Land and Emergency Management.

Tables

Table 1
Groundwater Elevation Summary – October 2021 and April 2022
Monroe Power Plant BAI Inactive CCR Unit – RCRA CCR Monitoring Program
Monroe, Michigan

Well ID	MW-1S		MW-2S		MW-3S		MW-7S		MW-9		MW-10		MW-11		MW-12		MW-13		MW-14		MW-15	
Date Installed	9/19/2016		9/19/2016		9/20/2016		9/28/2016		9/19/2017		9/20/2017		9/20/2017		9/21/2017		9/21/2017		9/22/2017		9/26/2017	
TOC Elevation	582.62		578.85		577.58		576.20		579.05		577.46		580.58		582.49		580.97		580.76		580.80	
Geologic Unit of Screened Interval	Silt and Sand		Sand and Sandy clay		Silt and Sand		Sand and Gravel		Sand and Gravel		Sand and Sandy clay		Silt		Silt and Sand		Clay, Silt, and Sand		Silt and Sand		Sandy Clay and Sand	
Screened Interval Elevation	538.80 to 548.80		538.20 to 548.20		538.10 to 548.10		542.60 to 552.60		541.37 to 551.37		540.79 to 550.79		537.84 to 547.84		537.90 to 547.90		543.25 to 553.25		537.87 to 547.87		539.61 to 549.61	
Unit	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft	ft BTOC	ft
Measurement Date	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation	Depth to Water	GW Elevation
10/18/2021	9.09	573.53	4.11	574.74	2.95	574.63	2.02	574.18	4.61	574.44	2.90	574.56	5.88	574.70	7.82	574.67	7.22	573.75	5.44	575.32	6.95	573.85
4/4/2022	9.08	573.54	4.94	573.91	3.47	574.11	1.90	574.30	4.48	574.57	2.80	574.66	6.72	573.86	8.58	573.91	7.27	573.70	5.30	575.46	6.80	574.00

Notes:

Elevations are reported in feet relative to the North American Vertical Datum of 1988.

ft BTOC - feet below top of casing

NM - Not Measured.

(1) - Depth to water guaged on April 6,2022

Table 2
Summary of Field Parameters – October 2021 to June 2022
Monroe Power Plant BAI Inactive CCR Unit – RCRA CCR Monitoring Program
Monroe, Michigan

Sample Location	Sample Date	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Specific Conductivity (umhos/cm)	Temperature (deg C)	Turbidity (NTU)
MW-1S	10/18/2021	0.32	37.3	6.8	1,270	13.8	39.3
	4/4/2022	3.39	90.9	6.9	1,009	10.6	39.1
MW-2S	10/18/2021	0.18	-141.1	7.9	1,720	15.4	6.42
	4/5/2022	1.47	-148.7	7.4	1,543	12.4	13.5
MW-3S	10/18/2021	0.14	-83.7	7.3	1,837	17.1	24.1
	4/4/2022	1.25	-267.5	7.5	1,838	13.0	118
MW-7S	10/18/2021	0.22	-43.5	6.9	1,227	16.5	6.73
	4/5/2022	3.05	-114.2	7.3	1,229	13.0	8.10
MW-9	10/18/2021	0.43	-100.0	6.8	1,425	16.5	2.91
	4/4/2022	0.89	-271.8	7.0	1,453	13.2	6.95
MW-10	10/18/2021	0.15	-250.9	6.9	1,488	16.4	3.38
	4/4/2022	0.85	-322.5	7.2	1,506	13.2	5.00
	6/1/2022(2)	1.00	-228.8	7.1	1,178	15.5	2.56
MW-11	10/18/2021	0.37	-62.4	7.5	1,897	15.2	5.83
	12/8/2021(1)	2.36	-39.7	7.3	1,788	11.9	28.5
	4/5/2022	2.44	-93.3	7.2	1,710	12.7	22.7
MW-12	10/18/2021	0.19	-143.9	7.8	1,584	14.3	2.48
	4/4/2022	1.92	-128.8	7.5	1,489	12.0	2.75
MW-13	10/18/2021	0.70	-85.5	7.0	712	14.1	2.06
	4/4/2022	1.38	-96.0	7.0	670	11.7	9.08
MW-14	10/18/2021	0.34	-95.1	7.2	1,898	19.6	1.75
	12/8/2021(1)	1.05	-122.2	7.2	1,845	11.2	16.8
	4/4/2022	0.94	-257.9	7.1	2,746	11.1	7.85
	6/1/2022(2)	1.22	-68.8	7.0	2,046	14.1	3.50
MW-15	10/18/2021	0.31	-126.0	7.3	1,095	18.8	3.98
	12/8/2021(1)	1.06	-132.0	7.3	958	14.4	0.89
	4/5/2022	0.90	-265.0	7.2	1,240	14.6	4.90
	6/1/2022(2)	1.16	-116.6	7.2	1,001	17.2	2.20

Notes:

mg/L - Milligrams per Liter.

mV - Millivolts.

SU - Standard Units.

umhos/cm - Micromhos per centimeter.

°C - Degrees Celcius.

NTU - Nephelmetric Turbidity Unit.

(1) Results shown for verification sampling performed on December 8, 2021.

(2) Results shown for verification sampling performed on June 1, 2022.

Table 3
Comparison of Appendix III Parameter Results to Background Limits – October and December 2021
Monroe Power Plant BAI Inactive CCR Unit
Monroe, Michigan

Sample Location:		MW-1S		MW-2S		MW-3S		MW-7S		MW-9	
Sample Date:		10/18/2021	PL	10/18/2021	PL	10/18/2021	PL	10/18/2021	PL	10/18/2021	PL
Constituent	Unit	Data		Data		Data		Data		Data	
Appendix III											
Boron	ug/L	490	870	1,000	1,000	620	980	340	1,400	540	640
Calcium	ug/L	190,000	370,000	240,000	270,000	210,000	540,000	170,000	380,000	180,000	190,000
Chloride	mg/L	71	170	11	14	10	15	51	110	38	59
Fluoride	mg/L	0.33	0.47	0.69	0.89	0.69	0.98	0.79	1.6	0.54	0.56
pH, Field	su	6.8	6.5 - 8.7	7.9	7.0 - 8.5	7.3	6.9 - 7.9	6.9	6.0 - 8.1	6.8	6.2 - 7.0
Sulfate	mg/L	140	850	1,300	1,600	990	1,400	310	590	8.8	12
Total Dissolved Solids	mg/L	860	1,600	1,700	2,000	1,500	2,300	880	2,000	800	810

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

All metals were analyzed as total unless otherwise specified.

Bold font indicates an exceedance of the Prediction Limit (PL).

(1) Results shown for verification sampling performed on December 8, 2021.

(2) Exceedance was determined to be from an alternate source in the Alternate Source Demonstration: 2020 Second Semiannual Detection Monitoring Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated March 18, 2021.

(3) Exceedance was determined to be from an alternate source in the Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated August 11, 2021.

RESULT Shading and bold font indicates a confirmed exceedance of the Prediction Limit (PL).

Table 3
Comparison of Appendix III Parameter Results to Background Limits – October and December 2021
Monroe Power Plant BAI Inactive CCR Unit
Monroe, Michigan

Sample Location:		MW-10		MW-11			MW-12		MW-13		MW-14			MW-15		
Sample Date:		10/18/2021	PL	10/18/2021	12/8/2021[1]	PL	10/18/2021	PL	10/18/2021	PL	10/18/2021	12/8/2021[1]	PL	10/18/2021	12/8/2021[1]	PL
Constituent	Unit	Data		Data			Data		Data		Data			Data		
Appendix III																
Boron	ug/L	**550[2]**	530	870	--	920	970	1,100	< 100	100	1,100	--	1,700	2,500	--	2,800
Calcium	ug/L	160,000	170,000	250,000	--	330,000	180,000	210,000	120,000	140,000	270,000	--	310,000	140,000	--	150,000
Chloride	mg/L	53	80	17	--	18	11	13	97	120	290	--	310	110	--	150
Fluoride	mg/L	0.46	0.68	0.90	--	1.2	0.82	0.91	0.40	0.51	0.45	--	0.57	**0.67**	0.55	0.64
pH, Field	su	6.9	6.6 - 7.5	7.5	--	6.9 - 7.5	7.8	7.4 - 7.9	7.0	6.2 - 7.7	7.2	--	6.8 - 7.3	7.3	--	6.9 - 7.4
Sulfate	mg/L	13	19	1,400	--	1,500	1,100	1,300	**2.7[3]**	1.0	**500**	**560**	430	**3.4**	< 1.0	1.0
Total Dissolved Solids	mg/L	810	840	**2,200**	2,000	2,100	1,700	1,800	530	1,100	1,600	--	1,700	700	--	770

Notes:
ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
All metals were analyzed as total unless otherwise specified.
Bold font indicates an exceedance of the Prediction Limit (PL).
(1) Results shown for verification sampling performed on December 8, 2021.
(2) Exceedance was determined to be from an alternate source in the Alternate Source Demonstration: 2020 Second Semiannual Detection Monitoring Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated March 18, 2021.
(3) Exceedance was determined to be from an alternate source in the Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated August 11, 2021.
RESULT Shading and bold font indicates a confirmed exceedance of the Prediction Limit (PL).

Table 4
Comparison of Appendix III Parameter Results to Background Limits – April and June 2022
Monroe Power Plant BAI Inactive CCR Unit – RCRA CCR Monitoring Program
Monroe, Michigan

Sample Location:		MW-1S		MW-2S		MW-3S		MW-7S		MW-9	
Sample Date:		4/4/2022	PL	4/5/2022	PL	4/4/2022	PL	4/5/2022	PL	4/4/2022	PL
Constituent	Unit	Data		Data		Data		Data		Data	
Appendix III											
Boron	ug/L	460	870	1,000	1,000	690	980	170	1,400	550	640
Calcium	ug/L	220,000	370,000	250,000	270,000	260,000	540,000	200,000	380,000	190,000	190,000
Chloride	mg/L	84	170	11	14	13	15	19	110	41	59
Fluoride	mg/L	0.20	0.47	0.73	0.89	0.76	0.98	0.77	1.6	**0.63**[3]	0.56
pH, Field	su	6.9	6.5 - 8.7	7.4	7.0 - 8.5	7.5	6.9 - 7.9	7.3	6.0 - 8.1	7.0	6.2 - 7.0
Sulfate	mg/L	110	850	1,300	1,600	1,100	1,400	540	590	< 1.0	12
Total Dissolved Solids	mg/L	860	1,600	1,900	2,000	1,500	2,300	920	2,000	730	810

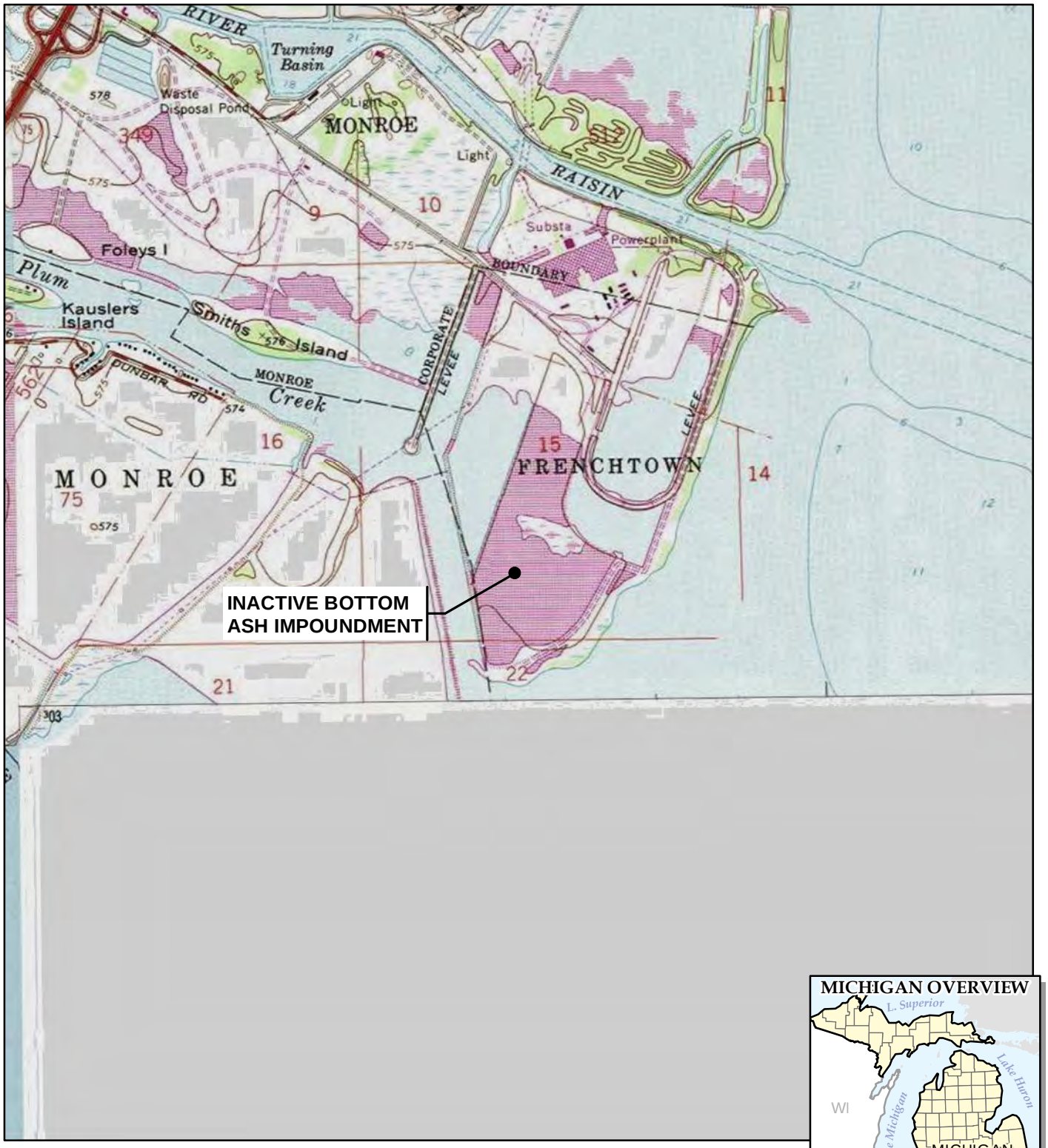
Notes:
ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
-- = not analyzed
All metals were analyzed as total unless otherwise specified.
Bold font indicates an exceedance of the Prediction Limit (PL).
RESULT Shading and bold font indicates a comfirmed exceedance of the Prediction Limit (PL).
(1) Results shown for verification sampling performed on June 1, 2022.
(2) Exceedance was determined to be from an alternate source in the Alternate Source Demonstration: 2020 Second Semiannual Detection Monitoring Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated March 18, 2021.
(3) Exceedance was determined to be from an alternate source in the Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated August 11, 2021.
(4) Exceedance was determined to be from an alternate source in the Alternative Source Demonstration: Second Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated February 24, 2022.

Table 4
Comparison of Appendix III Parameter Results to Background Limits – April and June 2022
Monroe Power Plant BAI Inactive CCR Unit – RCRA CCR Monitoring Program
Monroe, Michigan

Sample Location:		MW-10			MW-11		MW-12		MW-13		MW-14			MW-15		
Sample Date:		4/4/2022	6/1/2022[1]	PL	4/5/2022	PL	4/4/2022	PL	4/4/2022	PL	4/4/2022	6/1/2022[1]	PL	4/5/2022	6/1/2022[1]	PL
Constituent	Unit	Data	Data		Data		Data		Data		Data	Data		Data	Data	
Appendix III																
Boron	ug/L	**600[2]**	--	530	**930[2]**	920	1,100	1,100	< 100	100	1,500	--	1,700	**2,900**	2,500	2,800
Calcium	ug/L	**180,000**	150,000	170,000	270,000	330,000	200,000	210,000	140,000	140,000	**330,000**	290,000	310,000	140,000	--	150,000
Chloride	mg/L	54	--	80	16	18	10	13	95	120	300	--	310	110	--	150
Fluoride	mg/L	0.54	--	0.68	0.92	1.2	0.83	0.91	0.39	0.51	0.40	--	0.57	0.56	--	0.64
pH, Field	su	7.2	--	6.6 - 7.5	7.2	6.9 - 7.5	7.5	7.4 - 7.9	7.0	6.2 - 7.7	7.1	--	6.8 - 7.3	7.2	--	6.9 - 7.4
Sulfate	mg/L	4.1	--	19	1,400	1,500	1,100	1,300	< 1.0	1.0	**480[4]**	--	430	< 1.0	--	1.0
Total Dissolved Solids	mg/L	770	--	840	2,000	2,100	1,700	1,800	510	1,100	**1,800**	**1,800**	1,700	630	--	770

Notes:
ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
-- = not analyzed
All metals were analyzed as total unless otherwise specified.
Bold font indicates an exceedance of the Prediction Limit (PL).
RESULT Shading and bold font indicates a comfirmed exceedance of the Prediction Limit (PL).
(1) Results shown for verification sampling performed on June 1, 2022.
(2) Exceedance was determined to be from an alternate source in the Alternate Source Demonstration: 2020 Second Semiannual Detection Monitoring Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated March 18, 2021.
(3) Exceedance was determined to be from an alternate source in the Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated August 11, 2021.
(4) Exceedance was determined to be from an alternate source in the Alternative Source Demonstration: Second Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated February 24, 2022.

Figures



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

1 " = 2,000 '
1:24,000

0 2,000 4,000
FEET

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080
TRC - GIS

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
SITE LOCATION MAP

DRAWN BY:	A. ADAIR
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JULY 2022
PROJ. NO.:	461816.0006.0000
FILE:	461816.0006-001.mxd

FIGURE 1

S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\461816.0006-001.mxd -- Saved By: AADAIR on 6/20/2022, 13:26:21 PM

Plot Date: 6/20/2022, 15:01:22 PM by AADAIR -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\461816.0006-002.mxd
Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0
TRC - GIS

LEGEND

- CCR PROGRAM MONITORING WELL
- INVESTIGATION MONITORING WELL (STATIC WATER LEVELS ONLY)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH IMPOUNDMENT
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, MARCH, 2021.

N

1 " = 700 '
1:8,400

0 700 1,400 FEET

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
INACTIVE BOTTOM ASH IMPOUNDMENT WELL LOCATION MAP

DRAWN BY:	A. ADAIR
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JULY 2022
PROJ. NO.:	461816.0006.0000
FILE:	461816.0006-002.mxd

FIGURE 2

Plot Date: 1/27/2022, 10:03:43 AM by AFOJTIK -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-006B_GWContoursOct21.mxd

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0

TRC - GIS

River Raisin

Discharge Canal

Plum Creek

Lake Erie

574'

575'

MW-15 (573.85)

MW-7S (574.18)

MW-9 (574.44)

MW-10 (574.56)

MW-3S (574.63)

MW-11 (574.70)

MW-12 (574.67)

MW-2S (574.74)

MW-14 (575.32)

MW-4S (NM)

MW-1S (573.53)

MW-13 (573.75)

Lake Erie Surface Water Elevation (573.27)

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH BASIN
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, MARCH 2021.
2. LAKE ERIE SURFACE WATER ELEVATION MEASURED AT NOAA GAUGING STATION 9063090 NEAR THE DTE FERMI POWER PLANT, NEWPORT, MICHIGAN.

0 700 1,400 FEET

1 " = 700 '

1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
GROUNDWATER CONTOUR MAP
OCTOBER 2021

DRAWN BY:	A. FOJTIK
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JANUARY 2022
PROJ. NO.:	413591.0006
FILE:	413591.0006-006B_GWContoursOct21.mxd

FIGURE 3

Plot Date: 7/27/2022, 15:30:23 PM by RSUEMNICHT -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\461816.0006-004.mxd

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0

TRC - GIS

Port Ave
Mcmillan St
E Front St
River Raisin
Discharge Canal
Plum Creek
Lake Erie
574'
575'
MW-15 (574.00)
MW-7S (574.30)
MW-9 (574.57)
MW-10 (574.66)
MW-3S (574.11)
MW-11 (573.86)
MW-12 (573.91)
MW-2S (573.91)
MW-14 (575.46)
MW-4S (NM)
MW-1S (573.54)
MW-13 (573.70)
Lake Erie Surface Water Elevation (573.19)

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH BASIN
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, MARCH 2021.
2. LAKE ERIE SURFACE WATER ELEVATION MEASURED AT NOAA GAUGING STATION 9063090 NEAR THE DTE FERMI POWER PLANT, NEWPORT, MICHIGAN.

N

1 " = 700 '
1:8,400

0 700 1,400 FEET

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
GROUNDWATER CONTOUR MAP
APRIL 2022

DRAWN BY:	A. ADAIR
CHECKED BY:	B. YELEN
APPROVED BY:	BUENING
DATE:	JULY 2022
PROJ. NO.:	461816.0006
FILE:	461816.0006-004.mxd

FIGURE 4

Appendix A
August 2021 Alternative Source Demonstration

1540 Eisenhower Pl.
Ann Arbor, MI 48108

T 734.971.7080
TRCcompanies.com

August 11, 2021

Brett Coulter
Jackson District Office
Materials Management Division
Michigan Department of Environment, Great Lakes, and Energy
301 E. Louis Glick Hwy.
Jackson, MI 48161

Subject: Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event
Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit
3500 East Front Street, Monroe, Michigan

Dear Mr. Coulter:

TRC was retained by DTE Electric Company (DTE Electric) to conduct routine groundwater monitoring activities at the Monroe Power Plant Bottom (MONPP) Bottom Ash Impoundment (BAI) inactive coal combustion residual (CCR) unit (the Site), located in Monroe, Michigan. Routine groundwater monitoring at the MONPP BAI Inactive CCR unit is conducted in accordance with the Michigan Department of Environment, Great Lakes, and Energy (EGLE)-approved *Hydrogeological Monitoring Plan* (MONPP BAI HMP) for the Site (TRC, June 30, 2020) and the United States Environmental Protection Agency (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA), as amended (the CCR Rule) (USEPA, April 2015).

As discussed in the *First Semiannual 2021 Groundwater Monitoring Report* for the Site (TRC, July 2021), the statistical evaluation of the April 2021 detection monitoring indicator parameters indicated potential statistically significant increases (SSIs) for:

- Fluoride at MW-3S (1.0 mg/L with a prediction limit (PL) of 0.98 mg/L) and MW-9 (0.57 mg/L with a PL of 0.56 mg/L); and
- Sulfate at MW-13 (2.2 mg/L with a PL of 2.1 mg/L) and MW-15 (5.2 mg/L with a PL of 1.0 mg/L).

Verification resampling for the April 2021 event was conducted on June 9, 2021 by TRC personnel. The verification result for sulfate at MW-15 (<1.0 mg/L) was within the PL of 1.0 mg/L, consequently the initial potential SSI for sulfate at MW-15 is not confirmed. Therefore, in accordance with the *Groundwater Statistical Evaluation Plan – Inactive Bottom Ash Impoundment* (Stats Plan) (AECOM, April 2019, Revised April 2020) and the *USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) (USEPA, 2009), the initial exceedance is not statistically significant, and no SSI will be recorded for sulfate at MW-15. The verification results for fluoride at MW-3S (1.0 mg/L) was slightly above the PL (0.98 mg/L) and at MW-9 (0.58 mg/L) was slightly above the PL (0.56 mg/L), and for sulfate at MW-13 (2.7 mg/L) was slightly above the PL (1.0 mg/L); therefore, the initial SSIs for fluoride at MW-3S and MW-9 and for sulfate at MW-13 are confirmed (Table 1).

In accordance with §257.94(e)(2) and the HMP, DTE Electric may demonstrate that a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. This Alternate Source Demonstration (ASD) has been prepared to address the aforementioned fluoride and sulfate SSIs identified in the April 2021 detection monitoring event. The results of this ASD show that the SSIs at MW-3S, MW-9, and MW-13 are not due to a release from the MONPP BAI Inactive CCR unit.

Background

The MONPP is located in Section 15, Township 7 South, Range 9 East, at 3500 East Front Street, Monroe in Monroe County, Michigan. The site location is shown in Figure 1. The MONPP BAI Inactive CCR unit is located within the southern portion of the MONPP parcel and is bounded by the MONPP facility to the north and northeast, Lake Erie to the southeast and south, and the discharge canal to the west.

The bedrock in the site vicinity is overlain by approximately 40 to 50 feet of unconsolidated deposits of glacial origin. The deposits are comprised of two (2) distinct units: a hard glacial till immediately overlying bedrock and lacustrine (lake bed or lake shore) deposits which overlay the till unit. The till is comprised of over consolidated (highly compacted) gray silty to sandy clay with some cobbles and boulders, and ranges from approximately 20 to 50 feet in thickness. The overlying lacustrine deposits are composed of 10 to 30 feet of fine-grained sand and silt with some soft clay except where there is a thin, discontinuous coarse sand unit at the base of the lacustrine sequence.

The detection monitoring well network for the MONPP BAI Inactive CCR unit currently consists of eleven monitoring wells that are screened in the uppermost aquifer. As discussed in the Stats Plan, intrawell statistical methods for the MONPP BAI Inactive CCR unit were selected based on the geology and hydrogeology at the Site (the variability in the presence of the sand unit aquifer across the site and the strong confined hydraulic pressure in the sand unit aquifer), in addition to other supporting lines of evidence that the aquifer is unaffected by the CCR unit (such as the consistency in concentrations of water quality data). Monitoring wells MW-1S through MW-3S, MW-7S, and MW-9 through MW-15 are located around the perimeter of the MONPP BAI and provide data on both background and downgradient groundwater quality that has not been affected by the CCR unit (total of eleven background/downgradient monitoring wells). The monitoring well locations are shown in Figure 2. The *Monitoring Well Installation Report Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Impoundment DTE Monroe* (Well Installation Report) (AECOM, April 2019, Revised August 2019) details the groundwater monitoring system.

Alternate Source Demonstration

As discussed above, verification resampling for fluoride at MW-3S and MW-9, and sulfate at MW-13 and MW-15 was performed as recommended per the Stats Plan and the *USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance, USEPA, 2009) to achieve performance standards as specified in the HMP and by §257.93(g) in the CCR Rule. The June 2021 verification resampling confirmed the fluoride exceedances at MW-3S and MW-9, and the sulfate exceedance at MW-13 (Table 1). The following discussion presents the ASD for the confirmed prediction limit exceedances.

Fluoride at MW-3S and MW-9

The SSIs of fluoride in the groundwater at MW-3S and MW-9, shown graphically in Figure 3 and on Table 1, are the result of natural variability in the groundwater quality and not the release of CCR constituents from the MONPP BAI CCR unit. Multiple lines of evidence are provided in support of this conclusion and are as follows:

- **Laboratory precision and accuracy in fluoride analysis** – The laboratory reported fluoride concentrations for the MW-3S and MW-9 groundwater samples collected during the first semiannual 2021 sampling event are within the precision (+/- 10%) and accuracy (+/- 10%) range of their respective PLs for the April 2021 original samples and the June 2021 confirmation samples. As such, the respective PLs are within the margin of error of the laboratory results.
- **Limited background sampling timeline to account for temporal variability** – Groundwater is transient by nature and is subject to natural temporal changes in chemistry that occur over time. The fluoride SSIs observed at MW-3S and MW-9 are slightly above the prediction limits and appear as a gradual change over the past 2 years (Figure 3). Similar changes are observed over the past two years at multiple other wells across the site well network both hydraulically upgradient and downgradient, such as MW-7S, MW-10, MW-14, and MW-15, shown on the Figure 4 time-series plot. This shows the subtle variability is occurring at a broader more-regional scale rather than a localized area, further indicating natural changes, and are not indicative of a release from the CCR unit. The short duration of the background data collection timeline limits the ability of the statistical analysis to capture the natural temporal trends in the groundwater quality at the MONPP BAI. This limited temporal variability can only be corrected with the collection of additional groundwater data, and the inclusion of the additional data in the background data set updated in the future, as long as data continue to show no impacts from the CCR unit.
- **Spatial variability in groundwater quality** – Fluoride concentrations vary considerably across the MONPP BAI well network. The fluoride concentrations observed in the MONPP BAI well network between 2017 and 2021 ranged from 0.14 to 1.3 mg/L (Figure 4). The fluoride concentrations observed at MW-3S (1.0 mg/L) and MW-9 (0.57 mg/L) during the April 2021 event are only slightly above the prediction limits and are well within the range of 0.14 to 1.3 mg/L observed across the entire monitoring network. Additionally, the fluoride concentrations observed during the April 2021 event are well below the federal National Primary Drinking Water Regulations Maximum Contaminant Level (MCL) of 4 mg/L and the Part 201 drinking water criteria of 2 mg/L. This further demonstrates that fluoride concentrations at MW-3S and MW-9 are due to natural variability as they are within the expected range across the site.
- **Offsite groundwater chemistry at MW-8S** - Offsite monitoring well, MW-8S, is screened in similar strata to MW-3S and MW-9 and is not hydraulically connected to groundwater beneath the MONPP BAI Inactive CCR unit. Therefore, groundwater quality at MW-8S provides insight into local background groundwater quality within the uppermost aquifer and can be used to evaluate fluoride concentrations observed at the MONPP BAI Inactive CCR unit. Monitoring well MW-8S is located west of the MONPP BAI, on the opposite side of the discharge channel. Based on historical site modifications that changed the underlying lithology beneath the discharge channel, groundwater in the area of monitoring well MW-8S is not hydraulically connected to groundwater in the vicinity of the MONPP BAI Inactive CCR unit. Historical groundwater data from MW-8S shows fluoride concentrations ranged from 0.77 to 1.4 mg/L from 2017 through 2021, as shown on Figure 3, compared to 0.58 to 1.1 mg/L measured at MW-3S, and 0.34 to 0.58 mg/L

measured at MW-9 from 2017 through 2021. This further demonstrates that the fluoride concentrations at monitoring wells MW-3S and MW-9 are similar to background for the area.

- **Lack of similar increase in other indicator parameters** – All other detection monitoring constituents at MW-3S and MW-9 remain below their respective prediction limits (Table 1). In addition, no other SSIs are observed across the well network, with the exception of MW-13, discussed in detail below. The lack of SSIs observed for other detection monitoring constituents further demonstrates that the April 2021 fluoride concentrations at MW-3S and MW-9 are not related to the CCR unit.

Sulfate at MW-13

The SSI of sulfate in the groundwater at MW-13, shown on Table 1, is due to natural variability in groundwater chemistry and not the release of CCR constituents from the MONPP BAI CCR unit. The lines of evidence provided in support of this conclusion are as follows:

- **Natural variability due to hydrologic connection with Lake Erie** - The short duration of the background sampling events limited the ability of the statistical analysis to capture the temporal variability and the potential influence from Lake Erie in the groundwater quality at the MONPP BAI. The seasonal variability in sulfate concentration observed at the MONPP BAI correlates to static water elevations, which are significantly influenced by Lake Erie water levels. As shown on the Figure 5 the water elevations between Lake Erie and MW-13, there is a strong correlation between Lake Erie water levels and the MONPP BAI CCR unit groundwater static water elevations; as Lake Erie water levels increase or decrease so do static water elevations at the MONPP BAI.

  Lake Erie influence coupled with an inward gradient can affect the water chemistry observed in groundwater at MW-13. The horizontal groundwater gradient for MONPP BAI typically radiates outwards to the west, south, and east from the center of the CCR unit. At times, there is reversal of hydraulic gradient, where a slight inward gradient from Lake Erie is periodically observed. This is shown on Figure 5 where Lake Erie water elevations are greater than MW-13 groundwater elevations.

  Sulfate concentrations observed in Lake Erie have remained around 25 mg/L since the 1950s, *Long-term trends of Great Lakes major ion chemistry, Journal of Great Lakes Research, June 10, 2012*, while concentrations observed in MW-13 were an order of magnitude lower than those in Lake Erie. This higher lake concentration along with the hydraulic connection and the occasional reversals of horizontal gradient have the potential to influence sulfate concentrations at MW-13.

- **Spatial variability in groundwater quality** – Sulfate concentrations vary considerably across the MONPP BAI well network. The sulfate concentrations observed in the MONPP BAI well network between 2017 and 2021 ranged from less than 1.0 mg/L to 1,600 mg/L. The sulfate concentrations observed at MW-13 (2.2 mg/L) during the April 2021 event are only slightly above the prediction limits and are well within the range of less than 1.0 to 1,600 mg/L observed across the entire monitoring network (Figure 6). Additionally, the concentrations of sulfate detected within the MW-13 groundwater sample in the first semiannual 2021 groundwater sampling event is well below the applicable federal National Secondary Drinking Water Regulation standard of 250 mg/L and well below the Michigan Part 201 drinking water criteria of 250 mg/L.

- **Offsite groundwater chemistry at MW-8S** - Offsite monitoring well, MW-8S, is screened in similar strata to MW-13 and is not hydraulically connected to groundwater beneath the MONPP BAI Inactive CCR unit. Therefore, groundwater quality at MW-8S provides insight into local background groundwater quality and can be used to evaluate sulfate concentrations observed at MW-13. Monitoring well MW-8S is located west of the MONPP BAI, on the opposite side of the discharge channel. Based on historical site modifications that changed the underlying lithology beneath the discharge channel, groundwater in the area of monitoring well MW-8S is not hydraulically connected to groundwater in the vicinity of the MONPP BAI Inactive CCR unit. Historical groundwater data from MW-8S shows sulfate concentrations ranged from 1,190 to 1,600 mg/L from 2017 through 2021, compared to less than 1.0 mg/L to 2.7 mg/L measured at MW-13 from 2017 through 2021 (Figure 6). This demonstrates that the sulfate concentrations at monitoring well MW-13 are well below background for the area, and as mentioned above, has the potential to be influenced by additional sources for sulfate outside of the CCR unit.

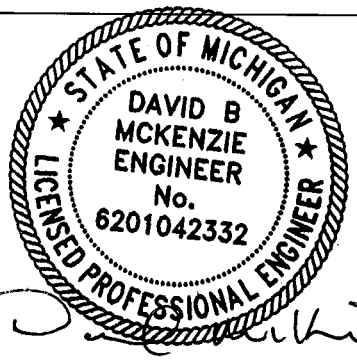
Conclusions and Recommendations

The information provided in this report serves as the ASD for the DTE Electric MONPP BAI Inactive CCR unit, was prepared in accordance with 40 CFR 257.94(e)(2) of the CCR Rule and the MONPP BAI HMP and demonstrates that the fluoride and sulfate SSIs from the first semiannual 2021 groundwater monitoring event are not due to a release of CCR into the groundwater from the MONPP BAI Inactive CCR unit. Therefore, based on the information provided in this ASD, DTE Electric plans to continue detection monitoring as per 40 CFR 257.94 and the MONPP BAI HMP at the MONPP BAI Inactive CCR unit.

Signatures and Certifications

Engineer Certification Statement

I hereby certify that the alternative source demonstration presented within this document for the MONPP BAI Inactive CCR unit has been prepared to meet the requirements of Title 40 CFR §257.94(e)(2) of the Federal CCR Rule and the June 30, 2020 Hydrogeological Monitoring Plan (HMP). This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e)(2) and the HMP.

Name: David B. McKenzie, P.E.	Expiration Date: October 31, 2021	 Stamp August 11, 2021
Company: TRC Engineers Michigan, Inc.	Date: August 11, 2021	

In addition, the signature below certifies that this letter report was prepared under the direction of a qualified groundwater scientist in accordance with the EGLE-approved HMP and the Stats Plan. A copy of this report will be placed in the facility file.

Sincerely,

TRC

Vincent E Buening, C.P.G
Sr. Project Manager

Sarah B. Holmstrom, P.G
Senior Hydrogeologist

Attachments

cc: Christopher P. Scieszka, DTE Electric Company

Attachments

Table 1 Comparison of Verification Sampling Results to Background Limits –April to June 2021

Figure 1 Site Location Map
Figure 2 Well Location Map
Figure 3 MW-3S, MW-8S, and MW-9 Fluoride Time Series Plot
Figure 4 Fluoride Time Series Plot (All Wells)
Figure 5 Lake Erie and MW-13 Water Elevations 2017 to 2021
Figure 6 Sulfate Time Series Plot (All Wells)

Appendix A References

Table

Table 1
Comparison of Groundwater Monitoring Parameter Results to Background Limits – April and June 2021
Monroe Power Plant BAI Inactive CCR Unit
Monroe, Michigan

Sample Location:		MW-1S		MW-2S		MW-3S			MW-7S		MW-9		
Sample Date:		4/6/2021	PL	4/5/2021	PL	4/21/2021	6/9/2021(1)	PL	4/5/2021	PL	4/5/2021	6/9/2021(1)	PL
Constituent	Unit	Data		Data		Data			Data		Data		
Appendix III													
Boron	ug/L	530	870	920	1,000	980	--	980	1,200	1,400	520	--	640
Calcium	ug/L	240,000	370,000	260,000	270,000	240,000	--	540,000	220,000	380,000	180,000	--	190,000
Chloride	mg/L	110	170	11	14	14	--	15	58	110	37	--	59
Fluoride	mg/L	0.25	0.47	0.72	0.89	**1.0**	**1.0**	0.98	0.97	1.6	**0.57**	**0.58**	0.56
pH, Field	su	7.0	6.5 - 8.7	7.6	7.0 - 8.5	7.2	--	6.9 - 7.9	7.0	6.0 - 8.1	7.0	--	6.2 - 7.0
Sulfate	mg/L	130	850	1,200	1,600	1,300	--	1,400	380	590	4.0	--	12
Total Dissolved Solids	mg/L	1,000	1,600	1,900	2,000	1,800	--	2,300	1,000	2,000	750	--	810
MI Part 115 Parameters													
Iron	ug/L	1,200	n < 8	2,300	n < 8	790	--	n < 8	1,300	n < 8	3,000	--	n < 8

Notes:
ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
-- = not analyzed
All metals were analyzed as total unless otherwise specified.
Bold font indicates an exceedance of the Prediction Limit (PL).
RESULT Shading and bold font indicates a confirmed exceedance of the Prediction Limit (PL).
(1) Results for verification sampling event performed on 6/9/2021.

Table 1
Comparison of Groundwater Monitoring Parameter Results to Background Limits – April and June 2021
Monroe Power Plant BAI Inactive CCR Unit
Monroe, Michigan

Sample Location:		MW-10		MW-11		MW-12		MW-13			MW-14		MW-15		
Sample Date:		4/5/2021	PL	4/5/2021	PL	4/5/2021	PL	4/5/2021	6/9/2021[1]	PL	4/5/2021	PL	4/6/2021	6/9/2021[1]	PL
Constituent	Unit	Data		Data		Data		Data			Data		Data		
Appendix III															
Boron	ug/L	510	530	840	920	980	1,100	< 100	--	100	1,100	1,700	2,500	--	2,800
Calcium	ug/L	170,000	170,000	270,000	330,000	210,000	210,000	130,000	--	140,000	270,000	310,000	150,000	--	150,000
Chloride	mg/L	55	80	16	18	10	13	94	--	120	250	310	110	--	150
Fluoride	mg/L	0.48	0.68	0.91	1.2	0.83	0.91	0.40	--	0.51	0.37	0.57	0.51	--	0.64
pH, Field	su	7.1	6.6 - 7.5	7.4	6.9 - 7.5	7.5	7.4 - 7.9	7.0	--	6.2 - 7.7	6.9	6.8 - 7.3	7.2	--	6.9 - 7.4
Sulfate	mg/L	7.7	19	1,300	1,500	1,100	1,300	**2.2**	**2.7**	1.0	410	430	**5.2**	<1.0	1.0
Total Dissolved Solids	mg/L	810	840	2,100	2,100	1,600	1,800	530	--	1,100	770	1,700	670	--	770
MI Part 115 Parameters															
Iron	ug/L	390	n < 8	2,400	n < 8	2,500	n < 8	11,000	--	n < 8	6,600	n < 8	9,700	--	n < 8

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

-- = not analyzed

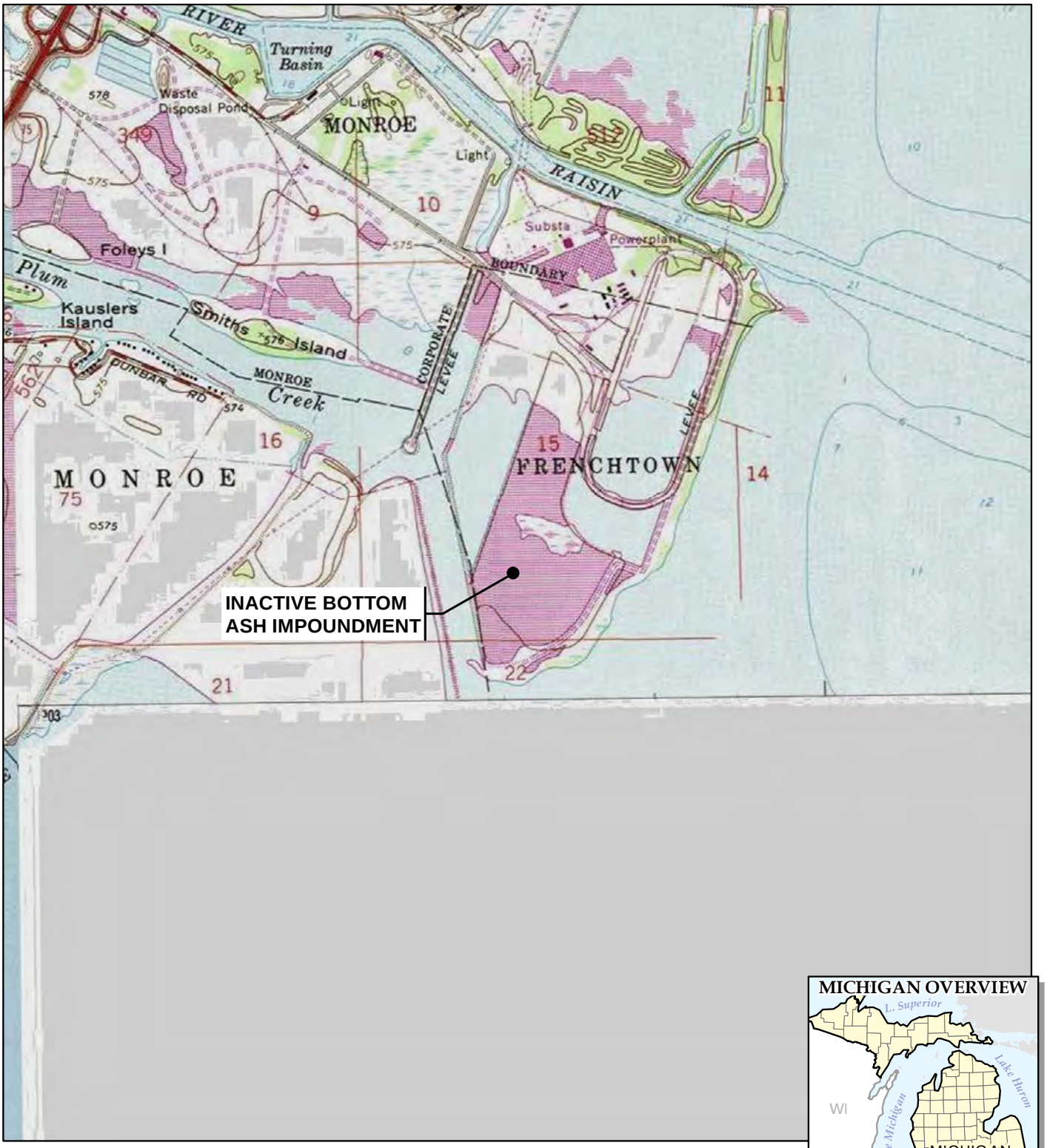
All metals were analyzed as total unless otherwise specified.

Bold font indicates an exceedance of the Prediction Limit (PL).

RESULT Shading and bold font indicates a confirmed exceedance of the Prediction Limit (PL).

(1) Results for verification sampling event performed on 6/9/2021.

Figures



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

1 " = 2,000 '
1:24,000

0 2,000 4,000
FEET

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080
TRC - GIS

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
SITE LOCATION MAP

DRAWN BY:	A. ADAIR
CHECKED BY:	K. REMINGA
APPROVED BY:	V. BUENING
DATE:	JULY 2021
PROJ. NO.:	413591.0006.0000
FILE:	413591.0006-001.mxd

FIGURE 1

S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-001.mxd -- Saved By: AADAIR on 7/27/2021, 11:47:34 AM

Plot Date: 7/27/2021, 11:48:32 AM by AADAIR -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-002.mxd
Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0

TRC - GIS

LEGEND

- CCR PROGRAM MONITORING WELL
- INVESTIGATION MONITORING WELL (STATIC WATER LEVELS ONLY)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH IMPOUNDMENT
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, APRIL 2018.

0 700 1,400 FEET

1 " = 700 '
1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
INACTIVE BOTTOM ASH IMPOUNDMENT WELL LOCATION MAP

DRAWN BY:	A. ADAIR
CHECKED BY:	K. REMINGA
APPROVED BY:	V. BUENING
DATE:	JULY 2021
PROJ. NO.:	413591.0006.0000
FILE:	413591.0006-002.mxd

FIGURE 2

Figure 3
DTE Monroe Power Plant Bottom Ash Impoundment
MW-3S, MW-8S, and MW-9 Fluoride Time Series

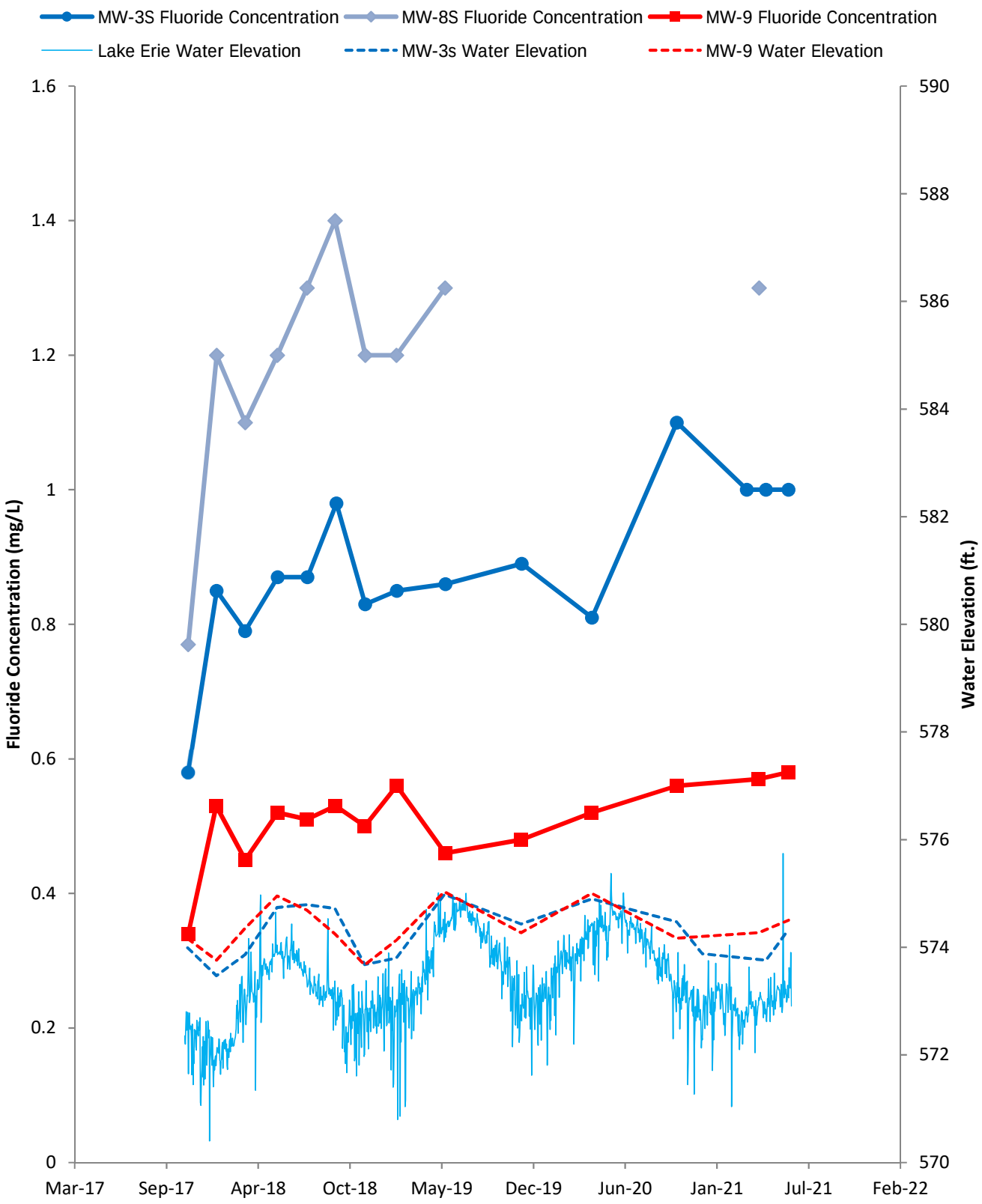


Figure 4
DTE Monroe Power Plant Bottom Ash Impoundment
Fluoride Time Series (All Wells)

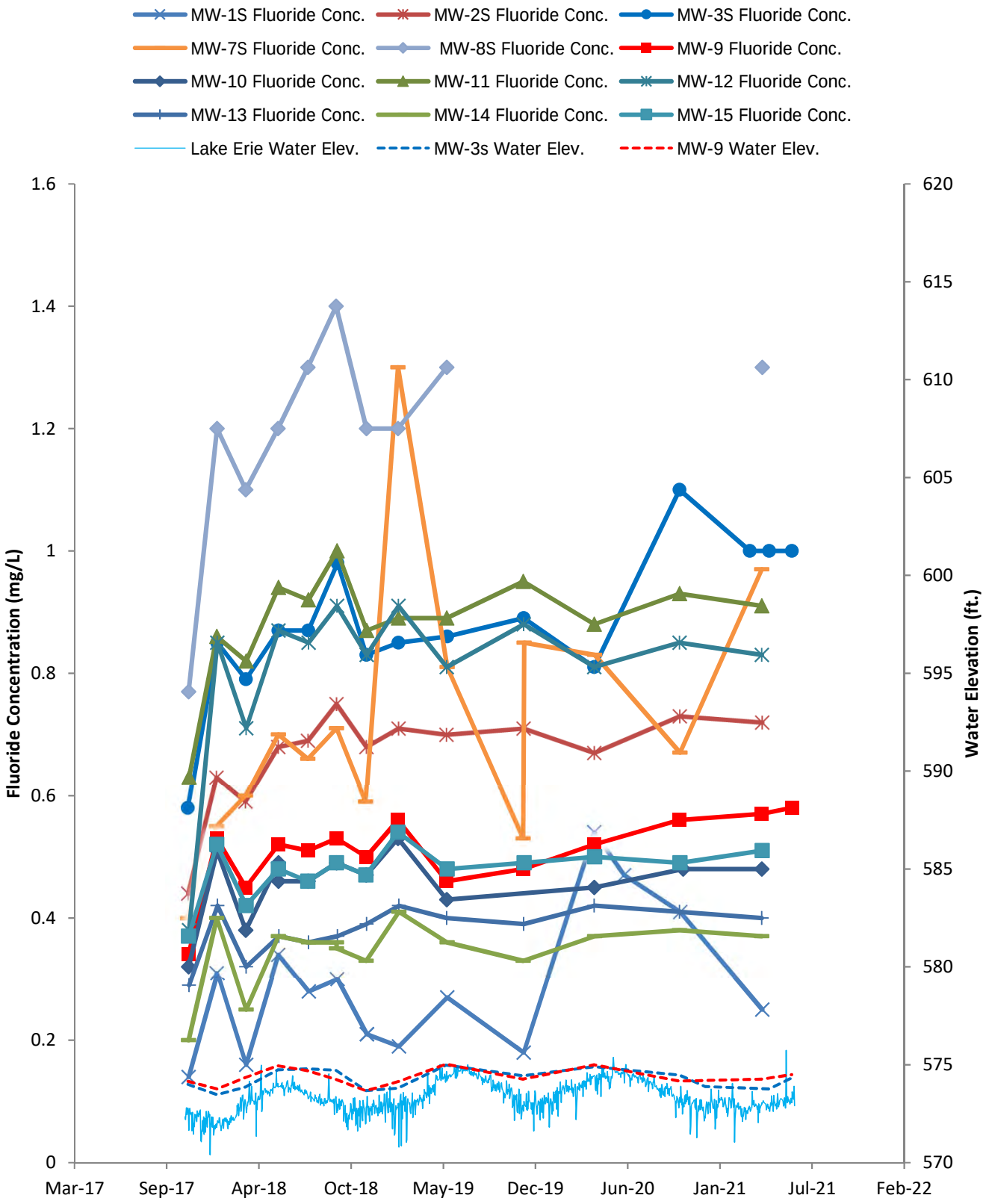


Figure 5
DTE Monroe Power Plant Bottom Ash Impoundment
Lake Erie and MW-13 Water Elevations 2017 to 2021

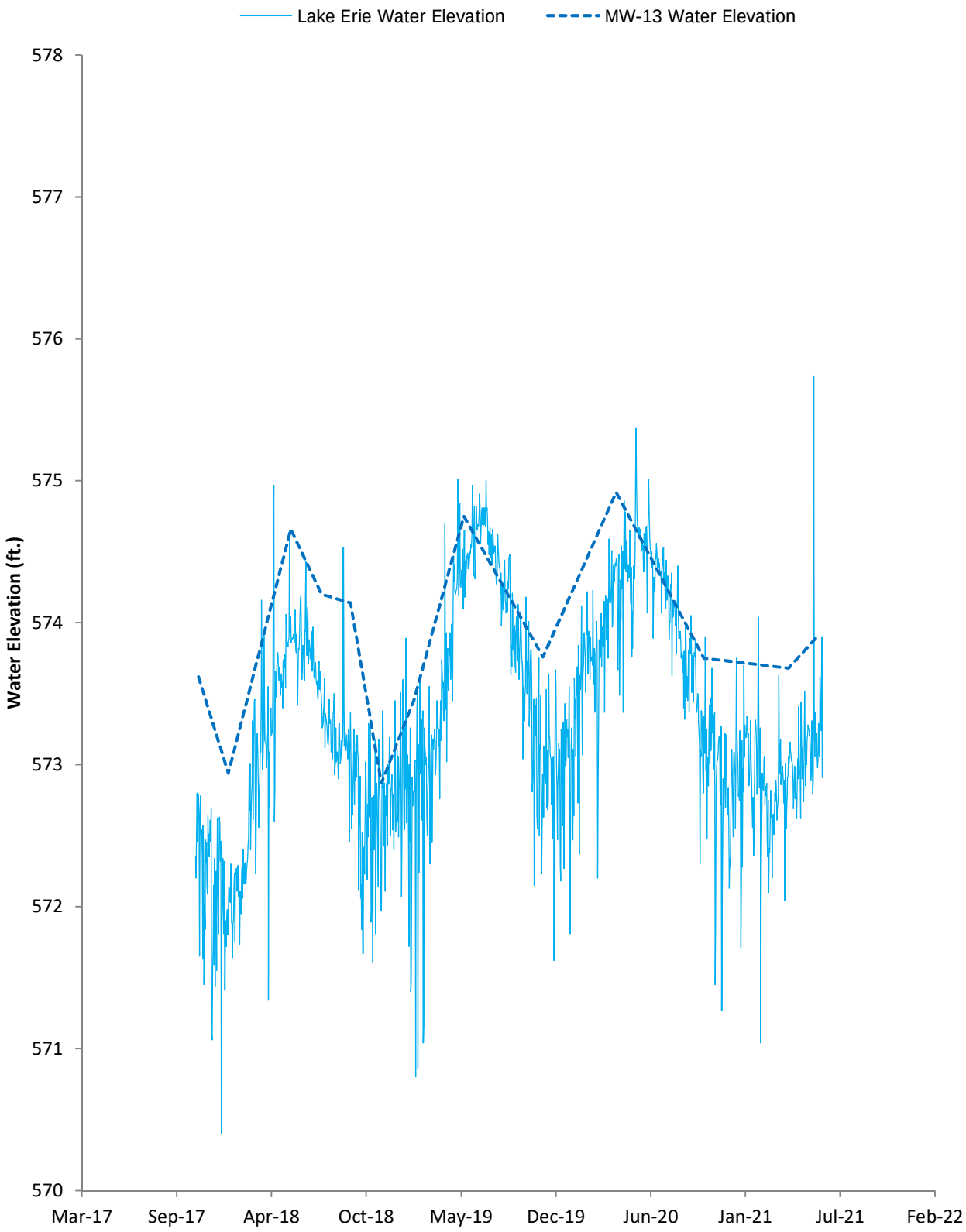
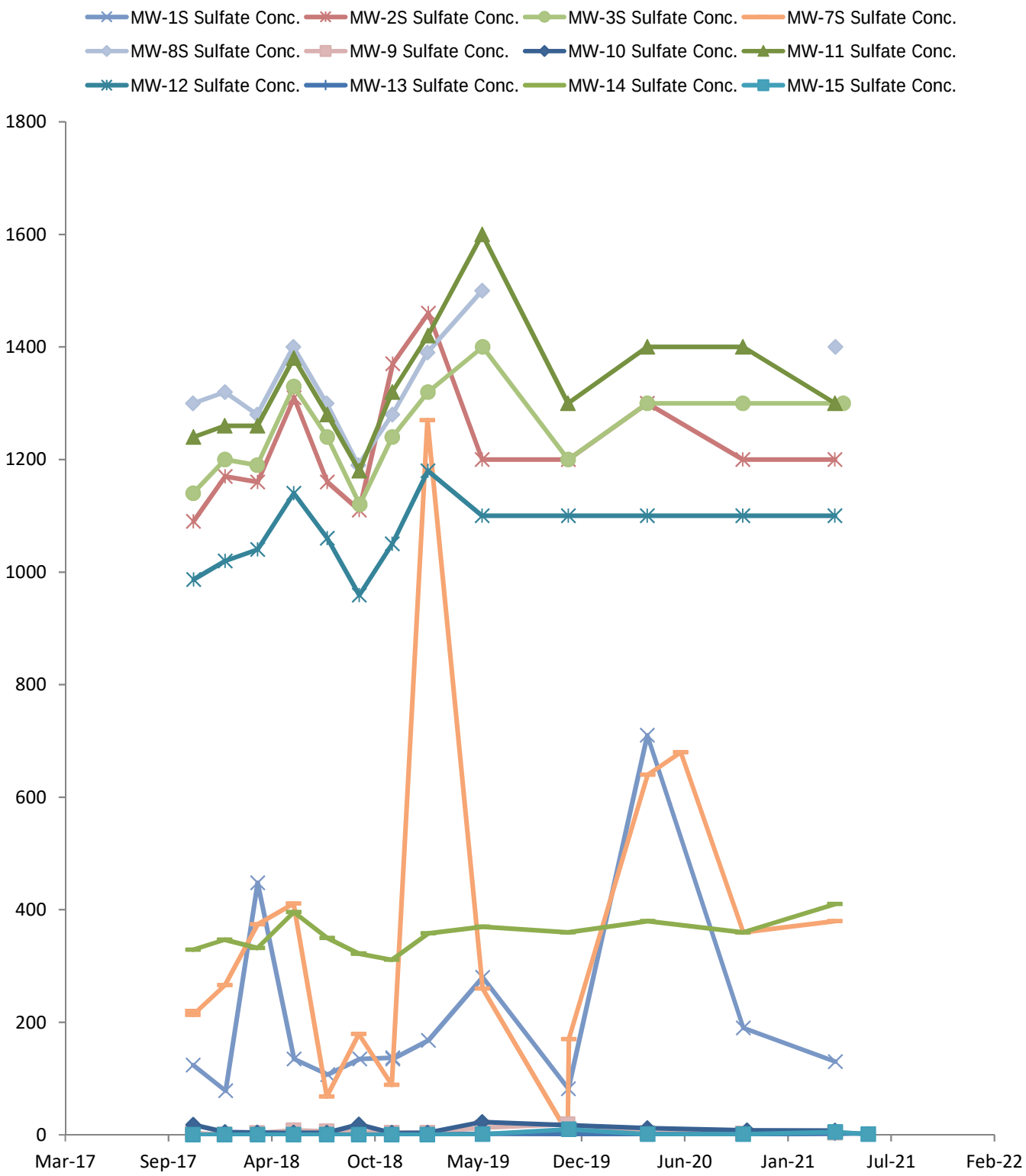


Figure 6
DTE Monroe Power Plant Bottom Ash Impoundment
Sulfate Time Series (All Wells)



NOTES:
MW-13 anomalous data point of 10 mg/L on 11/5/2019 not confirmed by verification sampling.
Removed as an outlier an order of magnitude higher than historical data set.

Appendix A
References

References

AECOM. September 2017. Groundwater Monitoring Work Plan Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

AECOM. April 2019, Revised August 2019. Monitoring Well Installation Report Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Impoundment, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

AECOM. April 2019, Revised April 2020. Revised Groundwater Statistical Evaluation Plan – Inactive Bottom Ash Impoundment, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

Chapra, Steven & Dove, Alice & Warren, Glenn. (2012). Long-term trends of Great Lakes major ion chemistry. Journal of Great Lakes Research. 38. 550–560. 10.1016/j.jglr.2012.06.010.

TRC. June 30, 2020. Hydrogeological Monitoring Plan for the DTE Electric Company Monroe Power Bottom Ash Impoundment, 3500 East Front Street, Monroe, Michigan. Prepared for DTE Electric Company.

TRC. July 2020. 2020 Annual Groundwater Monitoring Report – DTE Electric Company, Monroe Power Plant Bottom Ash Impoundment, Inactive Coal Combustion Residual Unit. Prepared for DTE Electric Company

TRC. July 2021. First Semiannual 2021 Groundwater Monitoring Report prepared for the DTE Electric Company Monroe Power Plant Bottom Ash Impoundment Coal Combustion Residual Units, 3500 East Front Street, Monroe, Michigan. Prepared for DTE Electric Company.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA facilities, Unified Guidance. Office of Conservation and Recovery. EPA 530/R-09-007.

Appendix B
Laboratory Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 240-158462-1
Client Project/Site: CCR DTE Monroe Power Plant Bottom Ash

For:
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Attn: Mr. Vincent Buening

Authorized for release by:
11/9/2021 9:13:01 PM

Kris Brooks, Project Manager II
(330)966-9790
Kris.Brooks@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Job ID: 240-158462-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-158462-1

Comments
No additional comments.

Receipt
The samples were received on 10/21/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

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

General Chemistry
Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-13_20211018 (240-158462-9), MW-15_20211018 (240-158462-11) and DUP-01_20211018 (240-158462-12). 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: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

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.

Laboratory References:

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

Sample Summary

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-158462-1	MW-1S_20211018	Water	10/18/21 10:30	10/21/21 08:00
240-158462-2	MW-2S_20211018	Water	10/18/21 10:05	10/21/21 08:00
240-158462-3	MW-3S_20211018	Water	10/18/21 08:55	10/21/21 08:00
240-158462-4	MW-7S_20211018	Water	10/18/21 13:20	10/21/21 08:00
240-158462-5	MW-9_20211018	Water	10/18/21 11:20	10/21/21 08:00
240-158462-6	MW-10_20211018	Water	10/18/21 12:00	10/21/21 08:00
240-158462-7	MW-11_20211018	Water	10/18/21 11:35	10/21/21 08:00
240-158462-8	MW-12_20211018	Water	10/18/21 10:50	10/21/21 08:00
240-158462-9	MW-13_20211018	Water	10/18/21 09:20	10/21/21 08:00
240-158462-10	MW-14_20211018	Water	10/18/21 13:55	10/21/21 08:00
240-158462-11	MW-15_20211018	Water	10/18/21 13:05	10/21/21 08:00
240-158462-12	DUP-01_20211018	Water	10/18/21 00:00	10/21/21 08:00

Detection Summary

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-1S_20211018 Lab Sample ID: 240-158462-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	490		100	100	ug/L	1		6010B	Total Recoverable
Calcium	190000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	3000		100	100	ug/L	1		6020	Total Recoverable
Chloride	71		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.33		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	140		1.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids	860		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2S_20211018 Lab Sample ID: 240-158462-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1000		100	100	ug/L	1		6010B	Total Recoverable
Calcium	240000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	2300		100	100	ug/L	1		6020	Total Recoverable
Chloride	11		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.69		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1300		20	20	mg/L	20		9056A	Total/NA
Total Dissolved Solids	1700		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-3S_20211018 Lab Sample ID: 240-158462-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	620		100	100	ug/L	1		6010B	Total Recoverable
Calcium	210000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	3800		100	100	ug/L	1		6020	Total Recoverable
Chloride	10		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.69		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	990		5.0	5.0	mg/L	5		9056A	Total/NA
Total Dissolved Solids	1500		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-7S_20211018 Lab Sample ID: 240-158462-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	340		100	100	ug/L	1		6010B	Total Recoverable
Calcium	170000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	470		100	100	ug/L	1		6020	Total Recoverable
Chloride	51		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.79		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	310		5.0	5.0	mg/L	5		9056A	Total/NA
Total Dissolved Solids	880		10	10	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-9_20211018 Lab Sample ID: 240-158462-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	540		100	100	ug/L	1		6010B	Total Recoverable
Calcium	180000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	3000		100	100	ug/L	1		6020	Total Recoverable
Chloride	38		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.54		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	8.8		5.0	5.0	mg/L	5		9056A	Total/NA
Total Dissolved Solids	800		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-10_20211018 Lab Sample ID: 240-158462-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	550		100	100	ug/L	1		6010B	Total Recoverable
Calcium	160000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	130		100	100	ug/L	1		6020	Total Recoverable
Chloride	53		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.46		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	13		1.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids	810		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-11_20211018 Lab Sample ID: 240-158462-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	870		100	100	ug/L	1		6010B	Total Recoverable
Calcium	250000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	2000		100	100	ug/L	1		6020	Total Recoverable
Chloride	17		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.90		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1400		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	2200		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-12_20211018 Lab Sample ID: 240-158462-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	970		100	100	ug/L	1		6010B	Total Recoverable
Calcium	180000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	2900		100	100	ug/L	1		6020	Total Recoverable
Chloride	11		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.82		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1100		20	20	mg/L	20		9056A	Total/NA
Total Dissolved Solids	1700		20	20	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-13_20211018 Lab Sample ID: 240-158462-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	120000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	9600		100	100	ug/L	1		6020	Total Recoverable
Chloride	97		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.40		0.050	0.050	mg/L	1		9056A	Total/NA
Total Dissolved Solids	530		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-14_20211018 Lab Sample ID: 240-158462-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	100	ug/L	1		6010B	Total Recoverable
Calcium	270000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	7200		100	100	ug/L	1		6020	Total Recoverable
Chloride	290		10	10	mg/L	10		9056A	Total/NA
Fluoride	0.45		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	500		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	1600		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-15_20211018 Lab Sample ID: 240-158462-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2500		100	100	ug/L	1		6010B	Total Recoverable
Calcium	140000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	9400		100	100	ug/L	1		6020	Total Recoverable
Chloride	110		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.67		0.050	0.050	mg/L	1		9056A	Total/NA
Total Dissolved Solids	700		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-01_20211018 Lab Sample ID: 240-158462-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	540		100	100	ug/L	1		6010B	Total Recoverable
Calcium	170000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	3000		100	100	ug/L	1		6020	Total Recoverable
Chloride	38		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.72		0.050	0.050	mg/L	1		9056A	Total/NA
Total Dissolved Solids	860		10	10	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-1S_20211018
Lab Sample ID: 240-158462-1
Date Collected: 10/18/21 10:30
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	490		100	100	ug/L		10/22/21 14:00	10/26/21 00:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	190000		1000	1000	ug/L		10/22/21 14:00	10/25/21 20:55	1
Iron	3000		100	100	ug/L		10/22/21 14:00	10/25/21 20:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71		1.0	1.0	mg/L			11/04/21 17:07	1
Fluoride	0.33		0.050	0.050	mg/L			11/04/21 17:07	1
Sulfate	140		1.0	1.0	mg/L			11/04/21 17:07	1
Total Dissolved Solids	860		10	10	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-2S_20211018
Lab Sample ID: 240-158462-2
Date Collected: 10/18/21 10:05
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1000		100	100	ug/L		10/22/21 14:00	10/26/21 01:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	240000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:12	1
Iron	2300		100	100	ug/L		10/22/21 14:00	10/25/21 21:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	1.0	mg/L			11/04/21 17:47	1
Fluoride	0.69		0.050	0.050	mg/L			11/04/21 17:47	1
Sulfate	1300		20	20	mg/L			11/07/21 01:56	20
Total Dissolved Solids	1700		20	20	mg/L			10/25/21 07:41	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-3S_20211018 Lab Sample ID: 240-158462-3

Date Collected: 10/18/21 08:55 **Matrix: Water**
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	620		100	100	ug/L		10/22/21 14:00	10/26/21 01:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	210000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:14	1
Iron	3800		100	100	ug/L		10/22/21 14:00	10/25/21 21:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		1.0	1.0	mg/L			11/04/21 18:27	1
Fluoride	0.69		0.050	0.050	mg/L			11/04/21 18:27	1
Sulfate	990		5.0	5.0	mg/L			11/04/21 18:48	5
Total Dissolved Solids	1500		20	20	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-7S_20211018
Lab Sample ID: 240-158462-4
Date Collected: 10/18/21 13:20
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	340		100	100	ug/L		10/22/21 14:00	10/26/21 01:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:17	1
Iron	470		100	100	ug/L		10/22/21 14:00	10/25/21 21:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51		1.0	1.0	mg/L			11/04/21 19:08	1
Fluoride	0.79		0.050	0.050	mg/L			11/04/21 19:08	1
Sulfate	310		5.0	5.0	mg/L			11/04/21 19:28	5
Total Dissolved Solids	880		10	10	mg/L			10/25/21 07:41	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-9_20211018 Lab Sample ID: 240-158462-5

Date Collected: 10/18/21 11:20 **Matrix: Water**
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	540		100	100	ug/L		10/22/21 14:00	10/26/21 01:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	180000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:19	1
Iron	3000		100	100	ug/L		10/22/21 14:00	10/25/21 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38		1.0	1.0	mg/L			11/04/21 19:48	1
Fluoride	0.54		0.050	0.050	mg/L			11/04/21 19:48	1
Sulfate	8.8		5.0	5.0	mg/L			11/04/21 20:08	5
Total Dissolved Solids	800		10	10	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-10_20211018
Lab Sample ID: 240-158462-6
Date Collected: 10/18/21 12:00
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	550		100	100	ug/L		10/22/21 14:00	10/26/21 01:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:22	1
Iron	130		100	100	ug/L		10/22/21 14:00	10/25/21 21:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		1.0	1.0	mg/L			11/04/21 21:09	1
Fluoride	0.46		0.050	0.050	mg/L			11/04/21 21:09	1
Sulfate	13		1.0	1.0	mg/L			11/04/21 21:09	1
Total Dissolved Solids	810		10	10	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-11_20211018
Lab Sample ID: 240-158462-7
Date Collected: 10/18/21 11:35
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	870		100	100	ug/L		10/22/21 14:00	10/26/21 01:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	250000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:24	1
Iron	2000		100	100	ug/L		10/22/21 14:00	10/25/21 21:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		1.0	1.0	mg/L			11/04/21 21:49	1
Fluoride	0.90		0.050	0.050	mg/L			11/04/21 21:49	1
Sulfate	1400		10	10	mg/L			11/04/21 22:09	10
Total Dissolved Solids	2200		20	20	mg/L			10/25/21 07:41	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-12_20211018 **Lab Sample ID: 240-158462-8**
Date Collected: 10/18/21 10:50 **Matrix: Water**
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	970		100	100	ug/L		10/22/21 14:00	10/26/21 01:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	180000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:27	1
Iron	2900		100	100	ug/L		10/22/21 14:00	10/25/21 21:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	1.0	mg/L			11/04/21 22:29	1
Fluoride	0.82		0.050	0.050	mg/L			11/04/21 22:29	1
Sulfate	1100		20	20	mg/L			11/07/21 01:57	20
Total Dissolved Solids	1700		20	20	mg/L			10/25/21 07:41	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-13_20211018 Lab Sample ID: 240-158462-9

Date Collected: 10/18/21 09:20 **Matrix: Water**
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	100	ug/L		10/22/21 14:00	10/26/21 01:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**120000**		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:29	1
Iron	**9600**		100	100	ug/L		10/22/21 14:00	10/25/21 21:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97**		1.0	1.0	mg/L			11/04/21 23:09	1
Fluoride	**0.40**		0.050	0.050	mg/L			11/04/21 23:09	1
Sulfate	5.0	U	5.0	5.0	mg/L			11/04/21 23:29	5
Total Dissolved Solids	**530**		10	10	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-14_20211018
Lab Sample ID: 240-158462-10
Date Collected: 10/18/21 13:55
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1100		100	100	ug/L		10/22/21 14:00	10/26/21 01:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	270000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:31	1
Iron	7200		100	100	ug/L		10/22/21 14:00	10/25/21 21:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		10	10	mg/L			11/05/21 00:10	10
Fluoride	0.45		0.050	0.050	mg/L			11/04/21 23:50	1
Sulfate	500		10	10	mg/L			11/05/21 00:10	10
Total Dissolved Solids	1600		20	20	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-15_20211018
Lab Sample ID: 240-158462-11
Date Collected: 10/18/21 13:05
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2500		100	100	ug/L		10/22/21 14:00	10/26/21 01:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:34	1
Iron	9400		100	100	ug/L		10/22/21 14:00	10/25/21 21:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		1.0	1.0	mg/L			11/05/21 01:10	1
Fluoride	0.67		0.050	0.050	mg/L			11/05/21 01:10	1
Sulfate	5.0	U	5.0	5.0	mg/L			11/05/21 01:31	5
Total Dissolved Solids	700		10	10	mg/L			10/25/21 07:41	1

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: DUP-01_20211018
Lab Sample ID: 240-158462-12
Date Collected: 10/18/21 00:00
Matrix: Water
Date Received: 10/21/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	540		100	100	ug/L		10/22/21 14:00	10/26/21 01:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170000		1000	1000	ug/L		10/22/21 14:00	10/25/21 21:41	1
Iron	3000		100	100	ug/L		10/22/21 14:00	10/25/21 21:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38		1.0	1.0	mg/L			11/05/21 01:51	1
Fluoride	0.72		0.050	0.050	mg/L			11/05/21 01:51	1
Sulfate	5.0	U	5.0	5.0	mg/L			11/05/21 02:11	5
Total Dissolved Solids	860		10	10	mg/L			10/25/21 07:41	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-509516/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 509741 — **Prep Batch: 509516**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	100	ug/L		10/22/21 14:00	10/25/21 23:42	1

Lab Sample ID: LCS 240-509516/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 509741 — **Prep Batch: 509516**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1050		ug/L		105	80 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-509516/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 509863 — **Prep Batch: 509516**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	1000	ug/L		10/22/21 14:00	10/25/21 20:50	1
Iron	100	U	100	100	ug/L		10/22/21 14:00	10/25/21 20:50	1

Lab Sample ID: LCS 240-509516/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 509863 — **Prep Batch: 509516**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25000	24600		ug/L		98	80 - 120
Iron	5000	5130		ug/L		103	80 - 120

Lab Sample ID: 240-158462-1 MS — **Client Sample ID: MW-1S_20211018**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 509863 — **Prep Batch: 509516**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	190000		25000	204000	4	ug/L		58	75 - 125
Iron	3000		5000	7850		ug/L		97	75 - 125

Lab Sample ID: 240-158462-1 MSD — **Client Sample ID: MW-1S_20211018**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 509863 — **Prep Batch: 509516**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	190000		25000	207000	4	ug/L		71	75 - 125	2	20
Iron	3000		5000	7690		ug/L		94	75 - 125	2	20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-511319/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 511319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	1.0	mg/L			11/04/21 13:06	1
Fluoride	0.050	U	0.050	0.050	mg/L			11/04/21 13:06	1
Sulfate	1.0	U	1.0	1.0	mg/L			11/04/21 13:06	1

Lab Sample ID: LCS 240-511319/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 511319

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	90 - 110
Fluoride	2.50	2.59		mg/L		104	90 - 110
Sulfate	50.0	51.8		mg/L		104	90 - 110

Lab Sample ID: MB 240-511751/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 511751

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	1.0	mg/L			11/06/21 22:55	1
Fluoride	0.050	U	0.050	0.050	mg/L			11/06/21 22:55	1
Sulfate	1.0	U	1.0	1.0	mg/L			11/06/21 22:55	1

Lab Sample ID: LCS 240-511751/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 511751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	90 - 110
Fluoride	2.50	2.61		mg/L		104	90 - 110
Sulfate	50.0	52.0		mg/L		104	90 - 110

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

Lab Sample ID: MB 240-509650/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 509650

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	10	mg/L			10/25/21 07:41	1

Lab Sample ID: LCS 240-509650/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 509650

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	500	507		mg/L		101	80 - 120

Client: TRC Environmental Corporation.
Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

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

Lab Sample ID: 240-158462-4 DU
Client Sample ID: MW-7S_20211018
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 509650

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	880			898		mg/L				2	20

Metals

Prep Batch: 509516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-1	MW-1S_20211018	Total Recoverable	Water	3005A	
240-158462-2	MW-2S_20211018	Total Recoverable	Water	3005A	
240-158462-3	MW-3S_20211018	Total Recoverable	Water	3005A	
240-158462-4	MW-7S_20211018	Total Recoverable	Water	3005A	
240-158462-5	MW-9_20211018	Total Recoverable	Water	3005A	
240-158462-6	MW-10_20211018	Total Recoverable	Water	3005A	
240-158462-7	MW-11_20211018	Total Recoverable	Water	3005A	
240-158462-8	MW-12_20211018	Total Recoverable	Water	3005A	
240-158462-9	MW-13_20211018	Total Recoverable	Water	3005A	
240-158462-10	MW-14_20211018	Total Recoverable	Water	3005A	
240-158462-11	MW-15_20211018	Total Recoverable	Water	3005A	
240-158462-12	DUP-01_20211018	Total Recoverable	Water	3005A	
MB 240-509516/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-509516/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-509516/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-158462-1 MS	MW-1S_20211018	Total Recoverable	Water	3005A	
240-158462-1 MSD	MW-1S_20211018	Total Recoverable	Water	3005A	

Analysis Batch: 509741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-1	MW-1S_20211018	Total Recoverable	Water	6010B	509516
240-158462-2	MW-2S_20211018	Total Recoverable	Water	6010B	509516
240-158462-3	MW-3S_20211018	Total Recoverable	Water	6010B	509516
240-158462-4	MW-7S_20211018	Total Recoverable	Water	6010B	509516
240-158462-5	MW-9_20211018	Total Recoverable	Water	6010B	509516
240-158462-6	MW-10_20211018	Total Recoverable	Water	6010B	509516
240-158462-7	MW-11_20211018	Total Recoverable	Water	6010B	509516
240-158462-8	MW-12_20211018	Total Recoverable	Water	6010B	509516
240-158462-9	MW-13_20211018	Total Recoverable	Water	6010B	509516
240-158462-10	MW-14_20211018	Total Recoverable	Water	6010B	509516
240-158462-11	MW-15_20211018	Total Recoverable	Water	6010B	509516
240-158462-12	DUP-01_20211018	Total Recoverable	Water	6010B	509516
MB 240-509516/1-A	Method Blank	Total Recoverable	Water	6010B	509516
LCS 240-509516/2-A	Lab Control Sample	Total Recoverable	Water	6010B	509516

Analysis Batch: 509863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-1	MW-1S_20211018	Total Recoverable	Water	6020	509516
240-158462-2	MW-2S_20211018	Total Recoverable	Water	6020	509516
240-158462-3	MW-3S_20211018	Total Recoverable	Water	6020	509516
240-158462-4	MW-7S_20211018	Total Recoverable	Water	6020	509516
240-158462-5	MW-9_20211018	Total Recoverable	Water	6020	509516
240-158462-6	MW-10_20211018	Total Recoverable	Water	6020	509516
240-158462-7	MW-11_20211018	Total Recoverable	Water	6020	509516
240-158462-8	MW-12_20211018	Total Recoverable	Water	6020	509516
240-158462-9	MW-13_20211018	Total Recoverable	Water	6020	509516
240-158462-10	MW-14_20211018	Total Recoverable	Water	6020	509516
240-158462-11	MW-15_20211018	Total Recoverable	Water	6020	509516
240-158462-12	DUP-01_20211018	Total Recoverable	Water	6020	509516
MB 240-509516/1-A	Method Blank	Total Recoverable	Water	6020	509516
LCS 240-509516/3-A	Lab Control Sample	Total Recoverable	Water	6020	509516

Metals (Continued)

Analysis Batch: 509863 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-1 MS	MW-1S_20211018	Total Recoverable	Water	6020	509516
240-158462-1 MSD	MW-1S_20211018	Total Recoverable	Water	6020	509516

General Chemistry

Analysis Batch: 509650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-1	MW-1S_20211018	Total/NA	Water	SM 2540C	
240-158462-2	MW-2S_20211018	Total/NA	Water	SM 2540C	
240-158462-3	MW-3S_20211018	Total/NA	Water	SM 2540C	
240-158462-4	MW-7S_20211018	Total/NA	Water	SM 2540C	
240-158462-5	MW-9_20211018	Total/NA	Water	SM 2540C	
240-158462-6	MW-10_20211018	Total/NA	Water	SM 2540C	
240-158462-7	MW-11_20211018	Total/NA	Water	SM 2540C	
240-158462-8	MW-12_20211018	Total/NA	Water	SM 2540C	
240-158462-9	MW-13_20211018	Total/NA	Water	SM 2540C	
240-158462-10	MW-14_20211018	Total/NA	Water	SM 2540C	
240-158462-11	MW-15_20211018	Total/NA	Water	SM 2540C	
240-158462-12	DUP-01_20211018	Total/NA	Water	SM 2540C	
MB 240-509650/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-509650/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-158462-4 DU	MW-7S_20211018	Total/NA	Water	SM 2540C	

Analysis Batch: 511319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-1	MW-1S_20211018	Total/NA	Water	9056A	
240-158462-2	MW-2S_20211018	Total/NA	Water	9056A	
240-158462-3	MW-3S_20211018	Total/NA	Water	9056A	
240-158462-3	MW-3S_20211018	Total/NA	Water	9056A	
240-158462-4	MW-7S_20211018	Total/NA	Water	9056A	
240-158462-4	MW-7S_20211018	Total/NA	Water	9056A	
240-158462-5	MW-9_20211018	Total/NA	Water	9056A	
240-158462-5	MW-9_20211018	Total/NA	Water	9056A	
240-158462-6	MW-10_20211018	Total/NA	Water	9056A	
240-158462-7	MW-11_20211018	Total/NA	Water	9056A	
240-158462-7	MW-11_20211018	Total/NA	Water	9056A	
240-158462-8	MW-12_20211018	Total/NA	Water	9056A	
240-158462-9	MW-13_20211018	Total/NA	Water	9056A	
240-158462-9	MW-13_20211018	Total/NA	Water	9056A	
240-158462-10	MW-14_20211018	Total/NA	Water	9056A	
240-158462-10	MW-14_20211018	Total/NA	Water	9056A	
240-158462-11	MW-15_20211018	Total/NA	Water	9056A	
240-158462-11	MW-15_20211018	Total/NA	Water	9056A	
240-158462-12	DUP-01_20211018	Total/NA	Water	9056A	
240-158462-12	DUP-01_20211018	Total/NA	Water	9056A	
MB 240-511319/3	Method Blank	Total/NA	Water	9056A	
LCS 240-511319/4	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 511751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-2	MW-2S_20211018	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 511751 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-158462-8	MW-12_20211018	Total/NA	Water	9056A	
MB 240-511751/3	Method Blank	Total/NA	Water	9056A	
LCS 240-511751/4	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-1S_20211018 — Lab Sample ID: 240-158462-1

Date Collected: 10/18/21 10:30 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 00:16	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 20:55	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 17:07	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-2S_20211018 — Lab Sample ID: 240-158462-2

Date Collected: 10/18/21 10:05 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:00	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:12	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 17:47	JMB	TAL CAN
Total/NA	Analysis	9056A		20	511751	11/07/21 01:56	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-3S_20211018 — Lab Sample ID: 240-158462-3

Date Collected: 10/18/21 08:55 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:04	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:14	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 18:27	JMB	TAL CAN
Total/NA	Analysis	9056A		5	511319	11/04/21 18:48	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-7S_20211018 — Lab Sample ID: 240-158462-4

Date Collected: 10/18/21 13:20 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:08	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:17	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 19:08	JMB	TAL CAN
Total/NA	Analysis	9056A		5	511319	11/04/21 19:28	JMB	TAL CAN

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-7S_20211018 — Lab Sample ID: 240-158462-4

Date Collected: 10/18/21 13:20 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-9_20211018 — Lab Sample ID: 240-158462-5

Date Collected: 10/18/21 11:20 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:13	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:19	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 19:48	JMB	TAL CAN
Total/NA	Analysis	9056A		5	511319	11/04/21 20:08	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-10_20211018 — Lab Sample ID: 240-158462-6

Date Collected: 10/18/21 12:00 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:17	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:22	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 21:09	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-11_20211018 — Lab Sample ID: 240-158462-7

Date Collected: 10/18/21 11:35 — **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:21	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:24	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 21:49	JMB	TAL CAN
Total/NA	Analysis	9056A		10	511319	11/04/21 22:09	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-12_20211018 — Lab Sample ID: 240-158462-8

Date Collected: 10/18/21 10:50 **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:26	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:27	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 22:29	JMB	TAL CAN
Total/NA	Analysis	9056A		20	511751	11/07/21 01:57	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-13_20211018 — Lab Sample ID: 240-158462-9

Date Collected: 10/18/21 09:20 **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:39	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:29	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 23:09	JMB	TAL CAN
Total/NA	Analysis	9056A		5	511319	11/04/21 23:29	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-14_20211018 — Lab Sample ID: 240-158462-10

Date Collected: 10/18/21 13:55 **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:43	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:31	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/04/21 23:50	JMB	TAL CAN
Total/NA	Analysis	9056A		10	511319	11/05/21 00:10	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: MW-15_20211018 — Lab Sample ID: 240-158462-11

Date Collected: 10/18/21 13:05 **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:48	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:34	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/05/21 01:10	JMB	TAL CAN

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-15_20211018 Lab Sample ID: 240-158462-11

Date Collected: 10/18/21 13:05 **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	511319	11/05/21 01:31	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Client Sample ID: DUP-01_20211018 Lab Sample ID: 240-158462-12

Date Collected: 10/18/21 00:00 **Matrix: Water**
Date Received: 10/21/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010B		1	509741	10/26/21 01:52	RKT	TAL CAN
Total Recoverable	Prep	3005A			509516	10/22/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020		1	509863	10/25/21 21:41	AJC	TAL CAN
Total/NA	Analysis	9056A		1	511319	11/05/21 01:51	JMB	TAL CAN
Total/NA	Analysis	9056A		5	511319	11/05/21 02:11	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	509650	10/25/21 07:41	AJ	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-158462-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Phone (330) 497-0772

1-3/1-4

Chain of Custody Record

MICHIGAN 190

eurofins Environment Testing America

Client Information			
Client Contact: Mr Vincent Buening	Sampler: B YELEN / A. WHALEY	Lab PM: Brooks, Kris M	Carrier Tracking No(s):
	Phone:	E-Mail: Kris.Brooks@Eurofinset.com	State of Origin:
Company: TRC Environmental Corporation.	PWSID:		COC No: 240-87284-33351 1
Address: 1540 Eisenhower Place	Due Date Requested:		Page: Page 1 of 2
City: Ann Arbor	TAT Requested (days):		Job #:
State, Zip: MI 48108-7080	Compliance Project: Δ Yes Δ No		
Phone: 313-971 7080(Tel) 313-971-9022(Fax)	PO #: 164689		
Email: vbuening@trccompanies.com	WO #: 254222.0001		
Project Name: CCR DTE Monroe Power Plant Bottom Ash Im	Project #: 24016830		
Site:	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd TDS, 9056A_28D Chloride, Fluoride, Sulfate	6010B Bo, 6020 Ca, Fe	Total Number of containers	Special Instructions/Note
			Preservation Code:				N	D		
MW 1S_20211018	10 18 2021	1030	G	Water	N	N	X	X		
MW-2S_20211018		1005		Water			X	X		
MW-3S_2021 1018		0855		Water			X	X		
MW 7S_20211018		1320		Water			X	X		
MW-9_2021 1018		1120		Water			X	X		
MW 10_2021 1018		1200		Water			X	X		
MW-11_2021 1018		1135		Water			X	X		
MW 12_20211018		1050		Water			X	X		
MW-13_20211018		0920		Water			X	X		
MW 14_2021 1018		1355		Water			X	X		
MW-15_20211018		1305		Water			X	X		

240-158462 Chain of Custody

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Possible Hazard Identification
[X] *Non-Hazard* [ ] *Flammable* [ ] *Skin Irritant* [ ] *Poison B* [ ] *Unknown* [ ] *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] *Return To Client* [ ] *Disposal By Lab* [ ] *Archive For* ______ *Months*

Deliverable Requested I, II, III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
B. YELEN	10 18 21 1600	TRC	TRC STOR.	10.18.21 1600	TRC
D. Sletch	10.20.21 1100		[signature]	10 20 21 1100	ETA
[signature]	10 21 21 1100	ETA	[signature]	10-21-21 800	ETA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 01 16/2019

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

MICHIGAN 190

eurofins Environment Testing America

Client Information	Sampler: B YEEN	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-87284-33351 2
Client Contact: Mr Vincent Buening	Phone:	E-Mail: Kris.Brooks@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days):			
State, Zip: MI 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 313-971 7080(Tel) 313-971-9022(Fax)	PO #: 164689			
Emai vbuening@trccompanies.com	WO #: 254222.0001			
Project Name: CCR DTE Monroe Power Plant Bottom Ash Im	Project #: 24016830			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd TDS, 9056A_28D Chloride, Fluoride, Sulfate	6010B Bo, 6020 Ca, Fe	Total Number of containers	Special Instructions/Note
			Preservation Code:				N	D		
DUP-01_20211018	10.18.21		G	Water	N	N	X	X		
				Water						
				Water						

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested I II III IV Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: B. YEEN	Date/Time: 10 18 21 1600	Company: TRC	Received by: TRC STOR.	Date/Time: 10 18.21 1600	Company: TRC
Relinquished by: Di Stehle	Date/Time: 10 20-21 1100	Company	Received by:	Date/Time: 10 21 1000	Company: GT
Relinquished by:	Date/Time: 10 21 1100	Company	Received by:	Date/Time: 10-21-21 800	Company: ETA
Custody Seals Intact: Δ Yes Δ No	Custody Seal No		Cooler Temperature(s) °C and Other Remarks.		

Ver: 01 16/2019

11/9/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 158462**
Canton Facility

Client TRC Site Name _____ Cooler unpacked by: Tammy Dreyer

Cooler Received on 10-21-21 Opened on 10-21-21

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

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

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp 13 °C Corrected Cooler Temp 14 °C

IR GUN #IR 15 (CF +0.2°C) Observed Cooler Temp _____ °C Corrected Cooler Temp. _____ °C

2	Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes No
	-Were the seals on the outside of the cooler(s) signed & dated?	Yes No NA
	-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes No
	-Were tamper/custody seals intact and uncompromised?	Yes No NA
3	Shippers' packing slip attached to the cooler(s)?	Yes No
4	Did custody papers accompany the sample(s)?	Yes No
5	Were the custody papers relinquished & signed in the appropriate place?	Yes No
6	Was/were the person(s) who collected the samples clearly identified on the COC?	Yes No
7	Did all bottles arrive in good condition (Unbroken)?	Yes No
8	Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes No
9	For each sample, does the COC specify preservatives (Y/N) # of containers (Y/N), and sample type of grab/comp (Y/N)?	
10	Were correct bottle(s) used for the test(s) indicated?	Yes No
11	Sufficient quantity received to perform indicated analyses?	Yes No
12	Are these work share samples and all listed on the COC?	Yes No
	If yes, Questions 13 17 have been checked at the originating laboratory	
13	Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC157842
14	Were VOAs on the COC?	Yes No
15	Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes No NA
16	Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes No
17	Was a LL Hg or Me Hg trip blank present? _____	Yes No

Tests that are not checked for pH by Receiving

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation Date/Time VOAs Frozen _____

Login Container Summary Report

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
MW-1S_20211018	240-158462-B-1	Plastic 500ml - with Nitric Acid	<2			
MW-2S_20211018	240-158462 B-2	Plastic 500ml - with Nitric Acid	<2			
MW-3S 20211018	240-158462-B-3	Plastic 500ml - with Nitric Acid	<2			
MW 7S_20211018	240-158462-B-4	Plastic 500ml - with Nitric Acid	<2			
MW-9_20211018	240-158462-B-5	Plastic 500ml - with Nitric Acid	<2			
MW-10_20211018	240-158462-B-6	Plastic 500ml with Nitric Acid	<2			
MW-11 20211018	240-158462-B-7	Plastic 500ml - with Nitric Acid	<2			
MW 12_20211018	240-158462-B-8	Plastic 500ml with Nitric Acid	<2			
MW 13_20211018	240-158462-B-9	Plastic 500ml - with Nitric Acid	<2			
MW-14_20211018	240-158462-B-10	Plastic 500ml - with Nitric Acid	<2			
MW 15_20211018	240-158462-B-11	Plastic 500ml - with Nitric Acid	<2			
DUP-01_20211018	240-158462-B-12	Plastic 500ml - with Nitric Acid	<2			

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 240-161245-1
Client Project/Site: CCR DTE Monroe Power Plant Bottom Ash

For:
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Attn: Mr. Vincent Buening

Authorized for release by:
12/15/2021 3:31:46 PM

Kris Brooks, Project Manager II
(330)966-9790
Kris.Brooks@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Job ID: 240-161245-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-161245-1

Comments
No additional comments.

Receipt
The samples were received on 12/10/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.7º C.

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

Method Summary

Client: TRC Environmental Corporation.
Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN

Protocol References:

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.

Laboratory References:

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

Sample Summary

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-161245-1	DUP-01	Water	12/08/21 00:00	12/10/21 08:00
240-161245-2	DUP-02	Water	12/08/21 00:00	12/10/21 08:00
240-161245-3	MW-11_20211208	Water	12/08/21 09:30	12/10/21 08:00
240-161245-4	MW-14_20211208	Water	12/08/21 10:55	12/10/21 08:00
240-161245-5	MW-15_20211208	Water	12/08/21 09:30	12/10/21 08:00

Detection Summary

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Job ID: 240-161245-1

Client Sample ID: DUP-01 — Lab Sample ID: 240-161245-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2100		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-02 — Lab Sample ID: 240-161245-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.54		0.050	0.050	mg/L	1		9056A	Total/NA

Client Sample ID: MW-11_20211208 — Lab Sample ID: 240-161245-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2000		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-14_20211208 — Lab Sample ID: 240-161245-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	560		10	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-15_20211208 — Lab Sample ID: 240-161245-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.55		0.050	0.050	mg/L	1		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: DUP-01 **Lab Sample ID: 240-161245-1**
Date Collected: 12/08/21 00:00 **Matrix: Water**
Date Received: 12/10/21 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		20	20	mg/L			12/13/21 09:50	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: DUP-02 **Lab Sample ID: 240-161245-2**
Date Collected: 12/08/21 00:00 **Matrix: Water**
Date Received: 12/10/21 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.54**		0.050	0.050	mg/L			12/11/21 10:25	1
Sulfate	1.0	U	1.0	1.0	mg/L			12/11/21 10:25	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-11_20211208 **Lab Sample ID: 240-161245-3**
Date Collected: 12/08/21 09:30 **Matrix: Water**
Date Received: 12/10/21 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		20	20	mg/L			12/13/21 09:50	1

Client Sample Results

Client: TRC Environmental Corporation.
Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-14_20211208
Lab Sample ID: 240-161245-4
Date Collected: 12/08/21 10:55
Matrix: Water
Date Received: 12/10/21 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	560		10	10	mg/L			12/11/21 11:08	10

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: MW-15_20211208 **Lab Sample ID: 240-161245-5**
Date Collected: 12/08/21 09:30 **Matrix: Water**
Date Received: 12/10/21 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.55**		0.050	0.050	mg/L			12/11/21 11:30	1
Sulfate	1.0	U	1.0	1.0	mg/L			12/11/21 11:30	1

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Job ID: 240-161245-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-516443/3
Matrix: Water
Analysis Batch: 516443

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.050	U	0.050	0.050	mg/L			12/11/21 08:36	1
Sulfate	1.0	U	1.0	1.0	mg/L			12/11/21 08:36	1

Lab Sample ID: LCS 240-516443/4
Matrix: Water
Analysis Batch: 516443

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.70		mg/L		108	90 - 110
Sulfate	50.0	53.2		mg/L		106	90 - 110

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

Lab Sample ID: MB 240-516527/1
Matrix: Water
Analysis Batch: 516527

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	10	mg/L			12/13/21 09:50	1

Lab Sample ID: LCS 240-516527/2
Matrix: Water
Analysis Batch: 516527

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	150	139		mg/L		93	80 - 120

QC Association Summary

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

General Chemistry

Analysis Batch: 516443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-161245-2	DUP-02	Total/NA	Water	9056A	
240-161245-4	MW-14_20211208	Total/NA	Water	9056A	
240-161245-5	MW-15_20211208	Total/NA	Water	9056A	
MB 240-516443/3	Method Blank	Total/NA	Water	9056A	
LCS 240-516443/4	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 516527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-161245-1	DUP-01	Total/NA	Water	SM 2540C	
240-161245-3	MW-11_20211208	Total/NA	Water	SM 2540C	
MB 240-516527/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-516527/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Client Sample ID: DUP-01 — Lab Sample ID: 240-161245-1
Date Collected: 12/08/21 00:00 — **Matrix: Water**
Date Received: 12/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	516527	12/13/21 09:50	KMS	TAL CAN

Client Sample ID: DUP-02 — Lab Sample ID: 240-161245-2
Date Collected: 12/08/21 00:00 — **Matrix: Water**
Date Received: 12/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	516443	12/11/21 10:25	AGC	TAL CAN

Client Sample ID: MW-11_20211208 — Lab Sample ID: 240-161245-3
Date Collected: 12/08/21 09:30 — **Matrix: Water**
Date Received: 12/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	516527	12/13/21 09:50	KMS	TAL CAN

Client Sample ID: MW-14_20211208 — Lab Sample ID: 240-161245-4
Date Collected: 12/08/21 10:55 — **Matrix: Water**
Date Received: 12/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		10	516443	12/11/21 11:08	AGC	TAL CAN

Client Sample ID: MW-15_20211208 — Lab Sample ID: 240-161245-5
Date Collected: 12/08/21 09:30 — **Matrix: Water**
Date Received: 12/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	516443	12/11/21 11:30	AGC	TAL CAN

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

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-161245-1
Project/Site: CCR DTE Monroe Power Plant Bottom Ash

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Phone (330) 497-0772

0.6107

Chain of Custody Record

MICHIGAN 190

eurofins | Environment Testing America

Client Information	Sampler: Andrew Whaley B. Yelen	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-87284-33351.1
Client Contact: Mr. Vincent Buening	Phone:	E-Mail: Kris.Brooks@Eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days): 3 Day			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 313-971-7080(Tel) 313-971-9022(Fax)	PO #: 164689			
Email: vbuening@trccompanies.com	WO #: 254222.0001			
Project Name: CCR DTE Monroe Power Plant Bottom Ash Im	Project #: 24016830			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

240-161245 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C - Dried TDS, 9056A - 28D Chloride, Fluoride - Sulfate	6010B Ba, 6020 Ca, Fe	TDS	Sulfate	Fluoride	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D					
~~MW-1S~~ Dup-01	12.8.21		G	Water	N	N			X			1	
~~MW-2S~~ Dup-02	12.8.21		G	Water	N	N				X	X	1	
~~MW-3S~~				Water									
~~MW-7S~~				Water									
~~MW-9~~				Water									
~~MW-10~~				Water									
~~MW-11~~ MW-11_20211208	12.8.21	0930	G	Water	N	N			X			1	
~~MW-12~~				Water									
~~MW-13~~				Water									
MW-14_20211208	12.8.21	1055	G	Water	N	N				X		1	
MW-15_20211208	12.8.21	0930	G	Water	N	N				X	X	1	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Andrew Whaley	12.8.21 1605	TRC	TRC Storage	12.8.21 1605	TRC
Relinquished by	12/9/21 1030	TRC	Received by	12/9 10:30	ETA
Relinquished by	12/9/21 13:44	ETA	Received by	12-10-21 800	ETA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 161245**
Canton Facility

Client IRC Site Name _____ Cooler unpacked by: Nancy Lopez

Cooler Received on 12-10-21 Opened on 12-10-21

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

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

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp. 0.6 °C Corrected Cooler Temp. 0.7 °C
   IR GUN #IR-15 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	(No)
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes)	No
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	(No)
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?	(Y)	(Y) (Y)
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	Yes	(No)
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes No	(NA) pH Strip Lot# **HC157842**
14. Were VOAs on the COC?	Yes	(No)
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	(No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

Did not receive DUP-01, bottle marked MC-11-20211208

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Tel: (330)497-9396

Laboratory Job ID: 240-164757-1
Client Project/Site: CCR DTE Monroe Power Plant-BAI

For:
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Attn: Mr. Vincent Buening

Authorized for release by:
4/27/2022 8:11:41 PM

Kris Brooks, Project Manager II
(330)966-9790
Kris.Brooks@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Job ID: 240-164757-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-164757-1

Comments
The SW846 Method 6010D Metals (ICP) and SW-846 Method 6020B ICPMS analyses were performed at the Eurofins Cedar Falls laboratory.

Receipt
The samples were received on 4/8/2022 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.2º C and 0.4º C.

Metals
Method 6020B: The continuing calibration blank (CCB) for analytical batch 310-350746 contained Calcium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.
MW-15_20220405 (240-164757-11) and DUP-01_20220404 (240-164757-12)

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

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

Method Summary

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL CF
6020B	Metals (ICP/MS)	SW846	TAL CF
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
3005A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

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.

Laboratory References:

TAL CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

TAL CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Sample Summary

Client: TRC Environmental Corporation.
Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-164757-1	MW-1S_20220404	Water	04/04/22 11:35	04/08/22 08:00
240-164757-2	MW-2S_20220405	Water	04/05/22 10:25	04/08/22 08:00
240-164757-3	MW-3S_20220404	Water	04/04/22 13:31	04/08/22 08:00
240-164757-4	MW-7S_20220405	Water	04/05/22 10:01	04/08/22 08:00
240-164757-5	MW-9_20220404	Water	04/04/22 11:28	04/08/22 08:00
240-164757-6	MW-10_20220404	Water	04/04/22 12:12	04/08/22 08:00
240-164757-7	MW-11_20220405	Water	04/05/22 11:25	04/08/22 08:00
240-164757-8	MW-12_20220404	Water	04/04/22 13:30	04/08/22 08:00
240-164757-9	MW-13_20220404	Water	04/04/22 12:40	04/08/22 08:00
240-164757-10	MW-14_20220404	Water	04/04/22 09:10	04/08/22 08:00
240-164757-11	MW-15_20220405	Water	04/05/22 10:31	04/08/22 08:00
240-164757-12	DUP-01_20220404	Water	04/04/22 00:00	04/08/22 08:00

Detection Summary

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-1S_20220404 — Lab Sample ID: 240-164757-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	460		100	56	ug/L	1		6010D	Total/NA
Calcium	220000		4000	760	ug/L	4		6020B	Total/NA
Iron	750		400	140	ug/L	4		6020B	Total/NA
Chloride	84		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.20		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	110		1.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids	860		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2S_20220405 — Lab Sample ID: 240-164757-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1000		100	56	ug/L	1		6010D	Total/NA
Calcium	250000		4000	760	ug/L	4		6020B	Total/NA
Iron	2300		400	140	ug/L	4		6020B	Total/NA
Chloride	11		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.73		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1300		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	1900		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-3S_20220404 — Lab Sample ID: 240-164757-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	690		100	56	ug/L	1		6010D	Total/NA
Calcium	260000		4000	760	ug/L	4		6020B	Total/NA
Iron	3500		100	36	ug/L	1		6020B	Total/NA
Chloride	13		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.76		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1100		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	1500		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-7S_20220405 — Lab Sample ID: 240-164757-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	170		100	56	ug/L	1		6010D	Total/NA
Calcium	200000		4000	760	ug/L	4		6020B	Total/NA
Iron	290		100	36	ug/L	1		6020B	Total/NA
Chloride	19		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.77		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	540		5.0	5.0	mg/L	5		9056A	Total/NA
Total Dissolved Solids	920		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-9_20220404 — Lab Sample ID: 240-164757-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	550		100	56	ug/L	1		6010D	Total/NA
Calcium	190000		4000	760	ug/L	4		6020B	Total/NA
Iron	3600		100	36	ug/L	1		6020B	Total/NA
Chloride	41		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.63		0.050	0.050	mg/L	1		9056A	Total/NA
Total Dissolved Solids	730		10	10	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-10_20220404 — Lab Sample ID: 240-164757-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	600		100	56	ug/L	1		6010D	Total/NA
Calcium	180000		4000	760	ug/L	4		6020B	Total/NA
Iron	110		100	36	ug/L	1		6020B	Total/NA
Chloride	54		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.54		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	4.1		1.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids	770		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-11_20220405 — Lab Sample ID: 240-164757-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	930		100	56	ug/L	1		6010D	Total/NA
Calcium	270000		4000	760	ug/L	4		6020B	Total/NA
Iron	2700		100	36	ug/L	1		6020B	Total/NA
Chloride	16		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.92		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1400		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	2000		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-12_20220404 — Lab Sample ID: 240-164757-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1100		100	56	ug/L	1		6010D	Total/NA
Calcium	200000		4000	760	ug/L	4		6020B	Total/NA
Iron	2600		100	36	ug/L	1		6020B	Total/NA
Chloride	10		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.83		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	1100		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	1700		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-13_20220404 — Lab Sample ID: 240-164757-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140000		1000	190	ug/L	1		6020B	Total/NA
Iron	10000		100	36	ug/L	1		6020B	Total/NA
Chloride	95		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.39		0.050	0.050	mg/L	1		9056A	Total/NA
Total Dissolved Solids	510		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-14_20220404 — Lab Sample ID: 240-164757-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1500		100	56	ug/L	1		6010D	Total/NA
Calcium	330000		4000	760	ug/L	4		6020B	Total/NA
Iron	8000		100	36	ug/L	1		6020B	Total/NA
Chloride	300		10	10	mg/L	10		9056A	Total/NA
Fluoride	0.40		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	480		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	1800		20	20	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-15_20220405 — Lab Sample ID: 240-164757-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2900		100	56	ug/L	1		6010D	Total/NA
Calcium	140000		1000	190	ug/L	1		6020B	Total/NA
Iron	9600		100	36	ug/L	1		6020B	Total/NA
Chloride	110		1.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.56		0.050	0.050	mg/L	1		9056A	Total/NA
Total Dissolved Solids	630		10	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-01_20220404 — Lab Sample ID: 240-164757-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1600		100	56	ug/L	1		6010D	Total/NA
Calcium	280000		1000	190	ug/L	1		6020B	Total/NA
Iron	7700		100	36	ug/L	1		6020B	Total/NA
Chloride	300		10	10	mg/L	10		9056A	Total/NA
Fluoride	0.46		0.050	0.050	mg/L	1		9056A	Total/NA
Sulfate	480		10	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids	1700		20	20	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-1S_20220404 Lab Sample ID: 240-164757-1

Date Collected: 04/04/22 11:35 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	460		100	56	ug/L		04/19/22 09:00	04/20/22 14:18	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	220000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:03	4
Iron	750		400	140	ug/L		04/14/22 09:00	04/26/22 00:03	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84		1.0	1.0	mg/L			04/13/22 06:43	1
Fluoride	0.20		0.050	0.050	mg/L			04/13/22 06:43	1
Sulfate	110		1.0	1.0	mg/L			04/13/22 06:43	1
Total Dissolved Solids	860		10	10	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-2S_20220405 Lab Sample ID: 240-164757-2

Date Collected: 04/05/22 10:25 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1000		100	56	ug/L		04/19/22 09:00	04/20/22 14:28	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	250000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:07	4
Iron	2300		400	140	ug/L		04/14/22 09:00	04/26/22 00:07	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	1.0	mg/L			04/13/22 08:10	1
Fluoride	0.73		0.050	0.050	mg/L			04/13/22 08:10	1
Sulfate	1300		10	10	mg/L			04/13/22 08:31	10
Total Dissolved Solids	1900		20	20	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-3S_20220404 Lab Sample ID: 240-164757-3

Date Collected: 04/04/22 13:31 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	690		100	56	ug/L		04/19/22 09:00	04/20/22 14:35	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	260000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:15	4
Iron	3500		100	36	ug/L		04/14/22 09:00	04/22/22 23:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		1.0	1.0	mg/L			04/13/22 09:37	1
Fluoride	0.76		0.050	0.050	mg/L			04/13/22 09:37	1
Sulfate	1100		10	10	mg/L			04/14/22 22:09	10
Total Dissolved Solids	1500		20	20	mg/L			04/11/22 09:21	1

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-7S_20220405

Lab Sample ID: 240-164757-4

Date Collected: 04/05/22 10:01

Matrix: Water

Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	170		100	56	ug/L		04/19/22 09:00	04/20/22 14:33	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	200000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:19	4
Iron	290		100	36	ug/L		04/14/22 09:00	04/22/22 23:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		1.0	1.0	mg/L			04/13/22 10:20	1
Fluoride	0.77		0.050	0.050	mg/L			04/13/22 10:20	1
Sulfate	540		5.0	5.0	mg/L			04/13/22 10:42	5
Total Dissolved Solids	920		10	10	mg/L			04/11/22 09:21	1

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-9_20220404
Date Collected: 04/04/22 11:28
Date Received: 04/08/22 08:00

Lab Sample ID: 240-164757-5
Matrix: Water

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	550		100	56	ug/L		04/19/22 09:00	04/20/22 14:37	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	190000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:38	4
Iron	3600		100	36	ug/L		04/14/22 09:00	04/22/22 23:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41		1.0	1.0	mg/L			04/13/22 11:03	1
Fluoride	0.63		0.050	0.050	mg/L			04/13/22 11:03	1
Sulfate	1.0	U	1.0	1.0	mg/L			04/13/22 11:03	1
Total Dissolved Solids	730		10	10	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-10_20220404 Lab Sample ID: 240-164757-6

Date Collected: 04/04/22 12:12 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	600		100	56	ug/L		04/19/22 09:00	04/20/22 14:39	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	180000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:42	4
Iron	110		100	36	ug/L		04/14/22 09:00	04/22/22 23:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54		1.0	1.0	mg/L			04/13/22 11:47	1
Fluoride	0.54		0.050	0.050	mg/L			04/13/22 11:47	1
Sulfate	4.1		1.0	1.0	mg/L			04/13/22 11:47	1
Total Dissolved Solids	770		20	20	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-11_20220405

Lab Sample ID: 240-164757-7

Date Collected: 04/05/22 11:25
Date Received: 04/08/22 08:00

Matrix: Water

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	930		100	56	ug/L		04/19/22 09:00	04/20/22 14:41	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	270000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:46	4
Iron	2700		100	36	ug/L		04/14/22 09:00	04/22/22 23:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		1.0	1.0	mg/L			04/13/22 12:30	1
Fluoride	0.92		0.050	0.050	mg/L			04/13/22 12:30	1
Sulfate	1400		10	10	mg/L			04/13/22 12:52	10
Total Dissolved Solids	2000		20	20	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-12_20220404 Lab Sample ID: 240-164757-8

Date Collected: 04/04/22 13:30 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1100		100	56	ug/L		04/19/22 09:00	04/20/22 14:43	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	200000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:50	4
Iron	2600		100	36	ug/L		04/14/22 09:00	04/22/22 23:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		1.0	1.0	mg/L			04/13/22 13:57	1
Fluoride	0.83		0.050	0.050	mg/L			04/13/22 13:57	1
Sulfate	1100		10	10	mg/L			04/13/22 14:19	10
Total Dissolved Solids	1700		20	20	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-13_20220404 Lab Sample ID: 240-164757-9

Date Collected: 04/04/22 12:40 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	56	ug/L		04/19/22 09:00	04/20/22 14:45	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**140000**		1000	190	ug/L		04/14/22 09:00	04/26/22 00:54	1
Iron	**10000**		100	36	ug/L		04/14/22 09:00	04/22/22 23:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**95**		1.0	1.0	mg/L			04/13/22 14:41	1
Fluoride	**0.39**		0.050	0.050	mg/L			04/13/22 14:41	1
Sulfate	1.0	U	1.0	1.0	mg/L			04/13/22 14:41	1
Total Dissolved Solids	**510**		10	10	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-14_20220404

Lab Sample ID: 240-164757-10

Date Collected: 04/04/22 09:10

Matrix: Water

Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1500		100	56	ug/L		04/19/22 09:00	04/20/22 14:47	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	330000		4000	760	ug/L		04/14/22 09:00	04/26/22 00:58	4
Iron	8000		100	36	ug/L		04/14/22 09:00	04/22/22 23:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300		10	10	mg/L			04/13/22 16:08	10
Fluoride	0.40		0.050	0.050	mg/L			04/13/22 15:46	1
Sulfate	480		10	10	mg/L			04/13/22 16:08	10
Total Dissolved Solids	1800		20	20	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation.
Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-15_20220405
Lab Sample ID: 240-164757-11
Date Collected: 04/05/22 10:31
Matrix: Water
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2900		100	56	ug/L		04/19/22 09:00	04/20/22 14:49	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140000		1000	190	ug/L		04/14/22 09:00	04/21/22 23:56	1
Iron	9600		100	36	ug/L		04/14/22 09:00	04/21/22 23:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		1.0	1.0	mg/L			04/13/22 16:29	1
Fluoride	0.56		0.050	0.050	mg/L			04/13/22 16:29	1
Sulfate	1.0	U	1.0	1.0	mg/L			04/13/22 16:29	1
Total Dissolved Solids	630		10	10	mg/L			04/11/22 09:21	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: DUP-01_20220404 Lab Sample ID: 240-164757-12

Date Collected: 04/04/22 00:00 **Matrix: Water**
Date Received: 04/08/22 08:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1600		100	56	ug/L		04/19/22 09:00	04/20/22 14:57	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	280000		1000	190	ug/L		04/14/22 09:00	04/22/22 00:00	1
Iron	7700		100	36	ug/L		04/14/22 09:00	04/22/22 00:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300		10	10	mg/L			04/13/22 18:18	10
Fluoride	0.46		0.050	0.050	mg/L			04/13/22 17:13	1
Sulfate	480		10	10	mg/L			04/13/22 18:18	10
Total Dissolved Solids	1700		20	20	mg/L			04/11/22 09:21	1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 310-350267/1-A
Matrix: Water
Analysis Batch: 350604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350267

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	56	ug/L		04/19/22 09:00	04/20/22 14:14	1

Lab Sample ID: LCS 310-350267/2-A
Matrix: Water
Analysis Batch: 350604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2000	2110		ug/L		106	80 - 120

Lab Sample ID: 240-164757-1 MS
Matrix: Water
Analysis Batch: 350604

Client Sample ID: MW-1S_20220404
Prep Type: Total/NA
Prep Batch: 350267

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	460		2000	2800		ug/L		117	75 - 125

Lab Sample ID: 240-164757-1 MSD
Matrix: Water
Analysis Batch: 350604

Client Sample ID: MW-1S_20220404
Prep Type: Total/NA
Prep Batch: 350267

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	460		2000	2790		ug/L		116	75 - 125	0	20

Lab Sample ID: 240-164757-11 DU
Matrix: Water
Analysis Batch: 350604

Client Sample ID: MW-15_20220405
Prep Type: Total/NA
Prep Batch: 350267

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	2900		2850		ug/L		0.1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-349468/1-A
Matrix: Water
Analysis Batch: 350843

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349468

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	190	ug/L		04/14/22 09:00	04/22/22 21:40	1
Iron	100	U	100	36	ug/L		04/14/22 09:00	04/22/22 21:40	1

Lab Sample ID: LCS 310-349468/2-A
Matrix: Water
Analysis Batch: 350843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	2000	1900		ug/L		95	80 - 120
Iron	200	209		ug/L		105	80 - 120

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

Lab Sample ID: 240-164757-2 DU
Matrix: Water
Analysis Batch: 350843

Client Sample ID: MW-2S_20220405
Prep Type: Total/NA
Prep Batch: 349468

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Iron	2500			2460		ug/L				0.6	20

Lab Sample ID: 240-164757-2 DU
Matrix: Water
Analysis Batch: 351050

Client Sample ID: MW-2S_20220405
Prep Type: Total/NA
Prep Batch: 349468

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Calcium	250000			255000		ug/L				2	20
Iron	2300			2380		ug/L				4	20

Lab Sample ID: MB 310-349469/1-A
Matrix: Water
Analysis Batch: 350746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349469

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	190	ug/L		04/14/22 09:00	04/21/22 23:37	1
Iron	100	U	100	36	ug/L		04/14/22 09:00	04/21/22 23:37	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 240-522509/3
Matrix: Water
Analysis Batch: 522509

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	1.0	mg/L			04/13/22 05:16	1
Fluoride	0.050	U	0.050	0.050	mg/L			04/13/22 05:16	1
Sulfate	1.0	U	1.0	1.0	mg/L			04/13/22 05:16	1

Lab Sample ID: LCS 240-522509/4
Matrix: Water
Analysis Batch: 522509

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	51.4		mg/L		103	90 - 110		
Fluoride			2.50	2.69		mg/L		108	90 - 110		
Sulfate			50.0	52.6		mg/L		105	90 - 110		

Lab Sample ID: 240-164757-1 MS
Matrix: Water
Analysis Batch: 522509

Client Sample ID: MW-1S_20220404
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	84		50.0	132		mg/L		96	80 - 120		
Fluoride	0.20		2.50	2.84		mg/L		106	80 - 120		
Sulfate	110		50.0	156		mg/L		96	80 - 120		

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

Lab Sample ID: 240-164757-1 MSD
Matrix: Water
Analysis Batch: 522509

Client Sample ID: MW-1S_20220404
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	84		50.0	133		mg/L		97	80 - 120	0	15
Fluoride	0.20		2.50	2.86		mg/L		106	80 - 120	1	15
Sulfate	110		50.0	156		mg/L		97	80 - 120	0	15

Lab Sample ID: 240-164757-9 MS
Matrix: Water
Analysis Batch: 522509

Client Sample ID: MW-13_20220404
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	95		50.0	141		mg/L		93	80 - 120
Fluoride	0.39		2.50	2.93		mg/L		102	80 - 120
Sulfate	1.0	U	50.0	51.3		mg/L		103	80 - 120

Lab Sample ID: 240-164757-9 MSD
Matrix: Water
Analysis Batch: 522509

Client Sample ID: MW-13_20220404
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	95		50.0	141		mg/L		93	80 - 120	0	15
Fluoride	0.39		2.50	2.96		mg/L		103	80 - 120	1	15
Sulfate	1.0	U	50.0	51.5		mg/L		103	80 - 120	0	15

Lab Sample ID: MB 240-522802/3
Matrix: Water
Analysis Batch: 522802

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	1.0	mg/L			04/14/22 12:33	1
Fluoride	0.050	U	0.050	0.050	mg/L			04/14/22 12:33	1
Sulfate	1.0	U	1.0	1.0	mg/L			04/14/22 12:33	1

Lab Sample ID: LCS 240-522802/4
Matrix: Water
Analysis Batch: 522802

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.7		mg/L		99	90 - 110
Fluoride	2.50	2.61		mg/L		104	90 - 110
Sulfate	50.0	51.1		mg/L		102	90 - 110

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

Lab Sample ID: MB 240-522294/1
Matrix: Water
Analysis Batch: 522294

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	10	mg/L			04/11/22 09:21	1

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

Lab Sample ID: LCS 240-522294/2
Matrix: Water
Analysis Batch: 522294

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			150	135		mg/L		90	80 - 120		

Lab Sample ID: 240-164757-9 DU
Matrix: Water
Analysis Batch: 522294

Client Sample ID: MW-13_20220404
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	510			529		mg/L				4	20

Metals

Prep Batch: 349468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-1	MW-1S_20220404	Total/NA	Water	3005A	
240-164757-2	MW-2S_20220405	Total/NA	Water	3005A	
240-164757-3	MW-3S_20220404	Total/NA	Water	3005A	
240-164757-4	MW-7S_20220405	Total/NA	Water	3005A	
240-164757-5	MW-9_20220404	Total/NA	Water	3005A	
240-164757-6	MW-10_20220404	Total/NA	Water	3005A	
240-164757-7	MW-11_20220405	Total/NA	Water	3005A	
240-164757-8	MW-12_20220404	Total/NA	Water	3005A	
240-164757-9	MW-13_20220404	Total/NA	Water	3005A	
240-164757-10	MW-14_20220404	Total/NA	Water	3005A	
MB 310-349468/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-349468/2-A	Lab Control Sample	Total/NA	Water	3005A	
240-164757-2 DU	MW-2S_20220405	Total/NA	Water	3005A	

Prep Batch: 349469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-11	MW-15_20220405	Total/NA	Water	3005A	
240-164757-12	DUP-01_20220404	Total/NA	Water	3005A	
MB 310-349469/1-A	Method Blank	Total/NA	Water	3005A	

Prep Batch: 350267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-1	MW-1S_20220404	Total/NA	Water	3005A	
240-164757-2	MW-2S_20220405	Total/NA	Water	3005A	
240-164757-3	MW-3S_20220404	Total/NA	Water	3005A	
240-164757-4	MW-7S_20220405	Total/NA	Water	3005A	
240-164757-5	MW-9_20220404	Total/NA	Water	3005A	
240-164757-6	MW-10_20220404	Total/NA	Water	3005A	
240-164757-7	MW-11_20220405	Total/NA	Water	3005A	
240-164757-8	MW-12_20220404	Total/NA	Water	3005A	
240-164757-9	MW-13_20220404	Total/NA	Water	3005A	
240-164757-10	MW-14_20220404	Total/NA	Water	3005A	
240-164757-11	MW-15_20220405	Total/NA	Water	3005A	
240-164757-12	DUP-01_20220404	Total/NA	Water	3005A	
MB 310-350267/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-350267/2-A	Lab Control Sample	Total/NA	Water	3005A	
240-164757-1 MS	MW-1S_20220404	Total/NA	Water	3005A	
240-164757-1 MSD	MW-1S_20220404	Total/NA	Water	3005A	
240-164757-11 DU	MW-15_20220405	Total/NA	Water	3005A	

Analysis Batch: 350604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-1	MW-1S_20220404	Total/NA	Water	6010D	350267
240-164757-2	MW-2S_20220405	Total/NA	Water	6010D	350267
240-164757-3	MW-3S_20220404	Total/NA	Water	6010D	350267
240-164757-4	MW-7S_20220405	Total/NA	Water	6010D	350267
240-164757-5	MW-9_20220404	Total/NA	Water	6010D	350267
240-164757-6	MW-10_20220404	Total/NA	Water	6010D	350267
240-164757-7	MW-11_20220405	Total/NA	Water	6010D	350267
240-164757-8	MW-12_20220404	Total/NA	Water	6010D	350267
240-164757-9	MW-13_20220404	Total/NA	Water	6010D	350267

Metals (Continued)

Analysis Batch: 350604 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-10	MW-14_20220404	Total/NA	Water	6010D	350267
240-164757-11	MW-15_20220405	Total/NA	Water	6010D	350267
240-164757-12	DUP-01_20220404	Total/NA	Water	6010D	350267
MB 310-350267/1-A	Method Blank	Total/NA	Water	6010D	350267
LCS 310-350267/2-A	Lab Control Sample	Total/NA	Water	6010D	350267
240-164757-1 MS	MW-1S_20220404	Total/NA	Water	6010D	350267
240-164757-1 MSD	MW-1S_20220404	Total/NA	Water	6010D	350267
240-164757-11 DU	MW-15_20220405	Total/NA	Water	6010D	350267

Analysis Batch: 350746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-11	MW-15_20220405	Total/NA	Water	6020B	349469
240-164757-12	DUP-01_20220404	Total/NA	Water	6020B	349469
MB 310-349469/1-A	Method Blank	Total/NA	Water	6020B	349469

Analysis Batch: 350843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-3	MW-3S_20220404	Total/NA	Water	6020B	349468
240-164757-4	MW-7S_20220405	Total/NA	Water	6020B	349468
240-164757-5	MW-9_20220404	Total/NA	Water	6020B	349468
240-164757-6	MW-10_20220404	Total/NA	Water	6020B	349468
240-164757-7	MW-11_20220405	Total/NA	Water	6020B	349468
240-164757-8	MW-12_20220404	Total/NA	Water	6020B	349468
240-164757-9	MW-13_20220404	Total/NA	Water	6020B	349468
240-164757-10	MW-14_20220404	Total/NA	Water	6020B	349468
MB 310-349468/1-A	Method Blank	Total/NA	Water	6020B	349468
LCS 310-349468/2-A	Lab Control Sample	Total/NA	Water	6020B	349468
240-164757-2 DU	MW-2S_20220405	Total/NA	Water	6020B	349468

Analysis Batch: 351050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-1	MW-1S_20220404	Total/NA	Water	6020B	349468
240-164757-2	MW-2S_20220405	Total/NA	Water	6020B	349468
240-164757-3	MW-3S_20220404	Total/NA	Water	6020B	349468
240-164757-4	MW-7S_20220405	Total/NA	Water	6020B	349468
240-164757-5	MW-9_20220404	Total/NA	Water	6020B	349468
240-164757-6	MW-10_20220404	Total/NA	Water	6020B	349468
240-164757-7	MW-11_20220405	Total/NA	Water	6020B	349468
240-164757-8	MW-12_20220404	Total/NA	Water	6020B	349468
240-164757-9	MW-13_20220404	Total/NA	Water	6020B	349468
240-164757-10	MW-14_20220404	Total/NA	Water	6020B	349468
240-164757-2 DU	MW-2S_20220405	Total/NA	Water	6020B	349468

General Chemistry

Analysis Batch: 522294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-1	MW-1S_20220404	Total/NA	Water	SM 2540C	
240-164757-2	MW-2S_20220405	Total/NA	Water	SM 2540C	
240-164757-3	MW-3S_20220404	Total/NA	Water	SM 2540C	
240-164757-4	MW-7S_20220405	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 522294 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-5	MW-9_20220404	Total/NA	Water	SM 2540C	
240-164757-6	MW-10_20220404	Total/NA	Water	SM 2540C	
240-164757-7	MW-11_20220405	Total/NA	Water	SM 2540C	
240-164757-8	MW-12_20220404	Total/NA	Water	SM 2540C	
240-164757-9	MW-13_20220404	Total/NA	Water	SM 2540C	
240-164757-10	MW-14_20220404	Total/NA	Water	SM 2540C	
240-164757-11	MW-15_20220405	Total/NA	Water	SM 2540C	
240-164757-12	DUP-01_20220404	Total/NA	Water	SM 2540C	
MB 240-522294/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-522294/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-164757-9 DU	MW-13_20220404	Total/NA	Water	SM 2540C	

Analysis Batch: 522509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-1	MW-1S_20220404	Total/NA	Water	9056A	
240-164757-2	MW-2S_20220405	Total/NA	Water	9056A	
240-164757-2	MW-2S_20220405	Total/NA	Water	9056A	
240-164757-3	MW-3S_20220404	Total/NA	Water	9056A	
240-164757-4	MW-7S_20220405	Total/NA	Water	9056A	
240-164757-4	MW-7S_20220405	Total/NA	Water	9056A	
240-164757-5	MW-9_20220404	Total/NA	Water	9056A	
240-164757-6	MW-10_20220404	Total/NA	Water	9056A	
240-164757-7	MW-11_20220405	Total/NA	Water	9056A	
240-164757-7	MW-11_20220405	Total/NA	Water	9056A	
240-164757-8	MW-12_20220404	Total/NA	Water	9056A	
240-164757-8	MW-12_20220404	Total/NA	Water	9056A	
240-164757-9	MW-13_20220404	Total/NA	Water	9056A	
240-164757-10	MW-14_20220404	Total/NA	Water	9056A	
240-164757-10	MW-14_20220404	Total/NA	Water	9056A	
240-164757-11	MW-15_20220405	Total/NA	Water	9056A	
240-164757-12	DUP-01_20220404	Total/NA	Water	9056A	
240-164757-12	DUP-01_20220404	Total/NA	Water	9056A	
MB 240-522509/3	Method Blank	Total/NA	Water	9056A	
LCS 240-522509/4	Lab Control Sample	Total/NA	Water	9056A	
240-164757-1 MS	MW-1S_20220404	Total/NA	Water	9056A	
240-164757-1 MSD	MW-1S_20220404	Total/NA	Water	9056A	
240-164757-9 MS	MW-13_20220404	Total/NA	Water	9056A	
240-164757-9 MSD	MW-13_20220404	Total/NA	Water	9056A	

Analysis Batch: 522802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-164757-3	MW-3S_20220404	Total/NA	Water	9056A	
MB 240-522802/3	Method Blank	Total/NA	Water	9056A	
LCS 240-522802/4	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-1S_20220404
Date Collected: 04/04/22 11:35
Date Received: 04/08/22 08:00

Lab Sample ID: 240-164757-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:18	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:03	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 06:43	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-2S_20220405
Date Collected: 04/05/22 10:25
Date Received: 04/08/22 08:00

Lab Sample ID: 240-164757-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:28	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:07	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 08:10	JMB	TAL CAN
Total/NA	Analysis	9056A		10	522509	04/13/22 08:31	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-3S_20220404
Date Collected: 04/04/22 13:31
Date Received: 04/08/22 08:00

Lab Sample ID: 240-164757-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:35	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:06	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:15	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 09:37	JMB	TAL CAN
Total/NA	Analysis	9056A		10	522802	04/14/22 22:09	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-7S_20220405
Date Collected: 04/05/22 10:01
Date Received: 04/08/22 08:00

Lab Sample ID: 240-164757-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:33	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:26	SAP	TAL CF

Lab Chronicle

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-7S_20220405

Lab Sample ID: 240-164757-4

Date Collected: 04/05/22 10:01

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:19	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 10:20	JMB	TAL CAN
Total/NA	Analysis	9056A		5	522509	04/13/22 10:42	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-9_20220404

Lab Sample ID: 240-164757-5

Date Collected: 04/04/22 11:28

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:37	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:30	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:38	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 11:03	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-10_20220404

Lab Sample ID: 240-164757-6

Date Collected: 04/04/22 12:12

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:39	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:34	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:42	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 11:47	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-11_20220405

Lab Sample ID: 240-164757-7

Date Collected: 04/05/22 11:25

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:41	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:37	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:46	SAP	TAL CF

Lab Chronicle

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-164757-1

Client Sample ID: MW-11_20220405

Lab Sample ID: 240-164757-7

Date Collected: 04/05/22 11:25

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	522509	04/13/22 12:30	JMB	TAL CAN
Total/NA	Analysis	9056A		10	522509	04/13/22 12:52	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-12_20220404

Lab Sample ID: 240-164757-8

Date Collected: 04/04/22 13:30

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:43	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:41	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:50	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 13:57	JMB	TAL CAN
Total/NA	Analysis	9056A		10	522509	04/13/22 14:19	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-13_20220404

Lab Sample ID: 240-164757-9

Date Collected: 04/04/22 12:40

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:45	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:45	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	351050	04/26/22 00:54	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 14:41	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-14_20220404

Lab Sample ID: 240-164757-10

Date Collected: 04/04/22 09:10

Matrix: Water

Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:47	CTB	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350843	04/22/22 23:49	SAP	TAL CF
Total/NA	Prep	3005A			349468	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		4	351050	04/26/22 00:58	SAP	TAL CF

Lab Chronicle

Client: TRC Environmental Corporation.
Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-14_20220404
Lab Sample ID: 240-164757-10
Date Collected: 04/04/22 09:10
Matrix: Water
Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	522509	04/13/22 15:46	JMB	TAL CAN
Total/NA	Analysis	9056A		10	522509	04/13/22 16:08	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: MW-15_20220405
Lab Sample ID: 240-164757-11
Date Collected: 04/05/22 10:31
Matrix: Water
Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:49	CTB	TAL CF
Total/NA	Prep	3005A			349469	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350746	04/21/22 23:56	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 16:29	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Client Sample ID: DUP-01_20220404
Lab Sample ID: 240-164757-12
Date Collected: 04/04/22 00:00
Matrix: Water
Date Received: 04/08/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			350267	04/19/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6010D		1	350604	04/20/22 14:57	CTB	TAL CF
Total/NA	Prep	3005A			349469	04/14/22 09:00	ACM2	TAL CF
Total/NA	Analysis	6020B		1	350746	04/22/22 00:00	SAP	TAL CF
Total/NA	Analysis	9056A		1	522509	04/13/22 17:13	JMB	TAL CAN
Total/NA	Analysis	9056A		10	522509	04/13/22 18:18	JMB	TAL CAN
Total/NA	Analysis	SM 2540C		1	522294	04/11/22 09:21	KMS	TAL CAN

Laboratory References:

TAL CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

TAL CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-164757-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Laboratory: Eurofins Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	04-25-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22 *
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	04-20-22
Oregon	NELAP	4062	04-20-22
Pennsylvania	NELAP	68-00340	04-24-22
Texas	NELAP	T104704517-22-16	08-31-22
Virginia	NELAP	11570	04-25-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-22
Iowa	State	007	12-01-21 *
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-22
Oregon	NELAP	IA100001	09-29-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

MICHIGAN 120

eurofins | Environment Testing America

Client Information	Sampler: SAUER JASS	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-93653-33351.1
Client Contact: Mr. Vincent Buening	Phone: 734 904 3716	E-Mail: Kris.Brooks@Eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation.	PWSID:			Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days):			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 313-971-7080(Tel) 313-971-9022(Fax)	PO #: 164689			
Email: vbuening@trccompanies.com	WO #: 254222.0001			
Project Name: CCR DTE Monroe Power Plant Bottom Ash Im	Project #: 24016830			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd, 9056A_28D	6010B, 6020	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D		
MW-1S_20220404	4/4/22	1135	G	Water	N	N	X	X	3	
MW-2S_20220405	4/5/22	1025	G	Water	N	N	X	X	3	
MW-3S_20220404	4/4/22	1337	G	Water	N	N	X	X	3	
MW-7S_20220405	4/5/22	1001	G	Water	N	N	X	X	3	
MW-9 [redacted]_20220404	4/4/22	1126	G	Water	N	N	X	X	3	
MW-10_20220404	4/4/22	1217	G	Water	N	N	X	X	3	
MW-11_20220405	4/5/22	1125	G	Water	N	N	X	X	3	
MW-12_20220404	4/4/22	1330	G	Water	N	N	X	X	3	
MW-13_20220404	4/4/22	1240	G	Water	N	N	X	X	3	
MW-14_20220404	4/4/22	0916	G	Water	N	N	X	X	3	
MW-15_20220405	4/5/22	1041	G	Water	N	N	X	X	3	

240-164757 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longe.
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		4/5/22 0600	TRC		4/6/22 0600	TRC
2		4/7/22 1222	TRC		4/7/22 1223	FEDEX
3		4/7/22 1320			4-8-22 800	DETDC

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

Chain of Custody Record

MICHIGAN
190

eurofins | Environment Testing America

Client Information	Sampler: Javier Tusso	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-93653-33351.2
Client Contact: Mr. Vincent Buening	Phone: 7349043210	E-Mail: Kris.Brooks@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: TRC Environmental Corporation	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			
City: Ann Arbor	TAT Requested (days):			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 313-971-7080(Tel) 313-971-9022(Fax)	PO #: 164689			
Email: vbuening@trccompanies.com	WO #: 254222.0001			
Project Name: CCR DTE Monroe Power Plant Bottom Ash Im	Project #: 24016830			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd TDS, 9056A_28D Chloride, Flouride, Sulfate	6010B Bo, 6020 Ca, Fe	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	X	
DUP-01 - 20220404	4/4/22	—	G	Water	N	N	✓	✓	2	
~~MW-88~~				Water						
				Water						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 4/5/22 0600	Company: TRC	Received by: TRC [signature]	Date/Time: 4/5/22 0600	Company: TRC
Relinquished by: [signature]	Date/Time: 4/7/22 1222	Company: TRC	Received by: [signature]	Date/Time: 4/7/22 1223	Company: EETA
Relinquished by: [signature]	Date/Time: 4/7/22 1330	Company: EETA	Received by: [signature]	Date/Time: 4-8-22 800	Company: EETNC
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client IAC Site Name _____ Cooler unpacked by: Tammy Boyd

Cooler Received on 4-8-22 Opened on 4-8-22

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

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

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
   IR GUN# IR-14 (CF -0.2 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-15 (CF -0.7°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity____	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC157842
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⇦ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

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

20. SAMPLE PRESERVATION

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login # : ___________

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	**IR-14** IR-15	0.6	0.4	**Wet Ice** Blue Ice Dry Ice Water None
TA Client Box Other	**IR-14** IR-15	0.4	0.2	**Wet Ice** Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

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

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
MW-1S_20220404	240-164757-A-1	Plastic 250ml - unpreserved				
MW-1S_20220404	240-164757-B-1	Plastic 250ml - unpreserved				
MW-1S_20220404	240-164757-C-1	Plastic 250ml - with Nitric Acid	<2			
MW-2S_20220405	240-164757-A-2	Plastic 250ml - unpreserved				
MW-2S_20220405	240-164757-B-2	Plastic 250ml - with Nitric Acid	<2			
MW-3S_20220404	240-164757-A-3	Plastic 500ml - unpreserved				
MW-3S_20220404	240-164757-B-3	Plastic 500ml - unpreserved				
MW-3S_20220404	240-164757-C-3	Plastic 500ml - with Nitric Acid	<2			
MW-7S_20220405	240-164757-A-4	Plastic 250ml - unpreserved				
MW-7S_20220405	240-164757-B-4	Plastic 250ml - with Nitric Acid	<2			
MW-9_20220404	240-164757-A-5	Plastic 250ml - unpreserved				
MW-9_20220404	240-164757-B-5	Plastic 250ml - with Nitric Acid	<2			
MW-10_20220404	240-164757-A-6	Plastic 250ml - unpreserved				
MW-10_20220404	240-164757-B-6	Plastic 250ml - with Nitric Acid	<2			
MW-11_20220405	240-164757-A-7	Plastic 250ml - unpreserved				
MW-11_20220405	240-164757-B-7	Plastic 250ml - with Nitric Acid	<2			
MW-12_20220404	240-164757-A-8	Plastic 250ml - unpreserved				
MW-12_20220404	240-164757-B-8	Plastic 250ml - with Nitric Acid	<2			
MW-13_20220404	240-164757-A-9	Plastic 250ml - unpreserved				
MW-13_20220404	240-164757-B-9	Plastic 250ml - with Nitric Acid	<2			
MW-14_20220404	240-164757-A-10	Plastic 250ml - unpreserved				
MW-14_20220404	240-164757-B-10	Plastic 250ml - with Nitric Acid	<2			
MW-15_20220405	240-164757-A-11	Plastic 250ml - unpreserved				
MW-15_20220405	240-164757-B-11	Plastic 250ml - with Nitric Acid	<2			
DUP-01_20220404	240-164757-A-12	Plastic 250ml - unpreserved				
DUP-01_20220404	240-164757-B-12	Plastic 250ml - with Nitric Acid	<2			

eurofins | Environment Testing America

240-164757 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Canton

City/State: CITY Barberton | STATE OH | Project:

Receipt Information

Date/Time Received: DATE 4-9 22 | TIME 1000 | Received By: PR

Delivery Type: ☐ UPS ☑ FedEx SAT ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other _____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes* Cooler ID
Multiple Coolers?	☐ Yes	☑ No	*If yes* Cooler # _____ of _____
Cooler Custody Seals Present? No	☐ Yes	☑ No	*If yes* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present? No	☐ Yes	☑ No	*If yes* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☐ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other._____ ☒ NONE

Thermometer ID: N | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): — | Corrected Temp (°C): —

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used	1 250mL →	
Uncorrected Temp (°C)	11.6	12.0
Corrected Temp (°C)	11.6	12.0

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g , bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

* Metals

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-150578.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 2
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note):		Job #: 240-164757-1
Address: 3019 Venture Way	Due Date Requested: 4/21/2022			Preservation Codes:
City: Cedar Falls	TAT Requested (days):			A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Z other (specify)
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CCR DTE Monroe Power Plant	Project #: 24016830			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010D/3005A_TOT Metals Bo Diss	6020B/3005A_TOT (MOD) Metals Ca, Fe	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-1S_20220404 (240-164757-1)	4/4/22	11:35 Eastern		Water			X	X	1	
MW-2S_20220405 (240-164757-2)	4/5/22	10:25 Eastern		Water			X	X	1	
MW-3S_20220404 (240-164757-3)	4/4/22	13:31 Eastern		Water			X	X	1	
MW-7S_20220405 (240-164757-4)	4/5/22	10:01 Eastern		Water			X	X	1	
MW-9_20220404 (240-164757-5)	4/4/22	11:28 Eastern		Water			X	X	1	
MW-10_20220404 (240-164757-6)	4/4/22	12:12 Eastern		Water			X	X	1	
MW-11_20220405 (240-164757-7)	4/5/22	11:25 Eastern		Water			X	X	1	
MW-12_20220404 (240-164757-8)	4/4/22	13:30 Eastern		Water			X	X	1	
MW-13_20220404 (240-164757-9)	4/4/22	12:40 Eastern		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC 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 Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4-8-22 1433	ETA			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 4-9-22 1000	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-150578.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Kris.Brooks@et.eurofinsus.com	State of Origin: Michigan	Page: Page 2 of 2
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note):		Job #: 240-164757-1
Address: 3019 Venture Way	Due Date Requested: 4/21/2022			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR DTE Monroe Power Plant	Project #: 24016830			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010D/3005A_TOT Metals Ba Diss	6020B/3005A_TOT (MOD) Metals Ca, Fe	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-14_20220404 (240-164757-10)	4/4/22	09:10 Eastern		Water			X	X	1	
MW-15_20220405 (240-164757-11)	4/5/22	10:31 Eastern		Water			X	X	1	
DUP-01_20220404 (240-164757-12)	4/4/22	Eastern		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC 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 Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4-8-22 1433	ETA			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4-9-22 0800	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: TRC Environmental Corporation.

Job Number: 240-164757-1

Login Number: 164757
List Number: 2
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls
List Creation: 04/11/22 07:46 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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?	False	Received project as a subcontract.
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	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Tel: (330)497-9396

Laboratory Job ID: 240-167613-1
Client Project/Site: CCR DTE Monroe Power Plant-BAI

For:
TRC Environmental Corporation.
1540 Eisenhower Place
Ann Arbor, Michigan 48108-7080

Attn: Mr. Vincent Buening

Authorized for release by:
6/10/2022 12:57:05 PM
Opal Johnson, Project Manager II
(330)966-9279
Opal.Johnson@et.eurofinsus.com

Designee for

Kris Brooks, Project Manager II
(330)966-9790
Kris.Brooks@et.eurofinsus.com

LINKS
Review your project results through my EOL
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

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.

Table of Contents

Definitions/Glossary

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-167613-1

Job ID: 240-167613-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-167613-1

Comments
No additional comments.

Receipt
The samples were received on 6/3/2022 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.6º C.

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

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

Method Summary

Client: TRC Environmental Corporation.
Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

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.

Laboratory References:

TAL CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: TRC Environmental Corporation.
Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-167613-1	MW-10	Water	06/01/22 12:45	06/03/22 08:00
240-167613-2	MW-14	Water	06/01/22 09:57	06/03/22 08:00
240-167613-3	MW-15	Water	06/01/22 11:28	06/03/22 08:00
240-167613-4	DUP-01	Water	06/01/22 00:00	06/03/22 08:00
240-167613-5	DUP-02	Water	06/01/22 00:00	06/03/22 08:00

Detection Summary

Client: TRC Environmental Corporation.
Project/Site: CCR DTE Monroe Power Plant-BAI

Job ID: 240-167613-1

Client Sample ID: MW-10 — Lab Sample ID: 240-167613-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	150000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	480		100	100	ug/L	1		6020	Total Recoverable

Client Sample ID: MW-14 — Lab Sample ID: 240-167613-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	290000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	8400		100	100	ug/L	1		6020	Total Recoverable
Total Dissolved Solids	1800		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-15 — Lab Sample ID: 240-167613-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2500		100	100	ug/L	1		6010B	Total Recoverable

Client Sample ID: DUP-01 — Lab Sample ID: 240-167613-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	260000		1000	1000	ug/L	1		6020	Total Recoverable
Iron	7300		100	100	ug/L	1		6020	Total Recoverable
Total Dissolved Solids	1800		20	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-02 — Lab Sample ID: 240-167613-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2500		100	100	ug/L	1		6010B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-10 **Lab Sample ID: 240-167613-1**
Date Collected: 06/01/22 12:45 **Matrix: Water**
Date Received: 06/03/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	150000		1000	1000	ug/L		06/06/22 14:00	06/07/22 12:46	1
Iron	480		100	100	ug/L		06/06/22 14:00	06/07/22 12:46	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-14 **Lab Sample ID: 240-167613-2**
Date Collected: 06/01/22 09:57 **Matrix: Water**
Date Received: 06/03/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	290000		1000	1000	ug/L		06/06/22 14:00	06/07/22 12:49	1
Iron	8400		100	100	ug/L		06/06/22 14:00	06/07/22 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		20	20	mg/L			06/06/22 12:48	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-15 **Lab Sample ID: 240-167613-3**
Date Collected: 06/01/22 11:28 **Matrix: Water**
Date Received: 06/03/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2500		100	100	ug/L		06/06/22 14:00	06/08/22 04:44	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: DUP-01
Date Collected: 06/01/22 00:00
Date Received: 06/03/22 08:00

Lab Sample ID: 240-167613-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	260000		1000	1000	ug/L		06/06/22 14:00	06/07/22 12:51	1
Iron	7300		100	100	ug/L		06/06/22 14:00	06/07/22 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		20	20	mg/L			06/06/22 12:48	1

Client Sample Results

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: DUP-02 **Lab Sample ID: 240-167613-5**
Date Collected: 06/01/22 00:00 **Matrix: Water**
Date Received: 06/03/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2500		100	100	ug/L		06/06/22 14:00	06/08/22 04:49	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-529375/1-A
Matrix: Water
Analysis Batch: 529561

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 529375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	U	100	100	ug/L		06/06/22 14:00	06/08/22 03:35	1

Lab Sample ID: LCS 240-529375/2-A
Matrix: Water
Analysis Batch: 529561

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 529375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	946		ug/L		95	80 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-529375/1-A
Matrix: Water
Analysis Batch: 529576

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 529375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	1000	U	1000	1000	ug/L		06/06/22 14:00	06/07/22 12:07	1
Iron	100	U	100	100	ug/L		06/06/22 14:00	06/07/22 12:07	1

Lab Sample ID: LCS 240-529375/3-A
Matrix: Water
Analysis Batch: 529576

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 529375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	25000	24200		ug/L		97	80 - 120
Iron	5000	5200		ug/L		104	80 - 120

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

Lab Sample ID: MB 240-529343/1
Matrix: Water
Analysis Batch: 529343

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	10	mg/L			06/06/22 12:48	1

Lab Sample ID: LCS 240-529343/2
Matrix: Water
Analysis Batch: 529343

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	482	463		mg/L		96	80 - 120

QC Association Summary

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Metals

Prep Batch: 529375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-167613-1	MW-10	Total Recoverable	Water	3005A	
240-167613-2	MW-14	Total Recoverable	Water	3005A	
240-167613-3	MW-15	Total Recoverable	Water	3005A	
240-167613-4	DUP-01	Total Recoverable	Water	3005A	
240-167613-5	DUP-02	Total Recoverable	Water	3005A	
MB 240-529375/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-529375/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-529375/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 529561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-167613-3	MW-15	Total Recoverable	Water	6010B	529375
240-167613-5	DUP-02	Total Recoverable	Water	6010B	529375
MB 240-529375/1-A	Method Blank	Total Recoverable	Water	6010B	529375
LCS 240-529375/2-A	Lab Control Sample	Total Recoverable	Water	6010B	529375

Analysis Batch: 529576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-167613-1	MW-10	Total Recoverable	Water	6020	529375
240-167613-2	MW-14	Total Recoverable	Water	6020	529375
240-167613-4	DUP-01	Total Recoverable	Water	6020	529375
MB 240-529375/1-A	Method Blank	Total Recoverable	Water	6020	529375
LCS 240-529375/3-A	Lab Control Sample	Total Recoverable	Water	6020	529375

General Chemistry

Analysis Batch: 529343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-167613-2	MW-14	Total/NA	Water	SM 2540C	
240-167613-4	DUP-01	Total/NA	Water	SM 2540C	
MB 240-529343/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-529343/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Client Sample ID: MW-10 — Lab Sample ID: 240-167613-1
Date Collected: 06/01/22 12:45 — **Matrix: Water**
Date Received: 06/03/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			529375	06/06/22 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6020		1	529576	06/07/22 12:46	AJC	TAL CAN

Client Sample ID: MW-14 — Lab Sample ID: 240-167613-2
Date Collected: 06/01/22 09:57 — **Matrix: Water**
Date Received: 06/03/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			529375	06/06/22 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6020		1	529576	06/07/22 12:49	AJC	TAL CAN
Total/NA	Analysis	SM 2540C		1	529343	06/06/22 12:48	KMS	TAL CAN

Client Sample ID: MW-15 — Lab Sample ID: 240-167613-3
Date Collected: 06/01/22 11:28 — **Matrix: Water**
Date Received: 06/03/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			529375	06/06/22 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6010B		1	529561	06/08/22 04:44	RKT	TAL CAN

Client Sample ID: DUP-01 — Lab Sample ID: 240-167613-4
Date Collected: 06/01/22 00:00 — **Matrix: Water**
Date Received: 06/03/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			529375	06/06/22 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6020		1	529576	06/07/22 12:51	AJC	TAL CAN
Total/NA	Analysis	SM 2540C		1	529343	06/06/22 12:48	KMS	TAL CAN

Client Sample ID: DUP-02 — Lab Sample ID: 240-167613-5
Date Collected: 06/01/22 00:00 — **Matrix: Water**
Date Received: 06/03/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			529375	06/06/22 14:00	AJC	TAL CAN
Total Recoverable	Analysis	6010B		1	529561	06/08/22 04:49	RKT	TAL CAN

Laboratory References:
TAL CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: TRC Environmental Corporation. Job ID: 240-167613-1
Project/Site: CCR DTE Monroe Power Plant-BAI

Laboratory: Eurofins Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-22-16	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Phone (330) 497-9396 Phone (330) 497-0772

MICHIGAN 190

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Henry Schmidt	Lab PM: Brooks, Kris M	Carrier Tracking No(s):	COC No: 240-93653-33351.1
Client Contact: Mr. Vincent Buening	Phone: (734) 646-5328	E-Mail: Kris.Brooks@Eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: TRC Environmental Corporation	PWSID:	Analysis Requested		Job #:
Address: 1540 Eisenhower Place	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Ann Arbor	TAT Requested (days): 3 days			
State, Zip: MI, 48108-7080	Compliance Project: Δ Yes Δ No			
Phone: 313-971-7080(Tel) 313-971-9022(Fax)	PO #: 179973			
Email: vbuening@trccompanies.com	WO #: 4618163 0006			
Project Name: CCR DTE Monroe Power Plant Bottom Ash Im	Project #: 24016830			
Site: DTE Monroe PP BAI	SSOW#:			Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TDS	Calcium	Boron	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D		
MW-10	6/1/22	1245	G	Water				X			
MW-14		957	G	Water			X	X			
MW-15		1124	G	Water					X		
DUP-01		—	G	Water			X	X			
DUP-02		—	G	Water					X		

240-167613 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Henry Schmidt	6/1/2022 1500	TRC	TRC Storage	6/1/22 1500	TRC
2		6/2/22 1112	TRC		6/2/22 1110	
3		6/2/22 1120	TRC			

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins - Canton Sample Receipt Form/Narrative **Login # : 167613**
Barberton Facility

Client TRC Site Name

Cooler Received on 6-3-22 Opened on 6-3-22

Cooler unpacked by: Mandaly Blen

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

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

Eurofins Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
   IR GUN# IR-13 (CF **0.0** °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-15 (CF **-0.7**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC157842**
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

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

20. SAMPLE PRESERVATION

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login # : ______________

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	IR-13 IR-15	1.6	1.6	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15	0.8	0.8	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

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

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
MW-10	240-167613-A-1	Plastic 250ml - with Nitric Acid	<2			
MW-14	240-167613-B-2	Plastic 500ml - with Nitric Acid	<2			
MW-15	240-167613-A-3	Plastic 250ml - with Nitric Acid	<2			
DUP-01	240-167613-B-4	Plastic 500ml - with Nitric Acid	<2			
DUP-02	240-167613-A-5	Plastic 250ml - with Nitric Acid	<2			

Appendix C
Data Quality Review

Laboratory Data Quality Review
Groundwater Monitoring Event October 2021
DTE Electric Company Monroe Power Plant Bottom Ash Impoundment

Groundwater samples were collected by TRC for the October 2021 sampling event. Samples were analyzed for anions, total recoverable metals, and total dissolved solids by Eurofins-Test America Laboratories, Inc. (Eurofins-TA), located in North Canton, Ohio. The laboratory analytical results are reported in laboratory reports 240-157753-1 and 240-158462-1.

During the October 2021 sampling event, a groundwater sample was collected from each of the following wells:

- MW-1S
- MW-2S
- MW-3S
- MW-7S
- MW-9
- MW-10
- MW-11
- MW-12
- MW-13
- MW-14
- MW-15
- MW-8S

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Chloride, Fluoride, Sulfate)	SW846 9056A
Total Recoverable Boron	SW846 3005A/6010B
Total Recoverable Calcium and Iron	SW846 3005A/6020
Total Dissolved Solids	SM 2540C

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Quality Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks and equipment blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs). The LCSs are used to assess the accuracy of the analytical method using a clean matrix;

- Data for matrix spike and matrix spike duplicate samples (MS/MSDs), when performed on project samples. The MS/MSDs are used to assess the accuracy and precision of the analytical method using a sample from the dataset;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are used to assess the precision of the analytical method using a sample from the dataset;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation are noted below.

- Appendix III constituents and iron will be utilized for the purposes of a detection monitoring program.
- Data are usable for the purposes of the detection monitoring program.

QA/QC Sample Summary

- Target analytes were not detected in the method blanks.
- LCS recoveries for all target analytes were within laboratory control limits.
- MS and MSD analyses were performed on sample MW-1S_20211018 for total recoverable calcium and iron. The recoveries of calcium were outside of the control limits in the MS and MSD analyses performed on sample MW-1S_20211018; the result for calcium in the parent sample was >4x the spike concentration; therefore, the MS/MSD recoveries are not applicable.
- Laboratory duplicate analysis was performed on sample MW-7S_20211018 for TDS; relative percent differences (RPDs) were within the QC limits.
- The field duplicate pair samples were MW-9_20211018 and DUP-01_20211018; RPDs between the parent and duplicate sample were within the QC limits.
- The nondetect RLs for sulfate in samples MW-13_20211018, MW-15_20211018, and DUP-01_20211018 (5.0 mg/L) were above the project-specified RL (1 mg/L) due to a 5-fold dilution performed due to the nature of the matrix.

Laboratory Data Quality Review
Groundwater Monitoring Event December 2021
DTE Electric Company Monroe Power Plant Bottom Ash Impoundment

Groundwater samples were collected by TRC for the December 2021 sampling event. Samples were analyzed for anions and total dissolved solids by Eurofins-Test America Laboratories, Inc. (Eurofins-TA), located in North Canton, Ohio. The laboratory analytical results are reported in laboratory reports 240-161245-1.

During the December 2021 sampling event, a groundwater sample was collected from each of the following wells:

- MW-11
- MW-14
- MW-15

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Fluoride and Sulfate)	SW846 9056A
Total Dissolved Solids	SM 2540C

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Quality Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks and equipment blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs). The LCSs are used to assess the accuracy of the analytical method using a clean matrix;
- Data for matrix spike and matrix spike duplicate samples (MS/MSDs), when performed on project samples. The MS/MSDs are used to assess the accuracy and precision of the analytical method using a sample from the dataset;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are used to assess the precision of the analytical method using a sample from the dataset;

- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation are noted below.

- Appendix III constituents and iron will be utilized for the purposes of a detection monitoring program.
- Data are usable for the purposes of the detection monitoring program.

QA/QC Sample Summary

- Target analytes were not detected in the method blanks.
- LCS recoveries for all target analytes were within laboratory control limits.
- No MS and MSD analyses were performed.
- The field duplicate pair samples were MW-11 with DUP-01 and MW-15 with DUP-02; RPDs between the parent and duplicate sample were within the QC limits.
- The nondetect RL for sulfate in sample MW-14 (10 mg/L) were above the project-specified RL (1 mg/L) due to a 10-fold dilution performed due to the nature of the matrix.
- The nondetect RL for total dissolved solids was 20 mg/L which is above the project-specified RL (10 mg/L). Total dissolved solids were detected above 20 mg/L in all samples; therefore, data usability is not affected.

Laboratory Data Quality Review
Groundwater Monitoring Event April 2022
DTE Electric Company Monroe Power Plant Bottom Ash Impoundment

Groundwater samples were collected by TRC for the April 2022 sampling event. Samples were analyzed for anions and total dissolved solids by Eurofins-Test America Laboratories, Inc. (Eurofins-TA), located in North Canton, Ohio and metals by Eurofins-TA, located in Cedar Falls, Iowa. The laboratory analytical results are reported in laboratory reports 240-164757-1 and 240-164803-1.

During the April 2022 sampling event, a groundwater sample was collected from each of the following wells:

- MW-1S
- MW-2S
- MW-3S
- MW-7S
- MW-9
- MW-10
- MW-11
- MW-12
- MW-13
- MW-14
- MW-15
- MW-8S

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Anions (Chloride, Fluoride, Sulfate)	SW846 9056A
Boron	SW846 3005A/6010D
Calcium and Iron	SW846 3005A/6020B
Total Dissolved Solids	SM 2540C

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Quality Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks and equipment blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs). The LCSs are used to assess the accuracy of the analytical method using a clean matrix;

- Data for matrix spike and matrix spike duplicate samples (MS/MSDs), when performed on project samples. The MS/MSDs are used to assess the accuracy and precision of the analytical method using a sample from the dataset;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are used to assess the precision of the analytical method using a sample from the dataset;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation are noted below.

- Appendix III constituents and iron will be utilized for the purposes of a detection monitoring program.
- Data are usable for the purposes of the detection monitoring program.

QA/QC Sample Summary

- Target analytes were not detected in the method blanks.
- LCS recoveries for all target analytes were within laboratory control limits.
- MS and MSD analyses were performed on sample MW-1S_20220404 for boron and anions, sample MW-13_20220404 for anions, and sample MW-8S_20220406 for boron; the percent recoveries and relative percent differences (RPDs) were within criteria.
- Laboratory duplicate analyses were performed on sample MW-15_20220405 for boron, sample MW-13_20220404 for TDS, and sample MW-2S_20220405 for calcium and laboratory triplicate analyses were performed on sample MW-2S_20220405 for iron; RPDs for the laboratory duplicate analyses and percent relative standard deviations for the triplicate analyses were within the QC limits.
- DUP-01_20220404 corresponds with MW-14_20220404 for anions, metals, and TDS; RPDs between the parent and duplicate samples were within the QC limits.
- Sample MW-7S_20220405 reported boron at 170 ug/L which is below the QAPP requested RL for boron of 200 ug/L.

Laboratory Data Quality Review
Groundwater Monitoring Event June 2022
DTE Electric Company Monroe Power Plant Bottom Ash Impoundment Verification

Groundwater samples were collected by TRC for the June 2022 sampling event. Samples were analyzed for total metals and total dissolved solids by Eurofins-Test America Laboratories, Inc. (Eurofins-TA), located in Barberton, Ohio. The laboratory analytical results are reported in laboratory report 240-167613-1.

During the June 2022 sampling event, a groundwater sample was collected from each of the following wells:

- MW-10
- MW-14
- MW-15

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
Boron	SW846 3005A/6010B
Calcium and Iron	SW846 3005A/6020
Total Dissolved Solids	SM 2540C

TRC reviewed the laboratory data to assess data usability. The following sections summarize the data review procedure and the results of the review.

Data Quality Review Procedure

The analytical data were reviewed using the USEPA National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2020). The following items were included in the evaluation of the data:

- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Reporting limits (RLs) compared to project-required RLs;
- Data for method blanks and equipment blanks, where applicable. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs). The LCSs are used to assess the accuracy of the analytical method using a clean matrix;
- Data for matrix spike and matrix spike duplicate samples (MS/MSDs), when performed on project samples. The MS/MSDs are used to assess the accuracy and precision of the analytical method using a sample from the dataset;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are used to assess the precision of the analytical method using a sample from the dataset;

- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances and issues identified in this evaluation are noted below.

- Appendix III constituents and iron will be utilized for the purposes of a detection monitoring program.
- Data are usable for the purposes of the detection monitoring program.

QA/QC Sample Summary

- Target analytes were not detected in the method blanks.
- LCS recoveries for all target analytes were within laboratory control limits.
- MS/MSD analyses were not performed on a sample from this sample set.
- The field duplicate pair samples were DUP-01 and MW-14 for total recoverable calcium and iron and TDS and samples DUP-02 and MW-15 for total recoverable boron; RPDs between the parent and duplicate samples were within the QC limits.

Appendix D
February 2022 Alternative Source Demonstration

1540 Eisenhower Pl.
Ann Arbor, MI 48108

T 734.971.7080
TRCcompanies.com

February 24, 2022

Brett Coulter
Jackson District Office
Materials Management Division
Michigan Department of Environment, Great Lakes, and Energy
301 E. Louis Glick Hwy.
Jackson, MI 48161

Subject: Alternate Source Demonstration: Second Semiannual 2021 Groundwater Sampling Event
Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit
3500 East Front Street, Monroe, Michigan

Dear Mr. Coulter:

TRC was retained by DTE Electric Company (DTE Electric) to conduct routine groundwater monitoring activities at the Monroe Power Plant Bottom (MONPP) Bottom Ash Impoundment (BAI) inactive coal combustion residual (CCR) unit (the Site), located in Monroe, Michigan. Routine groundwater monitoring at the MONPP BAI Inactive CCR unit is conducted in accordance with the Michigan Department of Environment, Great Lakes, and Energy (EGLE)-approved *Hydrogeological Monitoring Plan* (MONPP BAI HMP) for the Site (TRC, June 30, 2020) and the United States Environmental Protection Agency (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA), as amended (the CCR Rule) (USEPA, April 2015).

As discussed in the *Second Semiannual 2021 Groundwater Monitoring Report* for the Site (TRC, January 2022), the statistical evaluation of the October 2021 detection monitoring indicator parameters indicated potential statistically significant increases (SSIs) for:

- Fluoride at MW-15 (0.67 mg/L with a prediction limit (PL) of 0.64 mg/L);
- Sulfate at MW-14 (500 mg/L with a PL of 430 mg/L) and MW-15 (3.4 mg/L with a PL of 1.0 mg/L); and
- Total dissolved solids (TDS) at MW-11 (2,200 mg/L with a PL of 2,100 mg/L).

Verification resampling for the October 2021 event was conducted on December 8, 2021 by TRC personnel. The verification result for fluoride at MW-15 (0.55 mg/L) was below the PL of 0.64 mg/L, the result for sulfate at MW-15 (<1.0 mg/L) was below the PL of 1.0 mg/L, and the result for TDS at MW-11 (2,000 mg/L) was below the PL of 2,100 mg/L, consequently the initial potential SSIs for fluoride and sulfate at MW-15 and TDS at MW-11 were not confirmed. Therefore, in accordance with the *Groundwater Statistical Evaluation Plan – Inactive Bottom Ash Impoundment* (Stats Plan) (AECOM, April 2019, Revised April 2020) and the *USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) (USEPA, 2009), the initial exceedances were not statistically significant, and no SSIs will be recorded for fluoride or sulfate at

MW-15 and TDS at MW-11. The verification result for sulfate at MW-14 (560 mg/L) was above the PL (430 mg/L); therefore, the initial SSI for sulfate at MW-14 is confirmed (Table 1).

In accordance with §257.94(e)(2) and the HMP, DTE Electric may demonstrate that a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. This Alternate Source Demonstration (ASD) has been prepared to address the aforementioned sulfate SSI identified in the October 2021 detection monitoring event. The results of this ASD show that the sulfate SSI at MW-14 is not due to a release from the MONPP BAI Inactive CCR unit.

Background

The MONPP is located in Section 15, Township 7 South, Range 9 East, at 3500 East Front Street, Monroe in Monroe County, Michigan. The site location is shown in Figure 1. The MONPP BAI Inactive CCR unit is located within the southern portion of the MONPP parcel and is bounded by the MONPP facility to the north and northeast, Lake Erie to the southeast and south, and the discharge canal to the west.

The bedrock in the site vicinity is overlain by approximately 40 to 50 feet of unconsolidated deposits of glacial origin. The deposits are comprised of two (2) distinct units: a hard glacial till immediately overlying bedrock and lacustrine (lake bed or lake shore) deposits which overlay the till unit. The till is comprised of over consolidated (highly compacted) gray silty to sandy clay with some cobbles and boulders, and ranges from approximately 20 to 50 feet in thickness. The overlying lacustrine deposits are composed of up to 30 feet of fine-grained sand and silt with some soft clay except where there is a thin, discontinuous coarse sand unit at the base of the lacustrine sequence.

The detection monitoring well network for the MONPP BAI Inactive CCR unit currently consists of eleven monitoring wells that are screened in the uppermost aquifer. As discussed in the Stats Plan, intrawell statistical methods for the MONPP BAI Inactive CCR unit were selected based on the geology and hydrogeology at the Site (the variability in the presence of the sand unit aquifer across the site and the strong confined hydraulic pressure in the sand unit aquifer), in addition to other supporting lines of evidence that the aquifer is unaffected by the CCR unit (such as the consistency in concentrations of water quality data). Monitoring wells MW-1S through MW-3S, MW-7S, and MW-9 through MW-15 are located around the perimeter of the MONPP BAI and provide data on both background and downgradient groundwater quality that has not been affected by the CCR unit (total of eleven background/downgradient monitoring wells). The monitoring well locations are shown in Figure 2. The *Monitoring Well Installation Report Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Impoundment DTE Monroe* (Well Installation Report) (AECOM, April 2019, Revised August 2019) details the groundwater monitoring system.

Alternate Source Demonstration

As discussed above, verification resampling for fluoride at MW-15, sulfate at MW-14 and MW-15, and TDS at MW-11 was performed as recommended per the Stats Plan and the *USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance, USEPA, 2009) to achieve performance standards as specified in the HMP and by §257.93(g) in the

CCR Rule. The December 2021 verification resampling confirmed the sulfate exceedance at MW-14 (Table 1). The following discussion presents the ASD for the confirmed prediction limit exceedance.

Sulfate at MW-14

The SSI of sulfate in the groundwater at MW-14, shown on Table 1, is due to upgradient groundwater quality and not the release of CCR constituents from the MONPP BAI CCR unit. The lines of evidence provided in support of this conclusion are as follows:

- **Upgradient/Side gradient groundwater quality** – Monitoring well MW-14 is positioned hydraulically side gradient of groundwater flow on the northeast side of the MONPP BAI Inactive CCR unit as shown on Figures 3 through 6. The MONPP BAI Inactive CCR unit is located on the southern end of a peninsula where groundwater within the underlying sand unit aquifer generally flows outward toward the adjacent surface water bodies. In the area of monitoring well MW-14, groundwater flow is east/southeast toward Lake Erie and monitoring well MW-1S, perpendicular to the contour lines on Figures 3 through 6. Based on the location of monitoring well MW-14 relative to the CCR unit and groundwater flow direction consistently to the east-southeast, the groundwater chemistry is representative of the groundwater coming from the area just north and up-/side gradient of the CCR unit. As such, the SSI at MW-14 is not attributed to the CCR unit.
- **Limited background sampling timeline to account for temporal variability** – Groundwater is transient by nature and is subject to natural temporal changes in chemistry that occur over time. The sulfate SSI observed at MW-14 is slightly above the prediction limits as shown in (Figure 7). Similar changes are observed from this past event at multiple other wells across the site well network both hydraulically downgradient and offsite, such as the downgradient wells MW-2S, MW-11, and offsite monitoring well MW-8S, shown on the Figure 8 time-series plot. This shows the subtle variability is occurring at a broader more-regional scale rather than a localized area, further indicating temporal changes. The short duration of the background data collection timeline limits the ability of the statistical analysis to capture the natural temporal trends in the groundwater quality at the MONPP BAI. This limited temporal variability can only be corrected with the collection of additional groundwater data, and the inclusion of the additional data in the background data set updated in the future.
- **Spatial variability in groundwater quality** – Sulfate concentrations vary considerably across the MONPP BAI well network. The sulfate concentrations observed in the MONPP BAI well network between 2017 and 2021 ranged from less than 1.0 mg/L to 1,600 mg/L. The sulfate concentrations observed at MW-14 (560 mg/L) during the October 2021 event are only slightly above the prediction limits and are well within the range of less than 1.0 mg/L to 1,600 mg/L observed across the entire monitoring network (Figure 8).
- **Offsite groundwater chemistry at MW-8S** - Offsite monitoring well, MW-8S, is screened in similar strata to MW-14 and is not hydraulically connected to groundwater beneath the MONPP BAI Inactive CCR unit. Therefore, groundwater quality at MW-8S provides insight into local background groundwater quality and can be used to evaluate sulfate concentrations observed at MW-14. Monitoring well MW-8S is located west of the MONPP BAI Inactive CCR unit, on the opposite side of the discharge channel. Based on historical site modifications that changed the underlying lithology beneath the discharge channel, groundwater in the area of monitoring well MW-8S is not hydraulically connected to groundwater in the vicinity of the MONPP BAI Inactive CCR unit. Historical groundwater data from MW-8S shows sulfate concentrations ranged from 1,190 to 1,500 mg/L from 2017 through 2021, compared to 311 mg/L to 560 mg/L measured at MW-14 from 2017 through 2021 (Figure 8). This demonstrates that the sulfate concentrations at

monitoring well MW-14 are well below background for the area, and as mentioned above, has the potential to be influenced by additional sources for sulfate outside of the CCR unit.

- **Regional groundwater quality** – Groundwater in the region surrounding the MONPP BAI shows variability in sulfate concentrations. Regional United States Geological Survey (USGS) monitoring wells within 25 miles of MW-14 show a range on sulfate concentrations from 0.2 mg/L to 1,400 mg/L. Additionally, multiple USGS monitoring wells within 10 miles of the MONPP BAI, with screen depths of 50 feet below ground surface (BGS) or less, show a sulfate concentration range of 48 mg/L to 630 mg/L (USGS 2016). The SSI concentration of sulfate measured in MW-14 during the October 2021 detection monitoring event was 500 mg/L and during the December 2021 verification resampling event was 560 mg/L. These sulfate concentrations at MW-14 are well within the range of regional variation near the MONPP BAI Inactive CCR unit.

Conclusions and Recommendations

The information provided in this report serves as the ASD for the DTE Electric MONPP BAI Inactive CCR unit, was prepared in accordance with 40 CFR 257.94(e)(2) of the CCR Rule and the MONPP BAI HMP. This ASD demonstrates that the sulfate SSI from the second semiannual 2021 groundwater monitoring event is due to variability of background groundwater quality and is not due to a release of CCR into the groundwater from the MONPP BAI Inactive CCR unit. Therefore, based on the information provided in this ASD, DTE Electric plans to continue detection monitoring as per 40 CFR 257.94 and the MONPP BAI HMP at the MONPP BAI Inactive CCR unit.

Signatures and Certifications

Engineer Certification Statement

I hereby certify that the alternative source demonstration presented within this document for the MONPP BAI Inactive CCR unit has been prepared to meet the requirements of Title 40 CFR §257.94(e)(2) of the Federal CCR Rule and the June 30, 2020 Hydrogeological Monitoring Plan (HMP). This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e)(2) and the HMP.

Name: David B. McKenzie, P.E.	Expiration Date: December 23, 2023	
Company: TRC Engineers Michigan, Inc.	Date: February 24, 2022	Stamp

In addition, the signature below certifies that this letter report was prepared under the direction of a qualified groundwater scientist in accordance with the EGLE-approved HMP and the Stats Plan. A copy of this report will be placed in the facility file.

Sincerely,

TRC

Vincent E Buening, C.P.G
Sr. Project Manager

Sarah B. Holmstrom, P.G
Senior Hydrogeologist

Attachments

cc: Christopher P. Scieszka, DTE Electric Company

Attachments

Table

Table 1
Comparison of Detection Monitoring Parameter Results to Background Limits – October 2021
Monroe Power Plant BAI Inactive CCR Unit
Monroe, Michigan

Sample Location:		MW-1S		MW-2S		MW-3S		MW-7S		MW-9	
Sample Date:		10/18/2021	PL	10/18/2021	PL	10/18/2021	PL	10/18/2021	PL	10/18/2021	PL
Constituent	Unit	Data		Data		Data		Data		Data	
Appendix III											
Boron	ug/L	490	870	1,000	1,000	620	980	340	1,400	540	640
Calcium	ug/L	190,000	370,000	240,000	270,000	210,000	540,000	170,000	380,000	180,000	190,000
Chloride	mg/L	71	170	11	14	10	15	51	110	38	59
Fluoride	mg/L	0.33	0.47	0.69	0.89	0.69	0.98	0.79	1.6	0.54	0.56
pH, Field	su	6.8	6.5 - 8.7	7.9	7.0 - 8.5	7.3	6.9 - 7.9	6.9	6.0 - 8.1	6.8	6.2 - 7.0
Sulfate	mg/L	140	850	1,300	1,600	990	1,400	310	590	8.8	12
Total Dissolved Solids	mg/L	860	1,600	1,700	2,000	1,500	2,300	880	2,000	800	810
MI Part 115 Parameters											
Iron	ug/L	3,000	n < 8	2,300	n < 8	3,800	n < 8	470	n < 8	3,000	n < 8

Notes:

ug/L - micrograms per liter.

mg/L - milligrams per liter.

SU - standard units; pH is a field parameter.

All metals were analyzed as total unless otherwise specified.

Bold font indicates an exceedance of the Prediction Limit (PL).

(1) - Results shown for verification sampling performed on December 8, 2021.

(2) - Concentration addressed through a previous Alternate Source Demonstration: 2020 Second Semiannual Detection Monitoring Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated March 18, 2021.

(3) - Concentration addressed through a previous Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated August 11, 2021.

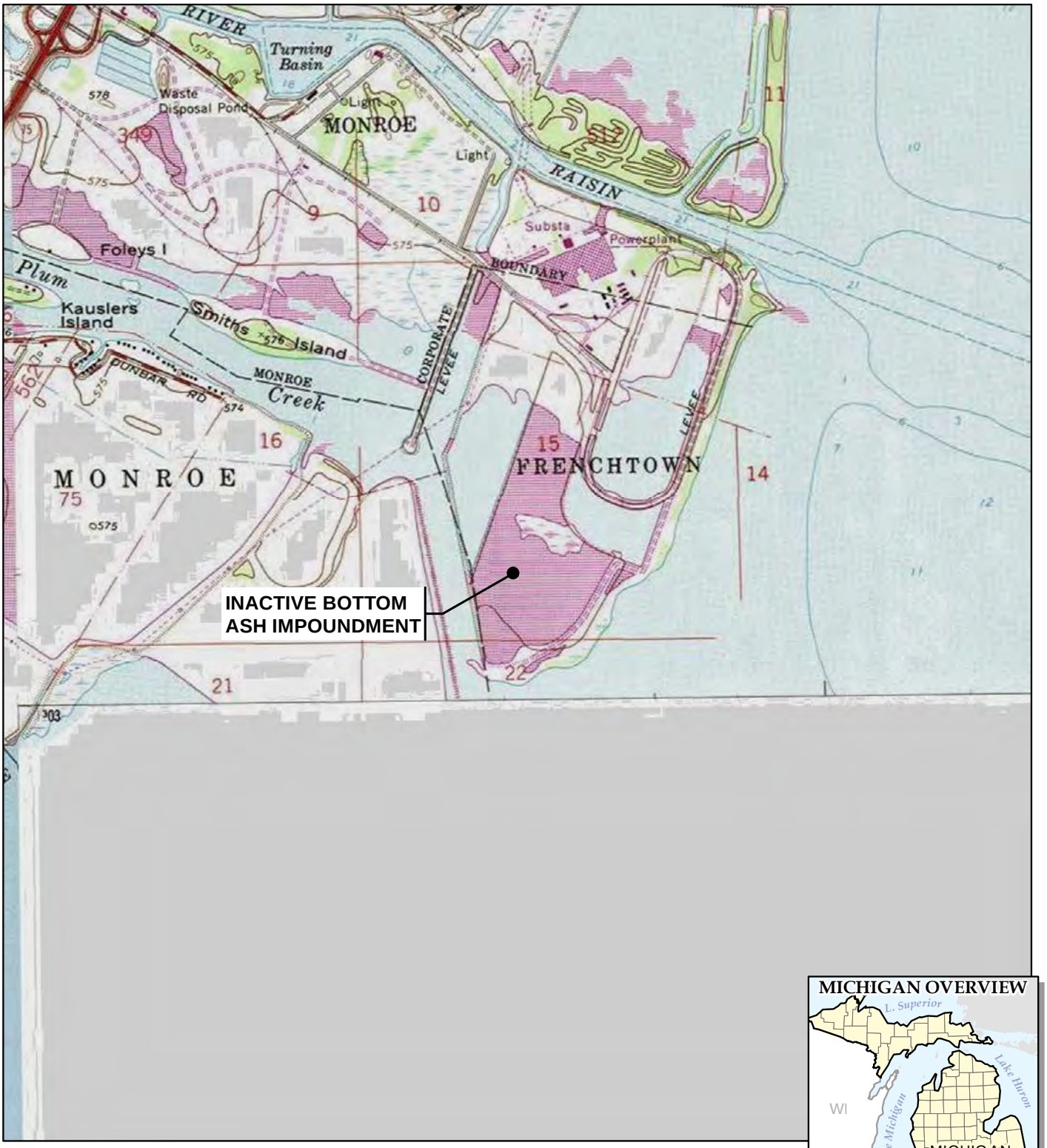
RESULT Shading and bold font indicates a confirmed exceedance of the Prediction Limit (PL).

Table 1
Comparison of Detection Monitoring Parameter Results to Background Limits – October 2021
Monroe Power Plant BAI Inactive CCR Unit
Monroe, Michigan

Sample Location:		MW-10		MW-11			MW-12		MW-13		MW-14			MW-15		
Sample Date:		10/18/2021	PL	10/18/2021	12/8/2021(1)	PL	10/18/2021	PL	10/18/2021	PL	10/18/2021	12/8/2021(1)	PL	10/18/2021	12/8/2021(1)	PL
Constituent	Unit	Data		Data			Data		Data		Data			Data		
Appendix III																
Boron	ug/L	**550(2)**	530	870	--	920	970	1,100	< 100	100	1,100	--	1,700	2,500	--	2,800
Calcium	ug/L	160,000	170,000	250,000	--	330,000	180,000	210,000	120,000	140,000	270,000	--	310,000	140,000	--	150,000
Chloride	mg/L	53	80	17	--	18	11	13	97	120	290	--	310	110	--	150
Fluoride	mg/L	0.46	0.68	0.90	--	1.2	0.82	0.91	0.40	0.51	0.45	--	0.57	**0.67**	0.55	0.64
pH, Field	su	6.9	6.6 - 7.5	7.5	7.3	6.9 - 7.5	7.8	7.4 - 7.9	7.0	6.2 - 7.7	7.2	7.2	6.8 - 7.3	7.3	7.3	6.9 - 7.4
Sulfate	mg/L	13	19	1,400	--	1,500	1,100	1,300	**2.7(3)**	1.0	**500**	**560**	430	**3.4**	< 1.0	1.0
Total Dissolved Solids	mg/L	810	840	**2,200**	2,000	2,100	1,700	1,800	530	1,100	1,600	--	1,700	700	--	770
MI Part 115 Parameters																
Iron	ug/L	130	n < 8	2,000	--	n < 8	2,900	n < 8	9,600	n < 8	7,200	--	n < 8	9,400	--	n < 8

Notes:
ug/L - micrograms per liter.
mg/L - milligrams per liter.
SU - standard units; pH is a field parameter.
All metals were analyzed as total unless otherwise specified.
Bold font indicates an exceedance of the Prediction Limit (PL).
(1) Results shown for verification sampling performed on December 8, 2021.
(2) - Concentration addressed through a previous Alternate Source Demonstration: 2020 Second Semiannual Detection Monitoring Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated March 18, 2021.
(3) - Concentration addressed through a previous Alternative Source Demonstration: First Semiannual 2021 Groundwater Sampling Event Monroe Power Plant Bottom Ash Impoundment Inactive Coal Combustion Residual Unit dated August 11, 2021.
RESULT Shading and bold font indicates a confirmed exceedance of the Prediction Limit (PL).

Figures



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

1 " = 2,000 '
1:24,000

0 2,000 4,000
FEET

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080
TRC - GIS

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
SITE LOCATION MAP

DRAWN BY:	A. ADAIR
CHECKED BY:	K. REMINGA
APPROVED BY:	V. BUENING
DATE:	JULY 2021
PROJ. NO.:	413591.0006.0000
FILE:	413591.0006-001.mxd

FIGURE 1

S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-001.mxd -- Saved By: AADAIR on 7/27/2021, 11:47:34 AM

Plot Date: 1/4/2022, 12:19:04 PM by AFOJTIK -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-002_012022.mxd

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Data Rotation: 0

TRC - GIS

River Raisin
Discharge Canal
Plum Creek
Lake Erie
MW-5S
MW-15
MW-14
MW-4S
MW-7S
MW-7D
MW-9
MW-8D
MW-8S
MW-1D
MW-1S
MW-10
MW-13
MW-3D
MW-3S
MW-2S
MW-12
MW-11

LEGEND

- CCR PROGRAM MONITORING WELL
- INVESTIGATION MONITORING WELL (NOT SAMPLED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH IMPOUNDMENT
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, MARCH, 2021.

0 700 1,400 FEET
1 " = 700 '
1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
INACTIVE BOTTOM ASH IMPOUNDMENT WELL LOCATION MAP

DRAWN BY:	A. FOJTIK
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JANUARY 2022
PROJ. NO.:	413591.0006.0000
FILE:	413591.0006-002_012022.mxd

FIGURE 2

Plot Date: 7/23/2020, 10:07:25 AM by SMAJOR -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\370029_0006_Area15\370029-006.mxd
Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0
TRC - GIS

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH BASIN
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, APRIL 2018.

0 700 1,400 FEET

1 " = 700 '

1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:

DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:

GROUNDWATER CONTOUR MAP
APRIL 2020

DRAWN BY:	S. MAJOR
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JULY 2020
PROJ. NO.:	370029.0006
FILE:	370029-006.mxd

FIGURE 4

Plot Date: 7/28/2021, 14:43:30 PM by AADAIR -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-005_GWContoursOct20.mxd
Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0

TRC - GIS

Port Ave
Mcmillan St
E Front St
River Raisin
Discharge Canal
Plum Creek
Lake Erie

574'
575'
575'
574'

MW-15 (573.87)
MW-7S (574.03)
MW-9 (574.17)
MW-10 (574.13)
MW-3S (574.47)
MW-11 (574.73)
MW-12 (574.74)
MW-2S (574.66)
MW-13 (573.75)
MW-1S (573.49)
MW-4S (NM)
MW-14 (574.89)

Lake Erie Surface Water Elevation (573.14)

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH BASIN
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, APRIL 2018.
2. LAKE ERIE SURFACE WATER ELEVATION MEASURED AT NOAA GAUGING STATION 9063090 NEAR THE DTE FERMI POWER PLANT, NEWPORT, MICHIGAN.

0 700 1,400 FEET

1 " = 700 '

1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
GROUNDWATER CONTOUR MAP
OCTOBER 2020

DRAWN BY:	A. ADAIR
CHECKED BY:	B. YELEN
APPROVED BY:	BUENING
DATE:	JULY 2021
PROJ. NO.:	413591.0006
FILE:	413591.0006-005_GWContoursOct20.mxd

FIGURE 3

Plot Date: 7/28/2021, 14:06:08 PM by AADAIR -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-006B_GWContoursApril21.mxd

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0

TRC - GIS

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH BASIN
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, APRIL 2018.
2. LAKE ERIE SURFACE WATER ELEVATION MEASURED AT NOAA GAUGING STATION 9063090 NEAR THE DTE FERMI POWER PLANT, NEWPORT, MICHIGAN.

0 700 1,400 FEET

1 " = 700 '

1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:

DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:

GROUNDWATER CONTOUR MAP APRIL 2021

DRAWN BY:	A. ADAIR
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JULY 2021
PROJ. NO.:	413591.0006
FILE:	413591.0006-006B_GWContoursApril21.mxd

FIGURE 4

Plot Date: 1/27/2022, 10:03:43 AM by AFOJTIK -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\DTE_Energy\MonroeMI_PP\413591_0006_Area15\413591.0006-006B_GWContoursOct21.mxd

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet (Foot US)
Map Rotation: 0

TRC - GIS

River Raisin

Discharge Canal

Plum Creek

Lake Erie

574'

575'

MW-15 (573.85)

MW-7S (574.18)

MW-9 (574.44)

MW-10 (574.56)

MW-3S (574.63)

MW-11 (574.70)

MW-12 (574.67)

MW-2S (574.74)

MW-14 (575.32)

MW-4S (NM)

MW-1S (573.53)

MW-13 (573.75)

Lake Erie Surface Water Elevation (573.27)

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- UNIT SEPARATION BERM
- APPROXIMATE BOUNDARY OF INACTIVE BOTTOM ASH BASIN
- APPROXIMATE PLANT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, MARCH 2021.
2. LAKE ERIE SURFACE WATER ELEVATION MEASURED AT NOAA GAUGING STATION 9063090 NEAR THE DTE FERMI POWER PLANT, NEWPORT, MICHIGAN.

0 700 1,400 FEET

1 " = 700 '

1:8,400

N

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108-3284
Phone: 734.971.7080

PROJECT:
DTE ELECTRIC COMPANY
MONROE POWER PLANT BOTTOM ASH IMPOUNDMENT
3500 EAST FRONT STREET
MONROE, MI 48161

TITLE:
GROUNDWATER CONTOUR MAP
OCTOBER 2021

DRAWN BY:	A. FOJTIK
CHECKED BY:	B. YELEN
APPROVED BY:	V. BUENING
DATE:	JANUARY 2022
PROJ. NO.:	413591.0006
FILE:	413591.0006-006B_GWContoursOct21.mxd

FIGURE 3

Figure 7
DTE Monroe Power Plant Bottom Ash Impoundment
MW-14 Sulfate Time Series

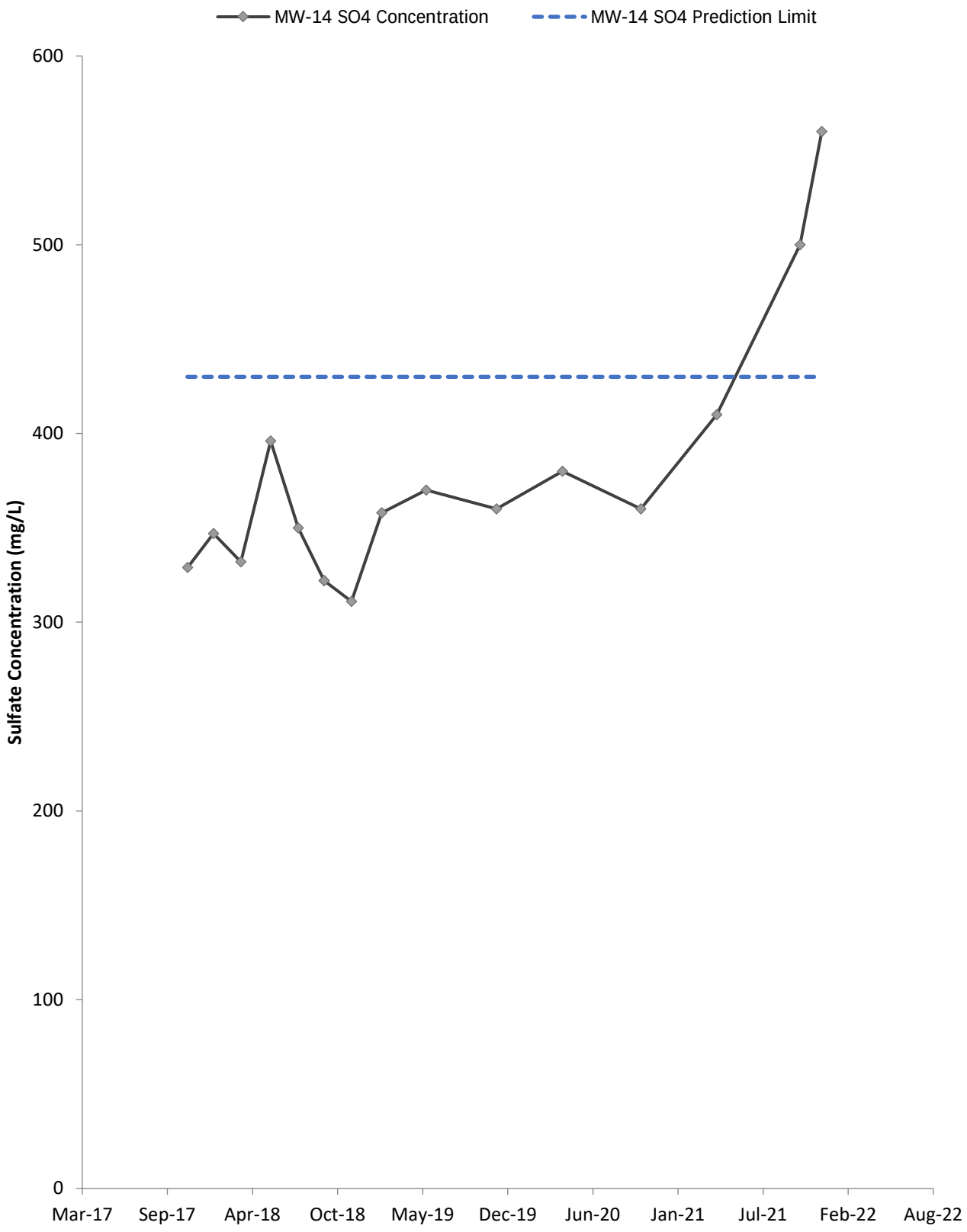
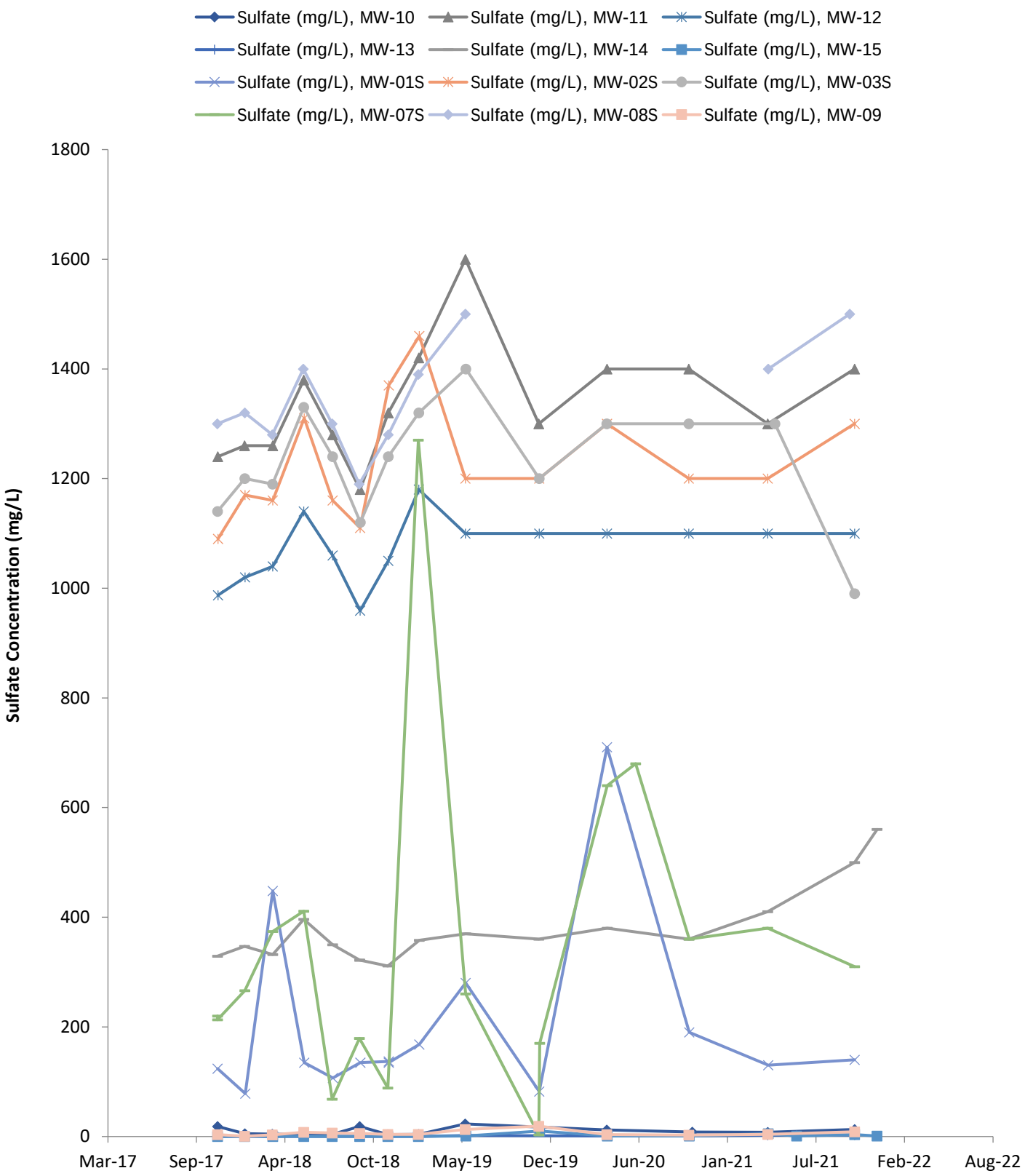


Figure 8
DTE Monroe Power Plant Bottom Ash Impoundment
Sulfate Time Series



Appendix A
References

References

AECOM. September 2017. Groundwater Monitoring Work Plan Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Basin, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

AECOM. April 2019, Revised August 2019. Monitoring Well Installation Report Coal Combustion Residuals (CCR) Rule – Inactive Bottom Ash Impoundment, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

AECOM. April 2019, Revised April 2020. Revised Groundwater Statistical Evaluation Plan – Inactive Bottom Ash Impoundment, DTE Monroe Plant, Monroe, Michigan. Prepared for DTE Electric Company.

TRC. June 30, 2020. Hydrogeological Monitoring Plan for the DTE Electric Company Monroe Power Bottom Ash Impoundment, 3500 East Front Street, Monroe, Michigan. Prepared for DTE Electric Company.

TRC. July 2020. 2020 Annual Groundwater Monitoring Report – DTE Electric Company, Monroe Power Plant Bottom Ash Impoundment, Inactive Coal Combustion Residual Unit. Prepared for DTE Electric Company

TRC. July 2021. First Semiannual 2021 Groundwater Monitoring Report prepared for the DTE Electric Company Monroe Power Plant Bottom Ash Impoundment Coal Combustion Residual Units, 3500 East Front Street, Monroe, Michigan. Prepared for DTE Electric Company.

TRC. January 2022. Second Semiannual 2021 Groundwater Monitoring Report prepared for the DTE Electric Company Monroe Power Plant Bottom Ash Impoundment Coal Combustion Residual Units, 3500 East Front Street, Monroe, Michigan. Prepared for DTE Electric Company.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA facilities, Unified Guidance. Office of Conservation and Recovery. EPA 530/R-09-007.

U.S. Geological Survey. 2016. National Water Information System data available on the World Wide Web (USGS Water Data for the Nation), accessed February 1, 2022, at URL http://waterdata.usgs.gov/nwis/qwdata.

Appendix B
USGS Historical Sulfate Analytical Data

United States Geological Survey
Historical Sulfate Analytical Data

USGS Site ID	Well ID	Sample Date	Well Depth (feet)	Distance to MONPP BAI MW-14 (miles)	Sulfate (mg/L)
415305083234501	MONROE	9/3/1986	112	2.7	1,200
415228083242401	MONROE CO (WELL D-4)	5/6/1992	100	3.3	1,200
415710083192501	MONROE CO (WELL G-16)	4/28/1992	90	4.9	1,400
415400083262801	MONROE CO (WELL G-17)	5/20/1992	95	5.1	1,200
415133083274801	MONROE CO (WELL G-18)	1/23/1992	50	6.4	48
415839083221501	MONROE CO (WELL G-15)	11/5/1991	50	6.7	630
415824083162901	MONROE CO (WELL D-8)	5/6/1992	61	7.2	440
415749083282001	MONROE CO (WELL D-10)	5/7/1992	66	8.6	1,100
415923083272101	MONROE CO (WELL G-14)	4/28/1992	65	9.3	58
420055083175601	MONROE CO (WELL G-2)	4/27/1992	60	9.4	1,400
420123083213801	MONROE CO (WELL D-7)	5/6/1992	59	9.7	590
415204083323101	MONROE CO (WELL D-13)	5/19/1992	70	10.3	1,000
414748083305501	MONROE CO (WELL G-32)	4/28/1992	75	10.3	1,100
414509083291001	MONROE CO (WELL G-33)	4/28/1992	85	11.6	800
415721083331601	MONROE CO (WELL G-13)	4/28/1992	110	11.9	46
415435083342601	MONROE	8/29/1986	97	12.0	230
415431083343201	MONROE CO (WELL G-19)	10/30/1991	80	12.0	250
420314083225501	MONROE CO (WELL G-4)	11/5/1991	65	12.5	1,100
420218083130401	MONROE CO (WELL G-1)	4/27/1992	50	12.5	950
420123083300001	MONROE CO (WELL G-6)	5/5/1992	185	12.5	410
414559083325501	MONROE CO (WELL D-6)	5/6/1992	72	13.3	150
420246083285901	MONROE CO (WELL D-9)	5/20/1992	38	13.3	670
414829083345601	MONROE CO (WELL G-31)	10/29/1991	80	13.3	170
420503083192101	MONROE CO (WELL G-3)	5/5/1992	85	13.9	1,200
415236083365401	MONROE CO (WELL G-20)	1/23/1992	70	14.0	110
420425083270001	MONROE CO (WELL G-5)	11/5/1991	80	14.2	1,100
414854083382201	MONROE CO (WELL D-5)	5/19/1992	57	15.9	320
415115083400201	MONROE CO (WELL G-27)	4/29/1992	208	16.8	86
414601083375801	MONROE CO (WELL G-30)	4/28/1992	155	16.9	61
415527083402001	MONROE CO (WELL G-12)	1/23/1992	100	17.1	3
420248083372601	MONROE CO (WELL G-8)	11/4/1991	110	17.8	3
415648083405601	MONROE CO (WELL G-11)	1/23/1992	110	18.0	820
415437083413001	MONROE CO (WELL G-21)	1/23/1992	75	18.0	21
420414083351501	MONROE CO (WELL G-7)	11/4/1991	95	18.0	0
415234083413801	MONROE CO (WELL G-23)	4/29/1992	90	18.1	34
415206083414401	MONROE CO (PETERSBURG D)	8/9/1979	72	18.2	38
415206083414401	MONROE CO (PETERSBURG D)	12/11/1984	72	18.2	45
415244083415201	MONROE CO (WELL G-22)	4/29/1992	87	18.2	74
414452083385201	MONROE CO (WELL G-29)	10/29/1991	71	18.2	43
415753083413601	MONROE	9/3/1986	120	18.8	300
415754083420901	MONROE CO (WELL D-11)	5/19/1992	65	19.3	240
420107083403201	MONROE CO (WELL G-9)	4/28/1992	200	19.5	340
415156083441501	MONROE CO (WELL G-26)	4/29/1992	80	20.3	76
414353083422801	MONROE CO (WELL D-12)	5/19/1992	110	21.5	110
414731083450101	MONROE CO (WELL G-28)	10/29/1991	75	21.9	110
420325083440901	MONROE CO (WELL G-10)	10/30/1991	110	23.5	< 0.10