



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

December 22, 2022

VIA E-MAIL

Natalie Lutz Cardiello, Bankruptcy Trustee
Lockhart Chemical Company
107 Huron Drive
Carnegie, Pennsylvania 15106

Dear Natalie Lutz Cardiello:

SUBJECT: Violation Notice; Lockhart Chemical Company Bankruptcy Trust
Genesee County; Site Identification Number MID 033 674 730
Waste Data System Number 395336

On December 12, 2022, staff of the Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), conducted a record review regarding the Lockhart Chemical Company (Lockhart) facility, located at 4302 James P. Cole Boulevard, in Flint, Michigan (Facility), which is currently operated by Interim Bankruptcy Trustee Natalie Lutz Cardiello (Trustee). The purpose of the review was to evaluate the Facility's compliance with Part 111, Hazardous Waste Management, and Part 121, Liquid Industrial By-Products, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the corresponding requirements under Subtitle C of the federal Resource Conservation and Recovery Act of 1976 (RCRA), as amended (July 1, 2018, edition); and the administrative rules or regulations promulgated pursuant to these acts.

Hazardous Waste Violations

As a result of the record review, MMD staff determined that the Facility is in violation of the following hazardous waste requirements:

1. **HAZARDOUS WASTE STORAGE** – If a generator stores hazardous waste in containers or tanks, then there are strict requirements that must be complied with, including that the hazardous waste tanks must be certified by a third-party engineer, the hazardous waste containers must be properly labeled, and the containment must be impenetrable to the waste, free of cracks, and capable of holding the volume of the largest container of hazardous waste or 10 percent of

the total waste, whichever is larger. Further, there must be daily inspections and an operating record must be maintained. (R 299.9307(1)(b)(ii) and Title 40 of the Code of Federal Regulations (CFR) § 262.17.) Hazardous waste is currently being stored at the Facility in violation of the following regulations:

- a. Hazardous waste is stored in tanks that were not certified by a third-party engineer, in violation of 40 CFR § 265.191.
 - b. Hazardous waste is stored using tanks and the components that were not designed to hold hazardous wastes in violation of 40 CFR § 265.192.
 - c. Hazardous waste is stored in containment that is not free of cracks, impermeable to the waste, and capable of holding the volume of the largest tank or 10 percent of the total volume, whichever is greater, in violation of 40 CFR § 265.193.
 - d. Run-on from precipitation has not been prevented in violation of 40 CFR § 265.193.
 - e. Daily inspections and documentation of inspections have not been maintained in violation of 40 CFR § 265.195.
 - f. Hazardous wastes are stored in tanks that are not properly labeled in violation of R 299.9307(1)(b)(ii)(A).
2. WASTE CHARACTERIZATION – Generators of hazardous wastes and liquid industrial by-products (LIB) must characterize the wastes and LIB, and maintain records of the characterization, to ensure proper management and disposal. (R 299.9302 and Michigan Compiled Law § 324.12103(1)(a).) The Trustee has agreed that EGLE will have the opportunity to review the characterization of wastes and LIB at the Facility. However, no documents have been provided that adequately characterize the Facility’s wastes and LIB in compliance with Part 111, Part 121, and their implementing regulations.

EGLE is officially requesting these records under R 299.9311(2) within 30 days.

3. 90 DAY STORAGE LIMIT – A generator of hazardous waste may not store waste on site for more than 90 days (R 299.9307(1)(a) and 40 CFR § 262.17). There are approximately 9,000 gallons of hazardous waste sludges and 50,000 gallons of hazardous waste liquids on site, many of which have been stored on site for more than 90 days. The continued storage of hazardous waste at the Facility, in excess of the 90-day deadline set forth by the Part 111 Rules, especially in non-compliant tanks and/or containers, poses a significant risk to public health and the environment. EGLE staff identified the removal and disposal of this hazardous waste as the top priority in the "Summary of Environmental Priorities at the Lockhart Chemical Company Facility in Flint, Michigan" e-mailed to the Trustee on October 28, 2022 (attached). During a phone call with the Trustee and Young’s Environmental on October 20, 2022, EGLE was told that the hazardous waste removal was “already in the works”. However, to date, EGLE has not received documentation of efforts toward disposing of the hazardous waste.

Additional Information

EGLE issued a Violation Notice (VN) to Lockhart on September 1, 2022. NTH Consultants, Ltd., submitted a response on behalf of Lockhart on October 3, 2022. The response was deemed insufficient for numerous reasons, and EGLE anticipates providing a complete list of the response deficiencies to the Trustee by January 6, 2023. EGLE does not expect the Trustee to respond to the prior violations outlined in the September 1, 2022, VN. However, the ongoing hazardous waste violations outlined above should be addressed immediately.

Required Actions

The ongoing hazardous waste violations described above meet the definition of significant non-compliance, as discussed in the United States Environmental Protection Agency (U.S. EPA) Hazardous Waste Civil Enforcement Response Policy (Policy), and are grounds for escalated enforcement, as the Policy requires that these violations be resolved through a formal enforcement action. EGLE has chosen to exercise its discretion not to pursue escalated enforcement thus far against the Trustee, since the Trustee came to control this waste as part of the bankruptcy process. However, the Trustee has been authorized by the Bankruptcy Court to operate at the Facility and this illegal storage of hazardous waste must be remedied as soon as possible.

To correct these violations, the Trustee should arrange for the proper transport and disposal of the hazardous waste by no later than *January 9, 2023*. Please note that Part 111, the Part 111 Rules, and the RCRA require the use a registered hazardous waste hauler, a federal hazardous waste manifest, and disposal of hazardous waste at a licensed treatment, storage, or disposal facility. If additional time is required beyond January 9, 2023, the Trustee should provide documentation of the actions taken to date and a work plan with estimated dates for completing tasks necessary to complete the disposal.

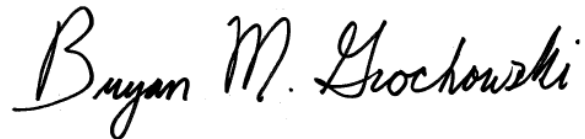
Your response to this VN may include additional information relevant to the violations discussed above. MMD staff will evaluate your response, determine the Facility's compliance status, and notify you of this determination.

This VN neither precludes nor limits EGLE's ability to initiate enforcement action under state or federal law, as deemed appropriate. However, EGLE prefers to work with you to resolve these violations. EGLE anticipates and appreciates your cooperation.

For more information, guidance, and training on hazardous waste and liquid industrial by-products, go to the Michigan Guide to Environmental, Health, and Safety Regulations, EGLE Waste Webinar Series (michigan.gov), or EGLE Training and Workshops.

If you have any questions, please feel free to contact me at 517-243-0499, or by e-mail at GrohowskiB@Michigan.gov.

Sincerely,

A handwritten signature in black ink that reads "Bryan M. Grochowski". The signature is written in a cursive style with a large, prominent 'B' and 'G'.

Bryan M. Grochowski
Environmental Quality Analyst
Lansing District Office
Materials Management Division
517-243-0499

cc: Megan Miller, Department of the Attorney General (DAG)
Keith Underkoffler, DAG
Tricia Edwards, U.S. EPA
Elizabeth Browne, EGLE
Tracy Kecskemeti, EGLE
Lonnie Lee, EGLE
Gary Schwerin, EGLE
Alex Clark, EGLE
Cheri Meyer, EGLE
Danielle McLain, EGLE
David LaBrecque, EGLE



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



LIESL EICHLER CLARK
DIRECTOR

December 22, 2022

VIA EMAIL

VN-013951

Natalie Lutz Cardiello
Interim Chapter 7 Bankruptcy Trustee
Lockhart Chemical Company
107 Huron Drive
Carnegie, Pennsylvania 15106

Dear Natalie Lutz Cardiello:

SUBJECT: Lockhart Chemical Company, 4302 James P. Cole Boulevard, Flint,
Michigan 48505, Violation Notice

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), has determined that the Lockhart Chemical Company (Lockhart) facility located at 4302 James P. Cole Boulevard in Flint, Michigan (Facility), currently operated by Interim Bankruptcy Trustee Natalie Cardiello (Trustee), is in violation of Director's Final Order (DFO), No. DFO-WRD22-01; Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.30101 *et seq.*; and the Part 5, Spillage of Oil and Polluting Materials, administrative rules promulgated pursuant to Part 31, 2006 AACRS R 323.2101 *et seq.* (Part 5 Rules). This Violation Notice (VN) is intended to document current and past violations and provide notice so that the Trustee may ensure that the Facility complies with state law.

Background

The DFO was issued September 19, 2022, after EGLE observed unauthorized discharges of pollutants from the Facility to the Flint River on June 15, 2022, and September 12, 2022, and identified an additional potential discharge that was then pending confirmation.

The discharges occurred after EGLE had repeatedly expressed concerns about Lockhart's use of an open trench and underground tunnel system (System) to manage storm water, wastewater, and liquid industrial by-products at the Facility. Lockhart repeatedly failed to take necessary steps to ensure that the System was water-tight, free of leaks, and did not pose a threat of unauthorized discharge.

On June 15, 2022, EGLE responded to a report that more than 15,000 gallons of oily substances had been discharged from the Facility into the Flint River. Subsequent camera inspections, water integrity testing, and sampling analyses demonstrated that the unauthorized discharge was the result of failures in the System. In order to abate this pollution and prevent further discharges to waters of the state, EGLE issued the DFO, that requires, among other things, that the Facility:

- “Immediately cease all use of the underground tunnels that convey wastewater and other materials to Flint’s Wastewater Treatment Plant [(WWTP)]...” (DFO ¶ 38)¹
- “Submit a plan for EGLE’s review to repair, replace, or seal off the underground tunnels..., which means to either re-line the tunnels or otherwise fix the breaches in the tunnels or seal off and permanently end use of the underground tunnels.” (DFO ¶ 42)
- “Continuously pump wastewater from the open trench using an automatic pumping system with a backup, to the [oil/water separators (OWS)] so that no wastewater or storm water is stored in the entirety of the trench.” (DFO ¶ 37)
- “Submit a plan for EGLE’s review to repair or replace the entire open trench...which means to either re-line or otherwise fix the breaches in the open trench. The plan can include limited use of the open trench pending completion of the repair or replacement plan for the entirety of the open trench, in accordance with the pumping requirements in Paragraph 37 of this Order. If Lockhart intends to utilize the open trench for the conveyance of storm water and wastewater, the plan submitted to EGLE must be stamped by a certified professional engineer and the plan must include a construction completion date no later than December 16. The plan must also include a method to transport the wastewater from the OWS to the WWTP outside of the System.” (DFO ¶ 41)

The terms of the DFO remain in effect until further notice, in the form of written authorization from EGLE. (DFO ¶ 44)

On December 20, 2022, EGLE staff completed a site inspection at the Facility that identified serious violations of the DFO and Part 31. EGLE identified these issues to on-site staff during the inspection and is documenting them in this VN. EGLE also notified the Trustee of these issues in an email dated December 21, 2022, through the Michigan Department of Attorney General, and on a telephone call on December 22, 2022.

Violations of the DFO

1. Use of the Underground Tunnels

On November 29, 2022, EGLE received a flow sketch from NTH Consultants, Ltd. (NTH), indicating that portions of the underground tunnels were being used for storm water and wastewater management, in violation of Paragraph 38 of the DFO. EGLE immediately notified NTH and the Trustee that the use of the underground tunnels to convey storm water and wastewater was contrary to the DFO and EGLE’s prior understanding of the conditions on-site. After multiple communications and repeated assurances by NTH, this violation appeared to have been addressed on or around December 7, 2022, by placing temporary covers over collection manholes that lead to the underground tunnels.

¹ NTH Consultants, LTD, sometimes refers to the “underground tunnels” as “underground pipes.” There is no significance to this difference in terminology.

However, at the inspection on December 20, 2022, EGLE documented a large volume of water in the underground tunnels, including Manholes 18 and 24. Additionally, some collection manholes had not been covered and many drains to the underground tunnels have not been plugged. This use of the underground tunnel system is in direct violation of Paragraph 38 of the DFO that requires immediate cessation of all use of the underground tunnels.

2. Use of the Open Trench

Paragraphs 37 and 41 of the DFO require that only “limited use” of the open trench may occur and that wastewater must be continuously pumped from the open trench to the OWS so that no wastewater or storm water is stored in the entirety of the open trench. On September 23, 2022, November 29, 2022, December 1, 2022, December 6, 2022, and December 12, 2022, EGLE received flow sketches from NTH that directed unauthorized wastewater to the open trench. After multiple communications, this proposed use of the open trench appeared to have been addressed in a revised flow sketch provided on December 13, 2022.

However, at the site inspection on December 20, 2022, EGLE staff observed that some areas of the trench have a significant amount of water and are currently being used as storage. On-site staff indicated to EGLE staff that the wastewater cannot be pumped because the frac tanks are full. This storage of water in the open trench is in direct violation of Paragraph 37 of the DFO that prohibits storage of wastewater or storm water in the open trench.

3. Leaks at the Facility

During a site inspection with NTH on September 21, 2022, EGLE staff observed a leaking mineral oil in the tank farm behind the OWS. NTH identified the mineral oil as having the same chemical odor as a mineral oil found in Outfall 001 to the Flint River on September 12 and 14, 2022. EGLE staff advised that the leak needed to be immediately sealed. However, the leak was still ongoing during a subsequent inspection by EGLE staff on October 5, 2022. Ongoing leaks of a substance previously discharged to the Flint River from the Facility pose a risk that additional discharges to the Flint River may occur – even during decreased operations. Any such discharge would violate Part 31 and the Part 5 Rules.

At the site inspection on December 20, 2022, EGLE documented that the Facility has a number of areas in buildings that are heavily contaminated with spilled and leaking materials and that many buildings’ roofs are leaking. This leaking is creating a pathway for chemicals to exit the buildings to the open trench. This has primarily affected the blending building that merges with the boiler building but the large central building has pooled oil and other unknown substances spilled and leaked on the floor. The Facility must be diligent in ensuring that these substances do not leak from the Facility and ultimately discharge to the Flint River in violation of Part 31.

4. Failure to Submit Satisfactory Plans

Paragraphs 41 and 42 of the DFO require the submission of plans to repair or replace the entire open trench and to repair, replace, or seal off the underground tunnels. The plans and response to this requirement provided to date are inadequate for two primary reasons: (1) the Facility’s unsupported assertion that the underground tunnels do not need additional repairs or replacements, despite numerous instances where water testing failed in lines that were

inspected by camera throughout the site; and (2) the Facility's failure to provide adherence details documenting that coating the trench with epoxy would be successful.

EGLE maintains that it is an environmental necessity to repair, replace, or seal off the System as part of any final plan to sell or otherwise dispose of the Facility.² The above-identified deficiencies should be corrected in any plans submitted to address these issues.

Additional Information – Confirmation of Suspected Discharge

During an inspection on September 12, 2022, EGLE staff observed an oily substance, sheens, and significant solvent-like odors at Manhole 18, as well as similar black oily substances and the buildup of brown stringy waxy material in the Flint River at Outfall 001. On September 14, 2022, EGLE collected samples at Manhole 18 and Outfall 001, and submitted them for a laboratory chemical fingerprinting and library analysis. Those analyses were still pending at the time the DFO was issued. The Trustee should be aware the analyses have since been received and further evidence that the material discharging to the Flint River on September 12 and 14, 2022, originated from the Facility. The sampling results are enclosed with this VN.

Conclusion

The ongoing issues at the Facility represent a serious violation of the DFO and Part 31 and its implementing rules. EGLE has chosen to exercise its discretion not to pursue escalated enforcement thus far against the Trustee, since the Trustee came to control the Facility as part of the bankruptcy process. However, the Trustee has been authorized by the Bankruptcy Court to operate at the Facility and ongoing violations of the DFO and Part 31 must be remedied as soon as possible. To address these issues, the Trustee should, at a minimum, ensure that the December 13, 2022, Collection System Map plans as agreed to by EGLE are being implemented, the DFO is being complied with, and that, once approved, the work plan submitted under the U.S. Environmental Protection Agency's (U.S. EPA's) December 2, 2022, Administrative Order is being complied with.

EGLE believes it is important for the Trustee to be fully aware of these issues so the Trustee can ensure that the Facility is operated in a manner that is consistent with state law and protective of public health and the environment. This VN neither precludes nor limits EGLE's ability to initiate enforcement action under state or federal law, as deemed appropriate. However, EGLE prefers to work with you to resolve these violations. EGLE anticipates and appreciates your cooperation.

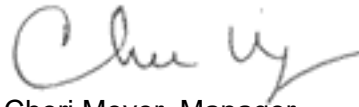
If you have any factual information you would like to share with EGLE regarding the issues identified above, or would like to have a meeting to discuss these or any other issues, please

² The DFO was issued pre-bankruptcy and contemplated that Lockhart would need to utilize the open trench as part of its continued operation of the Facility. As a result, the DFO did not indicate that the open trench could be sealed off rather than repaired or replaced. Post-bankruptcy; however, EGLE determined that sealing off the open trench would be preferable if the Facility is closed and operations will not resume. Accordingly, a plan to seal off the open trench, as described in the "Summary of Environmental Priorities at the Lockhart Chemical Company Facility in Flint, Michigan" provided to the Trustee on October 28, 2022, may be approvable under Paragraphs 41 and 44 of the DFO.

VN-013951
Page 5
December 22, 2022

contact Megen Miller, Assistant Attorney General, Department of Attorney General, at 517-335-7664 or MillerM59@Michigan.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Cheri Meyer". The signature is fluid and cursive, with a long horizontal stroke at the end.

Cheri Meyer, Manager
Field Operations Section - Lakes Erie and Huron
Water Resources Division

Enclosure

cc: Tricia Edwards, U.S. EPA
Sean Kane, U.S. EPA
Megen Miller, DAG
Keith Underkoffler, DAG
Teresa Seidel, EGLE
Alexandra Clark, EGLE
Susan Doty, EGLE
David LaBrecque, EGLE
Gary Schwerin, EGLE
Bryan Grochowski, EGLE
Sara McAuliffe, EGLE
Danielle McLain, EGLE



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

26 October 2022

Work Order: 2209134

Price: \$1,017.00

Danielle McLain

EGLE-WRD-LANSING

525 W. Allegan, P.O. Box 30242

Lansing, MI 48909-7742

RE: LOCKHART CHEMICAL RESAMPLE

A correction has been made to the original report that was sent to you. A description of the correction should be present in the case narrative section of this report in order to clarify any changes.

This is the official environmental laboratory report for testing conducted by the Michigan Department of Environment, Great Lakes, and Energy. Analyses performed by the laboratory were conducted using methods published by the U.S. Environmental Protection Agency, Standard Methods for the Examination of Water and Wastewater, ASTM, or other published or approved reference methods.

Kirby Shane

Laboratory Director



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

EGLE-WRD-LANSING
525 W. Allegan, P.O. Box 30242
Lansing MI, 48909-7742

Project: LOCKHART CHEMICAL RESAMPLE
Site Code: LB042359
Project Manager: Danielle McLain

Reported:
10/26/2022

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
LH-MH18	2209134-01	Water	09/14/2022	09/14/2022	
LH-Outfall001	2209134-02	Water	09/14/2022	09/14/2022	
Trip Blank	2209134-03	Water	09/14/2022	09/14/2022	

Notes and Definitions

- Y32 No pattern present for fingerprint.
- Y12 A library search found no reportable compounds.
- X3 Spike recovery is not applicable due to elevated target analyte concentration in the source sample.
- LB Reported library search compounds are tentative identifications with estimated concentrations.
- A11 Result is estimated due to high initial verification standard criteria failure.
- A09 Result is estimated due to high recovery of batch QC.
- A06 Result is estimated due to high continuing calibration standard criteria failure.
- A04 Result is estimated due to high matrix spike recovery.
- 100 Pattern similar to mineral spirits in front portion of chromatograph, Back portion of chromatograph most similar to fuel oil and/or hydraulic oil.
- ND Indicates compound analyzed for but not detected at or above the reporting limit (RL).
- RL Reporting Limit
- NA Not Applicable

Case Narrative

Samples were received 9/14/2022 4:30:00PM for client EGLE-WRD-LANSING as a part of project LOCKHART CHEMICAL RESAMPLE.

Samples were logged and designated as Work Order # 2209134 on 9/15/2022 1:36:00PM.

This Report was created 10/26/2022 2:33:21PM.

Additional Notes/Narrative (if applicable):

This is a corrected report. This report for Laboratory work order 2209134, LOCKHART CHEMICAL RESAMPLE, received on 09/14/2022 16:30 has been modified from the original report. The fingerprint results was correct from mineral oil to mineral spirits.



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: LH-MH18

Lab ID: 2209134-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
95-63-6	1,2,4-Trimethylbenzene	1.7	1.0	ug/L	1	09/21/22	B2I2101	624	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	09/21/22	B2I2101	624	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
71-43-2	Benzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-25-2	Bromoform	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
74-83-9	Bromomethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-00-3	Chloroethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
67-66-3	Chloroform	1.4	1.0	ug/L	1	09/21/22	B2I2101	624	
74-87-3	Chloromethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
74-95-3	Dibromomethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: LH-MH18

Lab ID: 2209134-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	09/21/22	B2I2101	624	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
91-20-3	Naphthalene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
95-47-6	o-Xylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
100-42-5	Styrene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
108-88-3	Toluene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
<i>Surrogate: Bromofluorobenzene</i>			95.6 %	85-115		09/21/22	B2I2101	624	
<i>Surrogate: Dibromofluoromethane</i>			102 %	85-115		09/21/22	B2I2101	624	
<i>Surrogate: Toluene-d8</i>			97.6 %	85-115		09/21/22	B2I2101	624	

Organics-Library Search Volatiles

See note LB

054105-77-0	(2-Methylbutyl)cyclohexane	8.5		ug/L	1	09/21/22	B2I2206	8260	
073105-67-6	1-Iodo-2-methylundecane	13		ug/L	1	09/21/22	B2I2206	8260	
000464-48-2	Bicyclo[2.2.1]heptan-2-one,...	14		ug/L	1	09/21/22	B2I2206	8260	
1000382-90-9	Carbonic acid, prop-1-en-2-...	31		ug/L	1	09/21/22	B2I2206	8260	
004292-92-6	Cyclohexane, pentyl-	14		ug/L	1	09/21/22	B2I2206	8260	
006975-98-0	Decane, 2-methyl-	6.5		ug/L	1	09/21/22	B2I2206	8260	
000112-40-3	Dodecane	14		ug/L	1	09/21/22	B2I2206	8260	
003891-98-3	Dodecane, 2,6,10-trimethyl-	8.7		ug/L	1	09/21/22	B2I2206	8260	
000091-17-8	Naphthalene, decahydro-	5.5		ug/L	1	09/21/22	B2I2206	8260	
052670-34-5	Octane, 2,3,6,7-tetramethyl-	6.4		ug/L	1	09/21/22	B2I2206	8260	
015869-86-0	Octane, 4-ethyl-	10		ug/L	1	09/21/22	B2I2206	8260	
025117-32-2	Tetradecane, 5-methyl-	14		ug/L	1	09/21/22	B2I2206	8260	
000112-95-8	Tridecane, 6-methyl-	8.0		ug/L	1	09/21/22	B2I2206	8260	
017312-78-6	Undecane, 3,4-dimethyl-	6.2		ug/L	1	09/21/22	B2I2206	8260	
001002-43-3	Undecane, 3-methyl-	6.8		ug/L	1	09/21/22	B2I2206	8260	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: LH-MH18

Lab ID: 2209134-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Fingerprint									See note 100
	Fingerprint	0.0		[blank]	1	10/14/22	B2I2015	8270	
Inorganics-Metals									
7440-38-2	Arsenic, Dissolved	1.3	1.0	ug/L	1	10/17/22	B2I1518	200.8	
7440-39-3	Barium, Dissolved	450	5.0	ug/L	1	10/12/22	B2I1518	200.8	
7440-43-9	Cadmium, Dissolved	ND	0.2	ug/L	1	10/17/22	B2I1518	200.8	
7440-47-3	Chromium, Dissolved	1.8	1.0	ug/L	1	10/12/22	B2I1518	200.8	
7440-50-8	Copper, Dissolved	240	1.0	ug/L	1	10/17/22	B2I1518	200.8	
7439-92-1	Lead, Dissolved	2.2	1.0	ug/L	1	10/12/22	B2I1518	200.8	
7439-97-6	Mercury, Dissolved	ND	0.2	ug/L	1	09/20/22	B2I2009	245.1	
7782-49-2	Selenium, Dissolved	ND	1.0	ug/L	1	10/17/22	B2I1518	200.8	
7440-22-4	Silver, Dissolved	ND	0.2	ug/L	1	10/17/22	B2I1518	200.8	
7440-66-6	Zinc, Dissolved	32	5.0	ug/L	1	10/17/22	B2I1518	200.8	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: LH-Outfall001

Lab ID: 2209134-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	09/21/22	B2I2101	624	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
71-43-2	Benzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-27-4	Bromodichloromethane	1.1	1.0	ug/L	1	09/21/22	B2I2101	624	
75-25-2	Bromoform	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
74-83-9	Bromomethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-00-3	Chloroethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
67-66-3	Chloroform	2.0	1.0	ug/L	1	09/21/22	B2I2101	624	
74-87-3	Chloromethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
74-95-3	Dibromomethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: LH-Outfall001

Lab ID: 2209134-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	09/21/22	B2I2101	624	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
91-20-3	Naphthalene	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
95-47-6	o-Xylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
100-42-5	Styrene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	09/21/22	B2I2101	624	
108-88-3	Toluene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	09/21/22	B2I2101	624	
<i>Surrogate: Bromofluorobenzene</i>			97.0 %	85-115		09/21/22	B2I2101	624	
<i>Surrogate: Dibromofluoromethane</i>			99.8 %	85-115		09/21/22	B2I2101	624	
<i>Surrogate: Toluene-d8</i>			96.1 %	85-115		09/21/22	B2I2101	624	

Organics-Library Search Volatiles

See note Y12

No Tentatively Identified Compound	0.0	ug/L	1	09/21/22	B2I2206	8260
------------------------------------	-----	------	---	----------	---------	------



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: LH-Outfall001

Lab ID: 2209134-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Library Search Semivolatiles									
3913-02-8	1-Octanol,2-butyl-	110		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Alkane Isomer	400		ug/L	1	10/10/22	B2I2015	8270	LB
	Alkane Isomer1	200		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Alkane Isomer2	240		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Alkane Isomer3	210		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Alkane Isomer4	420		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Alkane Isomer5	240		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Alkane Isomer6	130		ug/L	1	10/10/22	B2I2015	8270	LB
54411-00-6	Cyclohexane,1-methyl-4-(1-methyl	210		ug/L	1	10/10/22	B2I2015	8270	LB
4292-92-6	Cyclohexane,pentyl-	120		ug/L	1	10/10/22	B2I2015	8270	LB
6975-98-0	Decane,2-methyl	130		ug/L	1	10/10/22	B2I2015	8270	LB
13151-34-3	Decane,3-methyl-	140		ug/L	1	10/10/22	B2I2015	8270	LB
1000330-57-8	Fumaric acid,isobutyl tetrahydroft	120		ug/L	1	10/10/22	B2I2015	8270	LB
1010322-75-7	Glycine,N-ethyl-N-methoxycarbon	120		ug/L	1	10/10/22	B2I2015	8270	LB
100-37-8	N,N-Diethyl-2-aminoethanol	1300		ug/L	1	10/10/22	B2I2015	8270	LB
2958-76-1	Naphthalene,decahydro-2-methyl-	110		ug/L	1	10/10/22	B2I2015	8270	LB
NA	Octanol isomer	130		ug/L	1	10/10/22	B2I2015	8270	LB
	Tentatively Identified Compounds	0.0		ug/L	1	10/10/22	B2I2015	8270	
17312-81-1	Undecane,3,5-dimethyl-	170		ug/L	1	10/10/22	B2I2015	8270	LB
Organics-Fingerprint									See note 100
	Fingerprint	0.0		[blank]	1	10/14/22	B2I2015	8270	
Inorganics-Metals									
7440-38-2	Arsenic, Dissolved	7.3	1.0	ug/L	1	10/17/22	B2I1518	200.8	
7440-39-3	Barium, Dissolved	260	5.0	ug/L	1	10/12/22	B2I1518	200.8	
7440-43-9	Cadmium, Dissolved	ND	0.2	ug/L	1	10/17/22	B2I1518	200.8	
7440-47-3	Chromium, Dissolved	1.5	1.0	ug/L	1	10/12/22	B2I1518	200.8	
7440-50-8	Copper, Dissolved	4.1	1.0	ug/L	1	10/17/22	B2I1518	200.8	
7439-92-1	Lead, Dissolved	1.2	1.0	ug/L	1	10/12/22	B2I1518	200.8	
7439-97-6	Mercury, Dissolved	ND	0.2	ug/L	1	09/20/22	B2I2009	245.1	
7782-49-2	Selenium, Dissolved	ND	1.0	ug/L	1	10/17/22	B2I1518	200.8	
7440-22-4	Silver, Dissolved	ND	0.2	ug/L	1	10/17/22	B2I1518	200.8	
7440-66-6	Zinc, Dissolved	19	5.0	ug/L	1	10/17/22	B2I1518	200.8	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: Trip Blank

Lab ID: 2209134-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
540-84-1	2,2,4-Trimethylpentane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	09/20/22	B2I2001	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

CORRECTED REPORT

Client ID: Trip Blank

Lab ID: 2209134-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
110-54-3	Hexane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	09/20/22	B2I2001	8260	
96-37-7	Methylcyclopentane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
142-82-5	n-Heptane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	09/20/22	B2I2001	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	09/20/22	B2I2001	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	09/20/22	B2I2001	8260	
Surrogate: Bromofluorobenzene			96.3 %	85-115		09/20/22	B2I2001	8260	
Surrogate: Dibromofluoromethane			101 %	82.7-115		09/20/22	B2I2001	8260	
Surrogate: Toluene-d8			96.8 %	85-115		09/20/22	B2I2001	8260	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

2209134

Lakhart chemical Resample

WASTE WATER

Location ID

Program

CC Email 1

Project TAT Days

Sample Collector

Dept-Division-District

Activity

CC Email 2

Project Due Date

Sample Collector Phone

EGLE-WRD-LDO

Funding Source

CC Email 3

State Project Manager

Location Code

Overflow Lab Choice 1

Accept Analysis hold time codes

Contract Firm

Danielle McLain

L0007858

State Project Manager Email

SUB Location Code

Overflow Lab Choice 2

mclainda@michigan.gov

25

State Project Manager Phone

517-899-7034

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Bottle Count	Comments
1 01	LH-MH18	9/14/22	1352	5	
2 02	LH-outfall001	↓	1440	6	
3					
4					
5					
6					
7					
8					
9					
10					

ORGANIC CHEMISTRY	MAD - DISSOLVED METALS	MA - TOTAL METALS	GENERAL CHEMISTRY
VOA - Volatile Organic Acidic Volatiles - Full List 1 2 3 4 5 6 7 8 9 10 BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10 Chlorinated only 1 2 3 4 5 6 7 8 9 10	Diss - Silver - Ag 1 2 3 4 5 6 7 8 9 10 Diss - Aluminum - Al 1 2 3 4 5 6 7 8 9 10 Diss - Arsenic - As 1 2 3 4 5 6 7 8 9 10 Diss - Boron - B 1 2 3 4 5 6 7 8 9 10 Diss - Barium - Ba 1 2 3 4 5 6 7 8 9 10 Diss - Beryllium - Be 1 2 3 4 5 6 7 8 9 10 Diss - Cadmium - Cd 1 2 3 4 5 6 7 8 9 10 Diss - Cobalt - Co 1 2 3 4 5 6 7 8 9 10 Diss - Chromium - Cr 1 2 3 4 5 6 7 8 9 10 Diss - Copper - Cu 1 2 3 4 5 6 7 8 9 10 Diss - Iron - Fe 1 2 3 4 5 6 7 8 9 10 Diss - Mercury - Hg 1 2 3 4 5 6 7 8 9 10 Diss - Lithium - Li 1 2 3 4 5 6 7 8 9 10 Diss - Manganese - Mn 1 2 3 4 5 6 7 8 9 10 Diss - Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10 Diss - Nickel - Ni 1 2 3 4 5 6 7 8 9 10 Diss - Lead - Pb 1 2 3 4 5 6 7 8 9 10 Diss - Antimony - Sb 1 2 3 4 5 6 7 8 9 10 Diss - Selenium - Se 1 2 3 4 5 6 7 8 9 10 Diss - Strontium - Sr 1 2 3 4 5 6 7 8 9 10 Diss - Titanium - Ti 1 2 3 4 5 6 7 8 9 10 Diss - Thallium - Tl 1 2 3 4 5 6 7 8 9 10 Diss - Uranium - U 1 2 3 4 5 6 7 8 9 10 Diss - Vanadium - V 1 2 3 4 5 6 7 8 9 10 Diss - Zinc - Zn 1 2 3 4 5 6 7 8 9 10	Silver - Ag 1 2 3 4 5 6 7 8 9 10 Aluminum - Al 1 2 3 4 5 6 7 8 9 10 Arsenic - As 1 2 3 4 5 6 7 8 9 10 Boron - B 1 2 3 4 5 6 7 8 9 10 Barium - Ba 1 2 3 4 5 6 7 8 9 10 Beryllium - Be 1 2 3 4 5 6 7 8 9 10 Cadmium - Cd 1 2 3 4 5 6 7 8 9 10 Cobalt - Co 1 2 3 4 5 6 7 8 9 10 Chromium - Cr 1 2 3 4 5 6 7 8 9 10 Copper - Cu 1 2 3 4 5 6 7 8 9 10 Iron - Fe 1 2 3 4 5 6 7 8 9 10 Mercury - Hg 1 2 3 4 5 6 7 8 9 10 Lithium - Li 1 2 3 4 5 6 7 8 9 10 Manganese - Mn 1 2 3 4 5 6 7 8 9 10 Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10 Nickel - Ni 1 2 3 4 5 6 7 8 9 10 Lead - Pb 1 2 3 4 5 6 7 8 9 10 Antimony - Sb 1 2 3 4 5 6 7 8 9 10 Selenium - Se 1 2 3 4 5 6 7 8 9 10 Strontium - Sr 1 2 3 4 5 6 7 8 9 10 Titanium - Ti 1 2 3 4 5 6 7 8 9 10 Thallium - Tl 1 2 3 4 5 6 7 8 9 10 Uranium - U 1 2 3 4 5 6 7 8 9 10 Vanadium - V 1 2 3 4 5 6 7 8 9 10 Zinc - Zn 1 2 3 4 5 6 7 8 9 10 Calcium - Ca 1 2 3 4 5 6 7 8 9 10 Potassium - K 1 2 3 4 5 6 7 8 9 10 Magnesium - Mg 1 2 3 4 5 6 7 8 9 10 Sodium - Na 1 2 3 4 5 6 7 8 9 10 Hardness - Ca, Mg 1 2 3 4 5 6 7 8 9 10 LHG - Low Level Mercury Mercury Low Level - Hg 1 2 3 4 5 6 7 8 9 10	GB Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GCN Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 (Amenable / Weak Acid Dissociable) CA Chlorophyll 1 2 3 4 5 6 7 8 9 10 GN Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10 GN Diss Ortho Phosphate - *FF 1 2 3 4 5 6 7 8 9 10 GN Nitrite - NO ₂ 1 2 3 4 5 6 7 8 9 10 GN Nitrate - NO ₃ (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10 GN Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10 MN Diss Solids - TDS (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Turbidity 1 2 3 4 5 6 7 8 9 10 MN Total Alkalinity 1 2 3 4 5 6 7 8 9 10 MN Blcarb/Carb Alkalinity 1 2 3 4 5 6 7 8 9 10 (Includes Total Alkalinity) MN Chloride - Cl 1 2 3 4 5 6 7 8 9 10 MN Fluoride - F 1 2 3 4 5 6 7 8 9 10 MN Sulfate - SO ₄ 1 2 3 4 5 6 7 8 9 10 MN Diss Chromium 6 - *FF 1 2 3 4 5 6 7 8 9 10 MN Conductivity 1 2 3 4 5 6 7 8 9 10 MN pH 1 2 3 4 5 6 7 8 9 10 GA Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 GA Diss Org Carbon - DOC *FF 1 2 3 4 5 6 7 8 9 10 GN Diss Org Carbon - DOC (LF) 1 2 3 4 5 6 7 8 9 10 (Lab - Filtered & Preserved) GA Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 GA Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 GA Nitrate+Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10 GA Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 GA Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. Emily Koryto EGLE WRD	Marlene Kane EGLE	9/14/22
	Signature:	Marlene Kane	1630p
	Print Name & Org.		
Print Name & Org.			
Print Name & Org.			



Analysis Request Sheet

Lab Work Order Number: **2209134** Project Name: **Lakhart chemical Resample** Matrix: **WASTE WATER**

Location ID: [] Program: **NPDES** CC Email 1: **meyerc2@michigan.gov** Project TAT Days: [] Sample Collector: **Emily Koryto**

Dept-Division-District: **EGLE-WRD-LDO** Activity: [] CC Email 2: **mcLainda@michigan.gov** Project Due Date: [] Sample Collector Phone: **517-282-6723**

State Project Manager: **Danielle McLain** Funding Source: **L0007858** CC Email 3: [] Contract Firm: []

State Project Manager Email: **mcLainda@michigan.gov** Location Code: **2S** Overflow Lab Choice 1: [] Contract Firm Primary Contact: []

State Project Manager Phone: **517-899-7034** SUD Location Code: [] Overflow Lab Choice 2: [] Primary Contact Phone: []

Accept Analysis hold time codes: []

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Bottle Count	Comments
1	01 LH-MH18	9/14/22	1352	5	
2	02 LH-outfall001	↓	1440	6	
3	03 Trip Blank	9/13/22			
4					
5					
6					
7					
8					
9					
10					

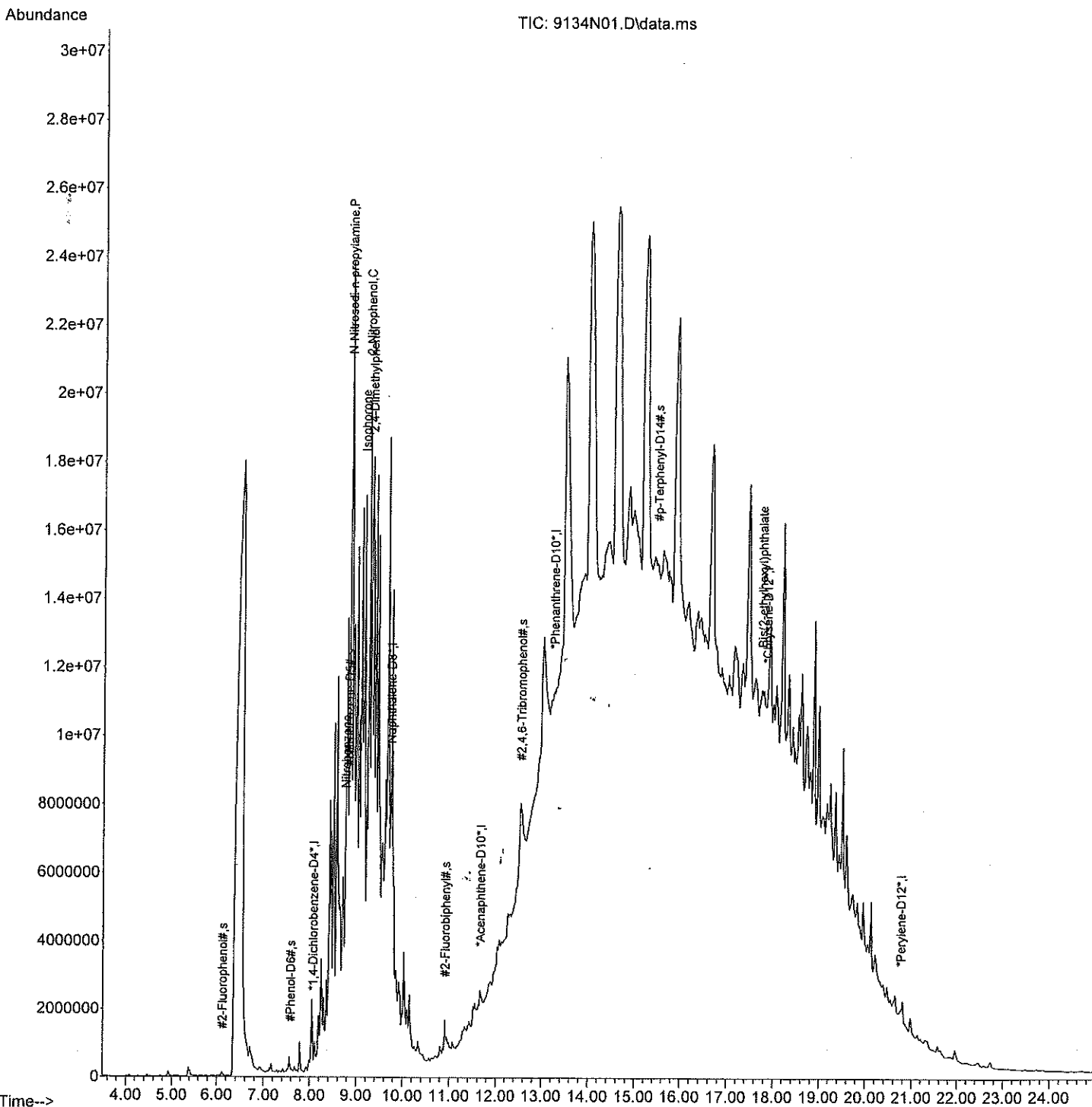
ORGANIC CHEMISTRY	MAD - DISSOLVED METALS	MA - TOTAL METALS	GENERAL CHEMISTRY
VOA - Volatile Organic Acidic Volatiles - Full List 1 2 3 4 5 6 7 8 9 10 BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10 Chlorinated only 1 2 3 4 5 6 7 8 9 10	Diss - Silver - Ag 1 2 3 4 5 6 7 8 9 10 Diss - Aluminum - Al 1 2 3 4 5 6 7 8 9 10 Diss - Arsenic - As 1 2 3 4 5 6 7 8 9 10 Diss - Boron - B 1 2 3 4 5 6 7 8 9 10 Diss - Barium - Ba 1 2 3 4 5 6 7 8 9 10 Diss - Beryllium - Be 1 2 3 4 5 6 7 8 9 10 Diss - Cadmium - Cd 1 2 3 4 5 6 7 8 9 10 Diss - Cobalt - Co 1 2 3 4 5 6 7 8 9 10 Diss - Chromium - Cr 1 2 3 4 5 6 7 8 9 10 Diss - Copper - Cu 1 2 3 4 5 6 7 8 9 10 Diss - Iron - Fe 1 2 3 4 5 6 7 8 9 10 Diss - Mercury - Hg 1 2 3 4 5 6 7 8 9 10 Diss - Lithium - Li 1 2 3 4 5 6 7 8 9 10 Diss - Manganese - Mn 1 2 3 4 5 6 7 8 9 10 Diss - Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10 Diss - Nickel - Ni 1 2 3 4 5 6 7 8 9 10 Diss - Lead - Pb 1 2 3 4 5 6 7 8 9 10 Diss - Antimony - Sb 1 2 3 4 5 6 7 8 9 10 Diss - Selenium - Se 1 2 3 4 5 6 7 8 9 10 Diss - Strontium - Sr 1 2 3 4 5 6 7 8 9 10 Diss - Titanium - Ti 1 2 3 4 5 6 7 8 9 10 Diss - Thallium - Tl 1 2 3 4 5 6 7 8 9 10 Diss - Uranium - U 1 2 3 4 5 6 7 8 9 10 Diss - Vanadium - V 1 2 3 4 5 6 7 8 9 10 Diss - Zinc - Zn 1 2 3 4 5 6 7 8 9 10 Diss - Calcium - Ca 1 2 3 4 5 6 7 8 9 10 Diss - Potassium - K 1 2 3 4 5 6 7 8 9 10 Diss - Magnesium - Mg 1 2 3 4 5 6 7 8 9 10 Diss - Sodium - Na 1 2 3 4 5 6 7 8 9 10 Diss - Hardness - Ca, Mg 1 2 3 4 5 6 7 8 9 10	Silver - Ag 1 2 3 4 5 6 7 8 9 10 Aluminum - Al 1 2 3 4 5 6 7 8 9 10 Arsenic - As 1 2 3 4 5 6 7 8 9 10 Boron - B 1 2 3 4 5 6 7 8 9 10 Barium - Ba 1 2 3 4 5 6 7 8 9 10 Beryllium - Be 1 2 3 4 5 6 7 8 9 10 Cadmium - Cd 1 2 3 4 5 6 7 8 9 10 Cobalt - Co 1 2 3 4 5 6 7 8 9 10 Chromium - Cr 1 2 3 4 5 6 7 8 9 10 Copper - Cu 1 2 3 4 5 6 7 8 9 10 Iron - Fe 1 2 3 4 5 6 7 8 9 10 Mercury - Hg 1 2 3 4 5 6 7 8 9 10 Lithium - Li 1 2 3 4 5 6 7 8 9 10 Manganese - Mn 1 2 3 4 5 6 7 8 9 10 Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10 Nickel - Ni 1 2 3 4 5 6 7 8 9 10 Lead - Pb 1 2 3 4 5 6 7 8 9 10 Antimony - Sb 1 2 3 4 5 6 7 8 9 10 Selenium - Se 1 2 3 4 5 6 7 8 9 10 Strontium - Sr 1 2 3 4 5 6 7 8 9 10 Titanium - Ti 1 2 3 4 5 6 7 8 9 10 Thallium - Tl 1 2 3 4 5 6 7 8 9 10 Uranium - U 1 2 3 4 5 6 7 8 9 10 Vanadium - V 1 2 3 4 5 6 7 8 9 10 Zinc - Zn 1 2 3 4 5 6 7 8 9 10 Calcium - Ca 1 2 3 4 5 6 7 8 9 10 Potassium - K 1 2 3 4 5 6 7 8 9 10 Magnesium - Mg 1 2 3 4 5 6 7 8 9 10 Sodium - Na 1 2 3 4 5 6 7 8 9 10 Hardness - Ca, Mg 1 2 3 4 5 6 7 8 9 10	GB Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GCN Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 (Amenable / Weak Acid Dissociable) CA Chlorophyll 1 2 3 4 5 6 7 8 9 10 GN Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10 GN Diss Ortho Phosphate - *FF 1 2 3 4 5 6 7 8 9 10 GN Nitrite - NO ₂ 1 2 3 4 5 6 7 8 9 10 GN Nitrate - NO ₃ (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10 GN Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10 MN Diss Solids - TDS (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Turbidity 1 2 3 4 5 6 7 8 9 10 MN Total Alkalinity 1 2 3 4 5 6 7 8 9 10 MN Bicarb/Carb Alkalinity 1 2 3 4 5 6 7 8 9 10 (Includes Total Alkalinity) MN Chloride - Cl 1 2 3 4 5 6 7 8 9 10 MN Fluoride - F 1 2 3 4 5 6 7 8 9 10 MN Sulfate - SO ₄ 1 2 3 4 5 6 7 8 9 10 MN Diss Chromium 6 - *FF 1 2 3 4 5 6 7 8 9 10 MN Conductivity 1 2 3 4 5 6 7 8 9 10 MN pH 1 2 3 4 5 6 7 8 9 10 GA Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 GA Diss Org Carbon - DOC *FF 1 2 3 4 5 6 7 8 9 10 GN Diss Org Carbon - DOC (LF) 1 2 3 4 5 6 7 8 9 10 (Lab - Filtered & Preserved) GA Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 GA Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 GA Nitrate+Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10 GA Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 GA Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. Emily Koryto EGLE WRD	Marlene Kane EGLE	9/14/22
	Signature:		1630p
	Print Name & Org. []	[]	[]

File : D:\MassHunter\GCMS\1...22\BA221004\9134N01.D Vial: 9
Date : 04-Oct-2022 02:03 pm Operator: MF
Sample : 2209134-01 Inst : #463
Sample : B2I2015 WATER Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 05 08:32:08 2022

Quant Method : D:\MassHunter\GCMS\1\methods\BA220801.M
Quant Title : 8270E
QLast Update : Tue Oct 04 09:51:42 2022
Response via : Initial Calibration
DataAcq Meth:8270E.M
Quant Results File: BA220801.RES



File : D:\MassHunter\GCMS\1...22\BA221004\9134N02.D Vial: 6
On : 04 Oct 2022 12:30 pm Operator: MF
Sample : 2209134-02 Inst : #463
Misc : B2I2015 WATER Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 05 08:32:15 2022

Quant Method : D:\MassHunter\GCMS\1\methods\BA220801.M
Quant Title : 8270E
QLast Update : Tue Oct 04 09:51:42 2022
Response via : Initial Calibration
DataAcq Meth:8270E.M
Quant Results File: BA220801.RES

