

WORK PLAN
Area of Interest Interim Measures
Riverview-Trenton Railroad Company
Former McLouth Steel Site
18251 West Jefferson Avenue
Riverview, Michigan

June 30, 2023
Revised August 16, 2023

Prepared For:
Riverview-Trenton Railroad Company
12225 Stephens Road
Warren, Michigan 48089

Prepared By:
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ASTI Project No. 2-10860



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1.0 Introduction

ASTI Environmental (“ASTI”) prepared this Area of Interest Interim Measures Work Plan (the “Work Plan”) on behalf of the Riverview-Trenton Railroad Company (“RTRR”) as requested by the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), Waste Management and Radiological Protection Division, as part of an investigation of a portion of the former McLouth Steel property located in Riverview, Michigan.

This part of the former McLouth Steel property (Site Identification Number: MIK420 024 889) consists of an approximately 76.2 acre portion of the larger McLouth Steel site located in Trenton and Riverview, Michigan, and is known as the RTRR Property. The RTRR Property includes three parcels; 51009030001000, 54001010082300, and 54001990006704, and is bounded by the Trenton Channel of the Detroit River to the east; a portion of the McLouth Steel property referred to as the “County Property”, a railroad line, and West Jefferson Avenue to the west; the Grosse Ile Toll Bridge and Monguagon Creek to the north; and a portion of the County Property to the south. Figure 1 provides a Site Location Map for the RTRR Property.

On May 2, 2203, EGLE provided a letter to Crown Enterprises indicating that, as a result of various site inspections, they had identified a new Area of Interest (AOI), as defined in Paragraph 3.13 of the Corrective Action Consent Order, in the northwest portion of the RTRR Property. The AOI was based on EGLE’s identification of high pH and particulate in surface water. High pH has been historically detected in the RTRR Property groundwater, and impacts on the northwest portion of the property are suspected to result from historically buried calcium hydroxide waste. EGLE requested that this Work Plan be developed to address identification, control and management of these high pH surface waters associated with the AOI.

Therefore, the purpose of this Work Plan is to address areas of identified high pH in surface water by completing the following.

1. Conduct measures necessary to prevent discharge of high pH liquids to the adjacent creek and public rights-of-way,
2. Identify disposal options for materials removed from the AOI,
3. Determine the nature of the impacted groundwater by:
 - a. Installing soil borings to identify lithology, and determine the horizontal extent of impacts,
 - b. Converting some soil borings to groundwater monitoring wells to be screened in the upper aquifer to determine the horizontal extent of potential groundwater impacts,
 - c. Collecting surface water samples from the adjacent creek, and
 - d. Collecting static water levels from monitoring wells and surface water levels in the adjacent creek.

4. Evaluate options for preventing exacerbation in the Study Area

2.0 Study Area Description

The Study Area to investigate the AOI will consist of the northwest portion of Parcel 51009030001000 that is north of the existing parking lot, east and south of West Jefferson Avenue, and west and south of the Monguagon Creek (also referred to as Huntington Creek), including the Construction Area immediately adjacent to West Jefferson Avenue, and a portion of the creek extending north. ASTI identified the Study Area because it is adjacent to the creek where particulate was visually identified by EGLE, and because of previous EPA investigations this area. Refer to Figure 2.

The Study Area is generally flat, slopping downward from southwest to northeast toward the Monguagon Creek. The Study Area originally consisted of uplands along West Jefferson Avenue (generally in the Construction Area), the original location of the Monguagon Creek, and wetlands on either side of the Monguagon Creek. Sometime before 1936 the wetlands were filled. Between 1936 and 1952 the location of the Monguagon Creek shifted to the east. By 1964, the original Monguagon Creek channel had been filled, and the creek was redirected along the northern property line, so that no open water remained in the Study Area. Refer to Figure 3.

Much of the Study Area is covered by fill material of unknown origin to a depth of zero to ten feet below ground surface ("bgs"). This fill most likely consists of slag placed between 1952 and 1996, underlain by materials of unknown origin placed in open water and wetlands prior to 1936. Prior to 1964 additional materials of unknown origin were placed in the former Monguagon Creek bed.

There are no Areas of Concern or Waste Management Units, as defined by the 1999 RCRA Facility Assessment report completed by EPA, in the Study Area.

The Study Area includes a former trench and temporary slurry wall (the Clay Wall) installed by EPA to address a similar issue in 2001 and 2009 (see Figure 4). The method of installation is not known, but it has been described as a 105-foot long clay, non-reactive barrier wall, 10 feet deep and 10 feet wide at the base (see Figure 5). It was determined at the time that a former owner, DSC, was responsible for the leachate investigation and remedial activities. The approximate location is provided on Figure 2.

2.1 Site Hydrogeology

Based on previous studies reviewed, perched groundwater is encountered at 0 to 15 feet bgs, primarily in the fill material. The perched groundwater is approximately 5 feet to 15 feet above typical surface water elevations in the Trenton Channel. In the Study Area, the perched zone generally flows to the east by northeast toward the Monguagon Creek. The perched zone appears to be hydraulically connected to surface water. An underlying clay layer has been identified in other areas of the RTRR Property, but it is unclear if it is contiguous.

3.0 Completed Work Plan Activities

This section provides a detailed description of activities completed to date to control, manage or measure pH impacts in surface waters in the Study Area.

3.1 Fence Installation

The RTRR Property has been fenced for many years, and that fencing is regularly inspected and repaired as needed. Additional fencing around the construction area, was installed on March 24, 2023 and completed in mid-April. Silt fencing was also installed at that time.

Construction work outside of the Study Area has also been fenced. Signs have been posted indicating “Danger, Construction Area, Keep Out”.

3.2 Soil Management

All soils removed from the Construction Area have been placed on the RTRR property, pending characterization. It is anticipated that soils will remain on the RTRR property.

3.3 Surface Water Management

All liquids removed from the Construction Area have been placed in a frac tank, pending characterization and off-site disposal. The frac tank was provided through Clean Harbors Environmental, who will manage the characterization and disposal. Clean Harbors is licensed to dispose of hazardous and non-hazardous wastes.

Surface water levels in the Construction Area are below the adjacent right-of-way, and therefore the storm drain.

3.4 Sampling of Surface Water

Surface water samples from the Construction Area were collected by ASTI, in conjunction with EGLE, on March 15, 2023. To provide the same analysis as EGLE, samples were analyzed for Alkalinity, Ammonia, Chemical Oxygen Demand, Chloride, Dissolved Organic Carbon, Fluoride, Kjeldahl Nitrogen, Nitrate/Nitrite, Nitrite, Ortho Phosphate, pH, Sulfate, Total Dissolved Solids, Total Organic Carbon, Total Phosphorous, Total Suspended Solids, Turbidity, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Selenium, Silver, Zinc, and Calcium. The only exceedance of Part 201 generic residential drinking water criteria was for Total Dissolved Solids which ranged from 768,000 to 864,000 ug/l. The pH ranged from 12.03 to 12.04. (see Attachment B)

A surface water sample from the Monguagon Creek was collected adjacent to the north end of the Study Area by ASTI, in conjunction with EGLE, on March 29, 2023. The sample was analyzed for Alkalinity, Ammonia, Chemical Oxygen Demand, Chloride, Conductivity, Dissolved Organic Carbon, Fluoride, Kjeldahl Nitrogen, Nitrate/Nitrite, Nitrite, Ortho Phosphate, pH, Sulfate, Total Dissolved Solids, Total Organic Carbon, Total Phosphorous, Total Suspended Solids, and Turbidity. The only exceedances of Part 201 generic residential drinking water criteria were for Chloride at 226,000 ug/l, and Total Dissolved Solids at 776,000 ug/l. The pH was 8.42. (see Attachment B)

A second surface water sample from the Monguagon Creek was collected by ASTI in an area north of the West Jefferson Avenue bridge on March 29, 2023, immediately following the sampling event above. The sample was analyzed for Alkalinity, Ammonia, Chemical Oxygen Demand, Chloride, Conductivity, Dissolved Organic Carbon, Fluoride, Kjeldahl Nitrogen, Nitrate/Nitrite, Nitrite, Ortho Phosphate, pH, Sulfate, Total Dissolved Solids, Total Organic Carbon, Total Phosphorous, Total Suspended Solids, and Turbidity. The only exceedances of Part 201 generic residential drinking water criteria were for Chloride at 247,000 ug/l, and Total Dissolved Solids at 816,000 ug/l. The pH was 7.88. For all parameters, the results were

similar to the sample collected adjacent to the north end of the Study Area. (see Attachment B)

3.5 Camera Installation

A camera, monitoring the Monguagon Creek adjacent to the north end of the Study Area, where surface water sample was collected on March 29, was installed on May 3, 2023. This camera was installed at the request of EGLE to monitor opacity in surface water. The first photo was provided to EGLE on May 4, 2023. A picture is currently being sent daily to EGLE, and the camera will be maintained through the current construction activities.

3.6 Interim Measures

For the duration of the construction activities the following interim measures will be maintained.

- The surface water will continue to be collected in the Frac tanks to prevent off-site migration.
- The fence will remain around the construction area.

No low permeability soils were encountered during the construction along the curbing. When construction is finished, a base of 22A aggregate will be installed.

Based on its location, and observations during construction, the Clay Wall was not disturbed during the construction. As such, no repairs are anticipated, and management of the Clay Wall will be considered as part of the Remediation Options Analysis described below.

4.0 Proposed Work Plan Activities

This section provides a description of each activity proposed to control, manage or measure pH impacts in the Study Area. Construction work restarted in the Construction Area, and adjacent across West Jefferson Avenue, on June 22, 2023 and is expected to require five to seven weeks to complete.

4.1 Soils and Surface Water Management

No additional soil removal from the Construction Area is anticipated, however, if soils are removed from the Construction Area, they will be placed on the RTRR property, pending characterization. It is anticipated that these soils will remain on the RTRR property.

Soils removed from the right-of-way and under West Jefferson Avenue will be reused as fill materials.

Surface water in the Construction Area will continue to be pumped to the frac tank as necessary to permit construction and to maintain the surface water level below the adjacent right-of-way. Clean Harbors Environmental will manage the characterization and disposal of pumped liquids.

It is anticipated that no surface water will need to be removed from the right-of-way or West Jefferson Avenue during construction.

4.2 Surfacing Material Disposal

Concrete and surface materials removed from the right-of-way or West Jefferson Avenue during construction will be disposed of off-site as inert materials.

4.3 Access Restrictions

The Construction Area, and any other area associated with installation and repair of the rail line, will continue to be fenced and signed during construction. Existing fences on the RTRR Property will continue to be maintained.

4.4 Investigation

Prior to conducting any investigation activities, ASTI will inspect the Study Area to locate the wells installed by EPA during the 2001/2009 investigations. If any wells are located and are in acceptable condition to sample, each well will be substituted for one of the sampling locations described below, and soil samples will not be collected from that location.

To achieve the objectives of this Work Plan a total of 12 soil borings, of which six will be converted to groundwater monitoring wells, will be advanced in the Study Area. One soil sample will be collected from each of the borings. A total of four surface water samples, and seven groundwater samples, will be collected. In addition, a stream level gauge will be installed in the Monguagon Creek to be used in conjunction with the existing gauge in the Trenton Channel. Refer to Figure 2.

A drill rig utilizing hollow-stem augers, or sonic drilling if required, will be used to advance the soil borings and install groundwater monitoring wells. An ASTI field scientist will oversee the sampling and installation and visually log soils. In the event that drilling penetrates the underlying clay layer, the entire length of the clay layer will be sealed with bentonite.

Samples will be collected into laboratory-provided jars appropriate for the required analysis. Upon collection, the sample jars will be labeled with a unique identification number and placed on ice and kept cool until arrival at the laboratory. Proper chain of custody procedures will be followed throughout the sample collection and shipment process.

All sampling and analysis will be completed according to the Quality Assurance Project Plan (QAPP) dated September 18, 2019 and previously provided to EGLE, as updated. The QAPP will be updated to include changes in staffing, and the additional analytical parameters for this project.

4.4.1 Soil Sampling

The twelve soil borings will be located in the Study Area. Continuous split-spoon sampling will be completed to five feet below ground surface (bgs), and one sample will be selected from each boring for analysis. Samples will be analyzed as described in Section 4.4.4 below.

4.4.2 Surface Water Sampling

A total of four surface water samples will be collected from standing water in the Construction Area, as well as upstream of, adjacent to, and downstream of the Study Area on the Monguagon Creek. Grab samples will be collected from the upper two the six inches of the surface water. Samples will be analyzed as described in Section 4.4.4 below.

Flow direction and velocity of the creek will be measured at the sampling location immediately adjacent to the Study Area prior to sampling.

4.4.3 Groundwater Sampling

Six new groundwater monitoring wells (at SB-1, SB-4, SB-7, SB-8, SB-11 and SB-12) will be installed in the upper aquifer. The drill rig will be advanced to 15 feet bgs prior to well installation to determine lithology. The depths and screen intervals of the groundwater monitoring wells will be determined in the field, and will consist of screens 10-feet in length. Details of the well construction will be recorded in the field. Wells will be completed to grade or above grade, depending on site conditions, with a protective well casing, concrete collar, and lock.

After completion of well installations, the wells will be developed by pump and surge methods until the water appears free of sediment. If a well goes dry during development, the well will be allowed to recharge and the well will be pumped dry again. A well will be pumped dry up to five times if recharge occurs quickly enough to facilitate multiple pumping events. Purge water will be discharged to the ground on an unpaved portion of the Study Area immediately downgradient from the monitoring well.

A licensed surveyor will complete a top of casing elevation survey for each of the newly-installed groundwater monitoring wells, and will install a gauge on the Monguagon Creek.

After development, the wells will be allowed to equilibrate for approximately 24 hours before sampling. The six new monitoring wells will be sampled in conjunction with existing well MW-100s to determine groundwater impacts upgradient and downgradient of the temporary slurry wall. One groundwater sampling event will be conducted for analysis of the analytes listed in Section 4.4.4. A total of seven groundwater samples, one from each monitoring well, will be collected and analyzed during the sampling event. Prior to well purging, the depth to water will be measured in each well to determine groundwater elevation and flow direction across the Study Area. In addition, the level of the adjacent Monguagon Creek and Trenton Channel will be recorded. Groundwater elevation data will be tabularized and depicted on figures included in the Groundwater Investigation Report.

Prior to sample collection, monitoring wells will be purged using low-flow techniques with the use of a peristaltic pump. Low-flow purging is intended to minimize groundwater drawdown during pumping to ensure that formation water is introduced into the well to minimize introduction of stagnant water from the well casing into the sample. Groundwater quality indicators (temperature, pH, specific conductance, turbidity, dissolved oxygen, and oxidation/reduction potential) will be measured and recorded during purging every three to five minutes. Depth to water will also be measured to ensure that groundwater drawdown does not occur. Purge water will be discharged to the ground on an unpaved portion of the Study Area immediately downgradient from the monitoring well. Groundwater quality parameters are considered stabilized when the following conditions are met:

- Turbidity (10% for values greater than 40 Nephelometric Turbidity Unit [NTU]; if three turbidity values are less than 5 NTU, consider the values as stabilized),
- Dissolved oxygen (within 10% for values greater than 0.5 milligrams per liter [mg/L], if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized),
- Specific conductance (within 3%),
- Temperature (within 3%),
- pH (± 0.1 unit), and

- Oxidation/Reduction Potential (± 10 millivolts).

If the water level cannot be maintained during low-flow purging, the well will be pumped dry and a sample will be collected within 24 hours or as soon as the water level has recovered sufficiently to collect the volume needed for the required analytical samples. Groundwater sampling activities will be recorded on forms or in the project field logbook, as appropriate.

ASTI will collect one duplicate sample for quality assurance/quality control (QA/QC). QA/QC samples will also include a laboratory provided trip blank, a field blank, and a matrix spike/matrix spike duplicate. Duplicate samples will be collected from locations designated by field personnel and at the same time as collection of the sample from that location. The laboratory will prepare a trip blank sample and this sample will reside with the sample coolers throughout the sampling process to determine if contaminants were introduced during the sampling process. The field blank will be collected by pouring deionized water into laboratory-provided jars.

4.4.4 Sample Analysis

Soil samples will be analyzed by an accredited laboratory for the chemicals of concern listed in Table 4-1. Sampling and analysis will be conducted in accordance with U.S. EPA and EGLE guidelines and the modified QAPP.

Table 4-1 Soil Analytical Parameters

Analysis	Number of Samples
Ammonia	12
Calcium	12
Iron	12
Manganese	12
Magnesium	12
Nitrate	12
Nitrite	12
pH	12

Surface water and groundwater samples will be analyzed by an accredited laboratory for the chemicals of concern listed in Table 4-2. Sampling and analysis will be conducted in accordance with U.S. EPA and EGLE guidelines and the modified QAPP.

Table 4-2 Groundwater and Surface Water Analytical Parameters

Analysis	Number of Samples
Ammonia	11
Calcium	11
Iron	11
Manganese	11
Magnesium	11
Nitrate	11
Nitrite	11
pH	11
Total Dissolved Solids	11

The laboratory analytical results will be summarized in the investigation report, which will be submitted to EGLE. For that report ASTI will provide a narrative summary of the sampling

event, a tabularized summary of the analytical data, groundwater potentiometric surface elevation maps, and the laboratory analytical reports.

4.4.5 Decontamination Procedures

Augers and direct push rods used to advance the soil borings will be decontaminated prior to completion of each boring.

Groundwater sampling will be conducted with the use of a peristaltic pump and dedicated tubing for each well. No decontamination is necessary for groundwater sampling as there is no pathway for cross-contamination.

4.5 Utility Corridors

ASTI will identify all utility corridors in, and adjacent to, the Study Area. This will be completed through a combination of contacting Miss Dig and reviewing the existing site maps.

For utility corridors in the Study Area, ASTI will complete a total of four sample locations adjacent to corridors using an air knife, and collect one soil sample from each location. Groundwater samples will not be collected. Sampling of utility corridors adjacent to the Study Area is not included in this Work Plan

Soil samples will be analyzed by an accredited laboratory for the chemicals of concern listed in Table 4-3. Sampling and analysis will be conducted in accordance with U.S. EPA and EGLE guidelines and may require a modification to the existing QAPP.

Table 4-3 Soil Analytical Parameters

Analysis	Number of Samples
Ammonia	4
Calcium	4
Iron	4
Manganese	4
Magnesium	4
Nitrate	4
Nitrite	4
pH	4

4.6 Remediation Options Analysis

Following the investigation described above, a review of available remediation strategies will be conducted. The objective of this review is to determine if a remedy or due care activity is required to prevent exacerbation of existing conditions in the Study Area.

5.0 Site Health and Safety Plan

ASTI developed a Site-Specific Health and Safety Plan (SHSP) for the RTRR site dated April 1, 2019 for a previous sampling event, and approved by EGLE, and will use that SHSP for this project. The plan lists a safety coordinator, emergency telephone numbers, directions to the nearest emergency care facility, and emergency procedures. Field personnel will be required to review, sign and date the SHSP before beginning any site activities within each

project phase. A copy of the SHSP was provided to EGLE, and additional copies can be provided on request.

6.0 Project Staff

The following is a list of staff that will be involved with the groundwater investigation. This list is an update of the one found in the Site-Specific Health and Safety Plan.

Project Manager: Mr. Brian Earl

Site Safety Officer: Mr. Brian Earl

Project Staff: Mr. Jeremy Efros, CPG, Mr. Brian Earl, Mr. John Schuitema, Ms. Kera Sharpe, and Mr. Aaron Arnold.

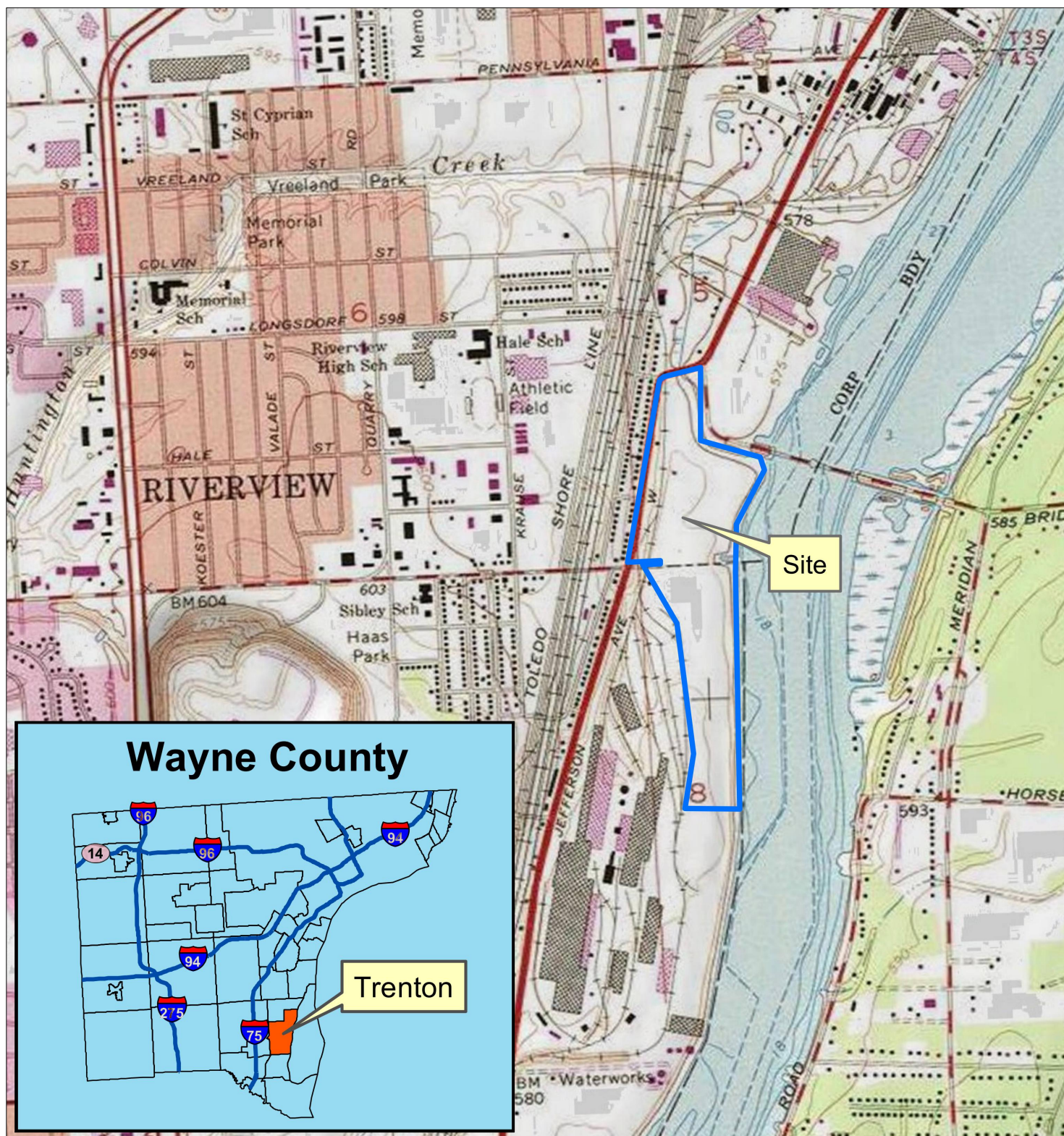
7.0 Schedule

The project activities will be scheduled immediately following the approval of this Work Plan. Soil sampling and installation of groundwater monitoring wells, including well development, is expected to require 30 work days to complete, pending driller availability. The groundwater sampling event is expected to require six work days to complete, plus 20 working days for laboratory analysis. ASTI will notify EGLE in writing at least 14 calendar days prior (or earlier) to beginning field work for well installation or sampling. The Investigation Report will be completed approximately 45 work days after completion of the groundwater sampling event.

Attachment A
Figures

Work Plan
Area of Interest Interim Measures

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0 600 1200 1800
Approximate Scale in Feet

LEGEND
— Property Line



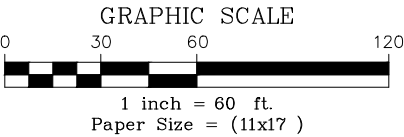
ASTi
Environmental

RTRR Property 18251 West Jefferson, Trenton & Riverview, MI

Created for: Riverview-Trenton Railroad Company

ASTI Project 10860, JRN, April 11, 2019

Figure 1 - Site Location Map



LEGEND

- | | | | |
|--|---|--|----------------------------|
| | Property Line | | Trench Location |
| | Existing Monitoring Well Location | | Groundwater Flow Direction |
| | Proposed Soil Boring Locations | | Study Area |
| | Proposed Soil Borings Locations with Conversion to Monitoring Wells | | Construction Area |



18251 West Jefferson Ave
Client: Riverview-Trenton Railroad Company
ASTI Project 2-10860, JRN, August 7, 2023

Riverview, MI



Figure 2 - Proposed Boring/Well Locations



GRAPHIC SCALE

0 30 60 120

1 inch = 60 ft.
Paper Size = (11x17)

LEGEND

	Property Line		Historical Wetlands (1906)		Historic Shoreline (1906)
	Existing Monitoring Well Location		Historical Wetlands (1936)		Historic Shoreline (1936)
	Proposed Soil Boring Locations		Trench Location		Historic Shoreline (1952)
	Proposed Soil Borings Locations with future Conversion to Monitoring Wells		Groundwater Flow Direction		Study Area
			Construction Area		

N



From "Figure 1, Proposed Semi-permeable Wall Location, Riverview Trenton RR Site" by Lata-Kemron Remediation, LLC, undated

RTRR Property

Riverview, MI



Created for: Riverview-Trenton Railroad Company
Created by: TJW (2-10860) November 9, 2022

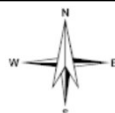
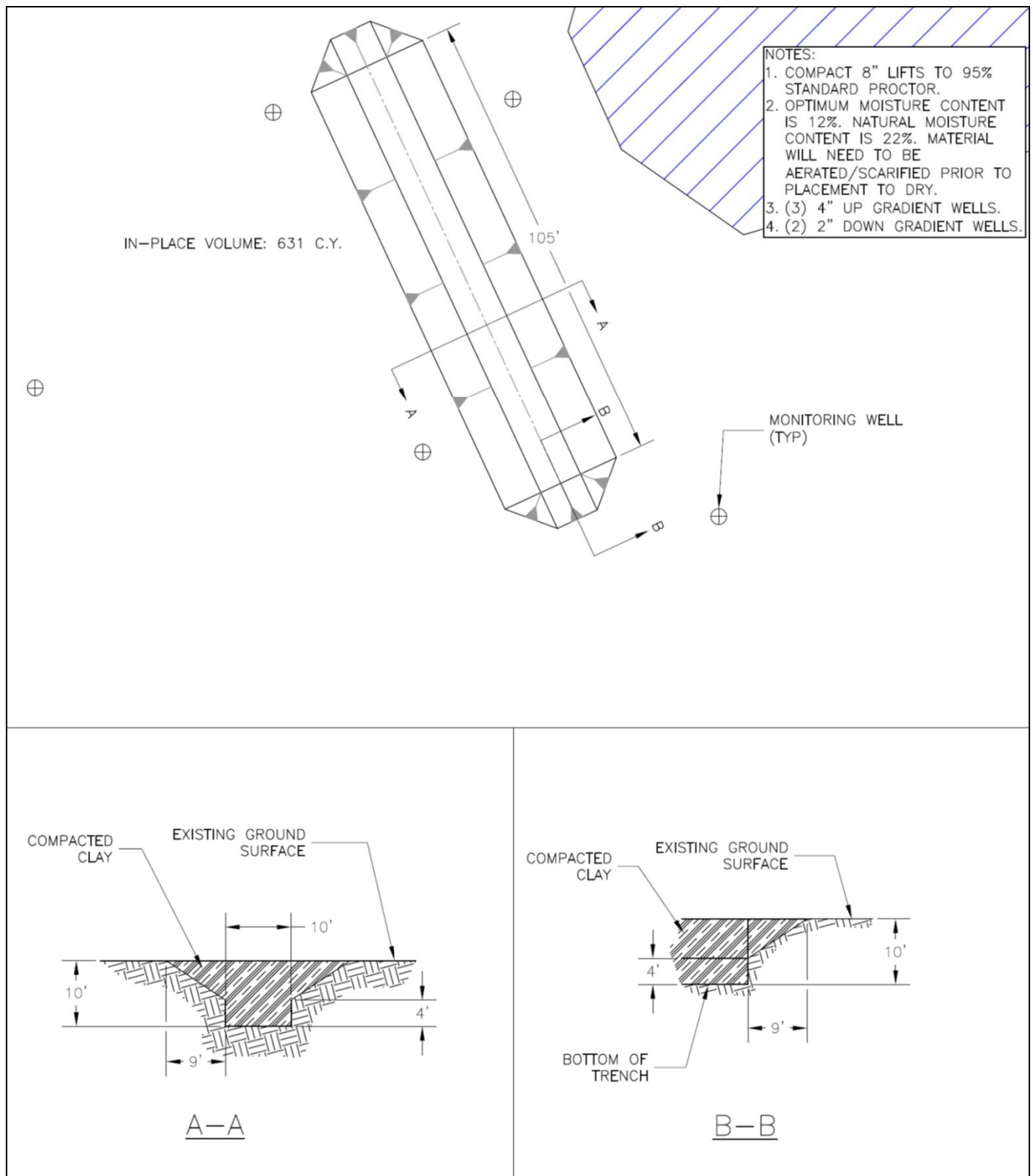


Figure 4: Trench Location



From "Figure 2, Proposed Semi-permeable Wall Design, Riverview Trenton RR Site" by Lata-Kemron Remediation, LLC, undated

RTRR Property

Riverview, MI



Created for: Riverview-Trenton Railroad Company
Created by: TJW (2-10860) November 9, 2022

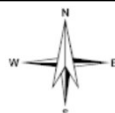


Figure 5: Trench Details

Attachment B
Sampling Reports

Work Plan
Area of Interest Interim Measures

March 28, 2023

Riverview-Trenton Railroad Company

Mr. Todd Goss
12225 Stephens Road
Warren, MI 48089-2010

*RE: Former McLouth Steel Site, West Jefferson Avenue, Riverview, Michigan
(ASTI Project No. 1-10860)*

Dear Mr. Goss:

ASTI Environmental (ASTI) was retained by the Riverview-Trenton Railroad Company to collect surface water split samples with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) from the former McLouth Steel Site located on West Jefferson Avenue in Riverview, Wayne County Michigan (the "Subject Property"). The purpose of this work was to investigate surface water conditions on the northwest portion of the Subject Property. The work was performed for the benefit of Riverview-Trenton Railroad Company and ASTI acknowledges that said party may rely on the contents and conclusions presented in this letter report.

Limited Phase II Environmental Site Assessment

On March 15, 2023, ASTI mobilized to the Subject Property to collect split surface water samples with EGLE personnel. All sampling was organized and performed by EGLE following their standard operating procedures (SOPs).

The surface water samples were placed directly into the sampling containers via peristaltic pump at three separate locations within the same body of water. The samples were all collected from the groundwater present within a shallow excavation conducted near the northwest corner of the Subject Property by others. Each location was purged for at least 15 minutes and was then sampled. ASTI's split samples were collected into two 1-Liter glass amber jars and one 250 mL unpreserved polyethylene bottle. For quality assurance/quality control (QA/QC) purposes a duplicate surface water sample (Dup-1SW) was also collected. ASTI's field personnel donned a new pair of nitrile gloves for each sample to minimize contamination.

The samples were loaded into coolers and taken to ASTI Cold Storage following the sampling event. On March 16, 2023 they were then shipped under standard

chain of custody protocols to Merit Laboratories Inc. in East Lansing, Michigan for analysis of Alkalinity, Ammonia, Chemical Oxygen Demand, Chloride, Dissolved Organic Carbon, Fluoride, Kjeldahl Nitrogen, Nitrate/Nitrite, Nitrite, Ortho Phosphate, pH, Sulfate, Total Dissolved Solids, Total Organic Carbon, Total Phosphorous, Total Suspended Solids, Turbidity, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Selenium, Silver, Zinc, and Calcium. ASTI's samples were analyzed for the same parameters as EGLE's samples per the EGLE field staff on-site. ASTI's samples were analyzed for the same parameters as EGLE's samples per the EGLE field staff on-site.

A sample location map is detailed in this report as "Attachment A". Analytical results from Merit Laboratories Inc. are attached as "Attachment B". A table summary of the analytical results is attached as "Attachment C"

If you have any questions regarding the contents and/or conclusions in this report, please do not hesitate to call ASTI at (800) 395-2784.

Sincerely,

ASTI ENVIRONMENTAL



Aaron Arnold
Environmental Technician

Attachments

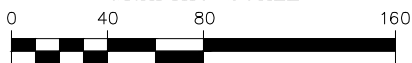
- A – Sample Location Map
- B – Laboratory Analytical Datasheets and Chain of Custody Document
- C – Summary of Surface Water Analytical Results

Attachment A
Sample Location Map

Y:\Project Files\Current and Closed\10000-10999\10860-McLouth RTRR Property\CA0\2-10860.dwg: 6/28/2023 7:50 AM



GRAPHIC SCALE



LEGEND

— Property Line



RTRR

West Jefferson Ave

Client: Riverview-Trenton Railroad Company

ASTI Project 2-10860, JRN, June 28, 2023

Riverview, MI



SW Sample Location Map

Attachment B

Laboratory Analytical Data Sheets and Chain of Custody Records



Quality Control Report

Report ID: QC-S46322-01
Generated on 03/27/2023

Report to

Attention: Tom Wackerman
ASTI Environmental
10448 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-599-5463 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S46322.01-S46322.04
Project: 1-10860 / RTRR Riverview
Submitted Date/Time: 03/16/2023 10:24
Sampled by: Aaron Arnold
P.O. #:

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Pages 6-9)
Batch QC Results (Pages 10-30)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S46322.01

Sample Tag: SW-1

Collected Date/Time: 03/15/2023 11:40

Matrix: Water

COC Reference: 157209

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	03/16/23 14:16	ALK230316-W1	ALK230316-W1	No	BLK/LCS/MS/DUP
Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:40	AMN230320B	AMN230320B	No	BLK/LCS/MS/DUP
Chloride	E300.0	03/16/23 13:26	CL230316-W1-A	CL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	03/16/23 10:50	CHR230316-W1	CHR230316-W1	No	BLK/LCS/MS/DUP
COD	E410.4	03/16/23 16:20	COD230316QC	COD230316QC	No	BLK/LCS/MS/DUP
Conductivity	E120.1	03/17/23 15:28	COND230317-W1	COND230317-W1	No	BLK/LCS/DUP
Fluoride (Undistilled)	E300.0	03/16/23 13:26	FL230316-W1-A	FL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrate-N	E300.0	03/16/23 13:26	NTRA230316-W1-A	NTRA230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrite-N	E300.0	03/16/23 13:26	NTRI230316-W1-A	NTRI230316-W1-A	No	BLK/LCS/MS/MSD/DU
Ortho Phosphate	SM4500-PE	03/16/23 20:12	OP230316QC	OP230316QC	No	BLK/LCS/MS/DUP
Sulfate	E300.0	03/16/23 13:26	SFT230316-W1-A	SFT230316-W1-A	No	BLK/LCS/MS/MSD/DU
TOC - Dissolved	SM5310C	03/17/23 13:50	TOC230317-W1	TOC230317-W1	No	BLK/LCS/MS/MSD/DU
Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317	TDS230317	No	BLK/LCS/DUP
Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 20:58	TKN230319QC	TKN230319QC	No	BLK/LCS/MS/DUP
Total Phosphorus	SM4500-PE	03/17/23 13:04	PHS230317QC	PHS230317QC	No	BLK/LCS/MS/DUP
Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320	TSS230320	No	BLK/LCS/DUP
Turbidity	HACHT.2	03/16/23 19:49	TRB230316QC	TRB230316QC	No	BLK/LCS/MS/DUP
Metals						
Arsenic	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Barium	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Cadmium	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Calcium	E200.8	03/20/23 14:12	MT4-23-0320B	MTD-032023-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Copper	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Iron	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Lead	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Mercury	E245.1	03/21/23 14:44	HG-23-0321A	HGD-032123-2	No	BLK/LCS/MS/MSD
Selenium	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Silver	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	03/20/23 11:27	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S46322.02

Sample Tag: SW-2

Collected Date/Time: 03/15/2023 12:10

Matrix: Water

COC Reference: 157209

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Alkalinity as CaCO3	SM2320B	03/16/23 14:18	ALK230316-W1	ALK230316-W1	No	BLK/LCS/MS/DUP
Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:42	AMN230320B	AMN230320B	No	BLK/LCS/MS/DUP
Chloride	E300.0	03/16/23 13:36	CL230316-W1-A	CL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	03/16/23 11:00	CHR230316-W1	CHR230316-W1	No	BLK/LCS/MS/DUP
COD	E410.4	03/16/23 16:20	COD230316QC	COD230316QC	No	BLK/LCS/MS/DUP
Conductivity	E120.1	03/17/23 15:30	COND230317-W1	COND230317-W1	No	BLK/LCS/DUP
Fluoride (Undistilled)	E300.0	03/16/23 13:36	FL230316-W1-A	FL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrate-N	E300.0	03/16/23 13:36	NTRA230316-W1-A	NTRA230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrite-N	E300.0	03/16/23 13:36	NTRI230316-W1-A	NTRI230316-W1-A	No	BLK/LCS/MS/MSD/DU
Ortho Phosphate	SM4500-PE	03/16/23 20:18	OP230316QC	OP230316QC	No	BLK/LCS/MS/DUP
Sulfate	E300.0	03/16/23 13:36	SFT230316-W1-A	SFT230316-W1-A	No	BLK/LCS/MS/MSD/DU
TOC - Dissolved	SM5310C	03/17/23 14:10	TOC230317-W1	TOC230317-W1	No	BLK/LCS/MS/MSD/DU
Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317	TDS230317	No	BLK/LCS/DUP
Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 21:20	TKN230319QC	TKN230319QC	No	BLK/LCS/MS/DUP
Total Phosphorus	SM4500-PE	03/17/23 13:07	PHS230317QC	PHS230317QC	No	BLK/LCS/MS/DUP
Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320	TSS230320	No	BLK/LCS/DUP
Turbidity	HACHT.2	03/16/23 19:50	TRB230316QC	TRB230316QC	No	BLK/LCS/MS/DUP
<i>Metals</i>						
Arsenic	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Barium	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Cadmium	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Calcium	E200.8	03/20/23 14:13	MT4-23-0320B	MTD-032023-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Copper	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Iron	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Lead	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Mercury	E245.1	03/21/23 14:47	HG-23-0321A	HGD-032123-2	No	BLK/LCS/MS/MSD
Selenium	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Silver	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	03/20/23 11:36	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S46322.03

Sample Tag: SW-3

Collected Date/Time: 03/15/2023 12:35

Matrix: Water

COC Reference: 157209

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Alkalinity as CaCO3	SM2320B	03/16/23 14:20	ALK230316-W1	ALK230316-W1	No	BLK/LCS/MS/DUP
Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:56	AMN230320B	AMN230320B	No	BLK/LCS/MS/DUP
Chloride	E300.0	03/16/23 13:46	CL230316-W1-A	CL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	03/16/23 11:10	CHR230316-W1	CHR230316-W1	No	BLK/LCS/MS/DUP
COD	E410.4	03/16/23 16:21	COD230316QC	COD230316QC	No	BLK/LCS/MS/DUP
Conductivity	E120.1	03/17/23 15:32	COND230317-W1	COND230317-W1	No	BLK/LCS/DUP
Fluoride (Undistilled)	E300.0	03/16/23 13:46	FL230316-W1-A	FL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrate-N	E300.0	03/16/23 13:46	NTRA230316-W1-A	NTRA230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrite-N	E300.0	03/16/23 13:46	NTRI230316-W1-A	NTRI230316-W1-A	No	BLK/LCS/MS/MSD/DU
Ortho Phosphate	SM4500-PE	03/16/23 20:21	OP230316QC	OP230316QC	No	BLK/LCS/MS/DUP
Sulfate	E300.0	03/16/23 13:46	SFT230316-W1-A	SFT230316-W1-A	No	BLK/LCS/MS/MSD/DU
TOC - Dissolved	SM5310C	03/17/23 14:29	TOC230317-W1	TOC230317-W1	No	BLK/LCS/MS/MSD/DU
Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317	TDS230317	No	BLK/LCS/DUP
Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 21:42	TKN230319QC	TKN230319QC	No	BLK/LCS/MS/DUP
Total Phosphorus	SM4500-PE	03/17/23 13:10	PHS230317QC	PHS230317QC	No	BLK/LCS/MS/DUP
Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320	TSS230320	No	BLK/LCS/DUP
Turbidity	HACHT.2	03/16/23 19:50	TRB230316QC	TRB230316QC	No	BLK/LCS/MS/DUP
<i>Metals</i>						
Arsenic	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Barium	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Cadmium	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Calcium	E200.8	03/20/23 14:15	MT4-23-0320B	MTD-032023-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Copper	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Iron	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Lead	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Mercury	E245.1	03/21/23 14:51	HG-23-0321A	HGD-032123-2	No	BLK/LCS/MS/MSD
Selenium	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Silver	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	03/20/23 11:40	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S46322.04

Sample Tag: DUP-1SW

Collected Date/Time: 03/15/2023 00:01

Matrix: Water

COC Reference: 157209

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	03/16/23 14:22	ALK230316-W1	ALK230316-W1	No	BLK/LCS/MS/DUP
Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:58	AMN230320B	AMN230320B	No	BLK/LCS/MS/DUP
Chloride	E300.0	03/16/23 13:57	CL230316-W1-A	CL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	03/16/23 11:15	CHR230316-W1	CHR230316-W1	No	BLK/LCS/MS/DUP
COD	E410.4	03/16/23 16:21	COD230316QC	COD230316QC	No	BLK/LCS/MS/DUP
Conductivity	E120.1	03/17/23 15:34	COND230317-W1	COND230317-W1	No	BLK/LCS/DUP
Fluoride (Undistilled)	E300.0	03/16/23 13:57	FL230316-W1-A	FL230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrate-N	E300.0	03/16/23 13:57	NTRA230316-W1-A	NTRA230316-W1-A	No	BLK/LCS/MS/MSD/DU
Nitrite-N	E300.0	03/16/23 13:57	NTRI230316-W1-A	NTRI230316-W1-A	No	BLK/LCS/MS/MSD/DU
Ortho Phosphate	SM4500-PE	03/16/23 20:24	OP230316QC	OP230316QC	No	BLK/LCS/MS/DUP
Sulfate	E300.0	03/16/23 13:57	SFT230316-W1-A	SFT230316-W1-A	No	BLK/LCS/MS/MSD/DU
TOC - Dissolved	SM5310C	03/17/23 14:50	TOC230317-W1	TOC230317-W1	No	BLK/LCS/MS/MSD/DU
Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317	TDS230317	No	BLK/LCS/DUP
Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 22:03	TKN230319QC	TKN230319QC	No	BLK/LCS/MS/DUP
Total Phosphorus	SM4500-PE	03/17/23 13:14	PHS230317QC	PHS230317QC	No	BLK/LCS/MS/DUP
Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320	TSS230320	No	BLK/LCS/DUP
Turbidity	HACHT.2	03/16/23 19:51	TRB230316QC	TRB230316QC	No	BLK/LCS/MS/DUP
Metals						
Arsenic	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Barium	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Cadmium	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Calcium	E200.8	03/20/23 14:18	MT4-23-0320B	MTD-032023-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Copper	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Iron	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Lead	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Mercury	E245.1	03/21/23 14:54	HG-23-0321A	HGD-032123-2	No	BLK/LCS/MS/MSD
Selenium	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Silver	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	03/20/23 11:43	MT4-23-0320A	MTD-032023-1	No	BLK/LCS/MS/MSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK230316-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Alkalinity as CaCO3	SM2320B	03/16/23 14:16	ALK230316-W1
S46322.02	Alkalinity as CaCO3	SM2320B	03/16/23 14:18	ALK230316-W1
S46322.03	Alkalinity as CaCO3	SM2320B	03/16/23 14:20	ALK230316-W1
S46322.04	Alkalinity as CaCO3	SM2320B	03/16/23 14:22	ALK230316-W1

Inorganics, Prep Batch ID: AMN230320B

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:40	AMN230320B
S46322.02	Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:42	AMN230320B
S46322.03	Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:56	AMN230320B
S46322.04	Ammonia-N (Undistilled)	SM4500-NH3 G	03/20/23 21:58	AMN230320B

Inorganics, Prep Batch ID: CHR230316-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Chromium VI	SM3500-Cr B	03/16/23 10:50	CHR230316-W1
S46322.02	Chromium VI	SM3500-Cr B	03/16/23 11:00	CHR230316-W1
S46322.03	Chromium VI	SM3500-Cr B	03/16/23 11:10	CHR230316-W1
S46322.04	Chromium VI	SM3500-Cr B	03/16/23 11:15	CHR230316-W1

Inorganics, Prep Batch ID: CL230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Chloride	E300.0	03/16/23 13:26	CL230316-W1-A
S46322.02	Chloride	E300.0	03/16/23 13:36	CL230316-W1-A
S46322.03	Chloride	E300.0	03/16/23 13:46	CL230316-W1-A
S46322.04	Chloride	E300.0	03/16/23 13:57	CL230316-W1-A

Inorganics, Prep Batch ID: COD230316QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	COD	E410.4	03/16/23 16:20	COD230316QC
S46322.02	COD	E410.4	03/16/23 16:20	COD230316QC
S46322.03	COD	E410.4	03/16/23 16:21	COD230316QC
S46322.04	COD	E410.4	03/16/23 16:21	COD230316QC

Inorganics, Prep Batch ID: COND230317-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Conductivity	E120.1	03/17/23 15:28	COND230317-W1
S46322.02	Conductivity	E120.1	03/17/23 15:30	COND230317-W1
S46322.03	Conductivity	E120.1	03/17/23 15:32	COND230317-W1
S46322.04	Conductivity	E120.1	03/17/23 15:34	COND230317-W1

Inorganics, Prep Batch ID: FL230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Fluoride (Undistilled)	E300.0	03/16/23 13:26	FL230316-W1-A
S46322.02	Fluoride (Undistilled)	E300.0	03/16/23 13:36	FL230316-W1-A

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: FL230316-W1-A (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.03	Fluoride (Undistilled)	E300.0	03/16/23 13:46	FL230316-W1-A
S46322.04	Fluoride (Undistilled)	E300.0	03/16/23 13:57	FL230316-W1-A

Inorganics, Prep Batch ID: NTRA230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Nitrate-N	E300.0	03/16/23 13:26	NTRA230316-W1-A
S46322.02	Nitrate-N	E300.0	03/16/23 13:36	NTRA230316-W1-A
S46322.03	Nitrate-N	E300.0	03/16/23 13:46	NTRA230316-W1-A
S46322.04	Nitrate-N	E300.0	03/16/23 13:57	NTRA230316-W1-A

Inorganics, Prep Batch ID: NTRI230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Nitrite-N	E300.0	03/16/23 13:26	NTRI230316-W1-A
S46322.02	Nitrite-N	E300.0	03/16/23 13:36	NTRI230316-W1-A
S46322.03	Nitrite-N	E300.0	03/16/23 13:46	NTRI230316-W1-A
S46322.04	Nitrite-N	E300.0	03/16/23 13:57	NTRI230316-W1-A

Inorganics, Prep Batch ID: OP230316QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Ortho Phosphate	SM4500-PE	03/16/23 20:12	OP230316QC
S46322.02	Ortho Phosphate	SM4500-PE	03/16/23 20:18	OP230316QC
S46322.03	Ortho Phosphate	SM4500-PE	03/16/23 20:21	OP230316QC
S46322.04	Ortho Phosphate	SM4500-PE	03/16/23 20:24	OP230316QC

Inorganics, Prep Batch ID: PHS230317QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Total Phosphorus	SM4500-PE	03/17/23 13:04	PHS230317QC
S46322.02	Total Phosphorus	SM4500-PE	03/17/23 13:07	PHS230317QC
S46322.03	Total Phosphorus	SM4500-PE	03/17/23 13:10	PHS230317QC
S46322.04	Total Phosphorus	SM4500-PE	03/17/23 13:14	PHS230317QC

Inorganics, Prep Batch ID: SFT230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Sulfate	E300.0	03/16/23 13:26	SFT230316-W1-A
S46322.02	Sulfate	E300.0	03/16/23 13:36	SFT230316-W1-A
S46322.03	Sulfate	E300.0	03/16/23 13:46	SFT230316-W1-A
S46322.04	Sulfate	E300.0	03/16/23 13:57	SFT230316-W1-A

Inorganics, Prep Batch ID: TDS230317

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317
S46322.02	Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317
S46322.03	Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: TDS230317 (continued)

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.04	Total Dissolved Solids	SM2540C	03/17/23 19:05	TDS230317

Inorganics, Prep Batch ID: TKN230319QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 20:58	TKN230319QC
S46322.02	Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 21:20	TKN230319QC
S46322.03	Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 21:42	TKN230319QC
S46322.04	Total Kjeldahl Nitrogen	SM4500-N(org)/NH	03/19/23 22:03	TKN230319QC

Inorganics, Prep Batch ID: TOC230317-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	TOC - Dissolved	SM5310C	03/17/23 13:50	TOC230317-W1
S46322.02	TOC - Dissolved	SM5310C	03/17/23 14:10	TOC230317-W1
S46322.03	TOC - Dissolved	SM5310C	03/17/23 14:29	TOC230317-W1
S46322.04	TOC - Dissolved	SM5310C	03/17/23 14:50	TOC230317-W1

Inorganics, Prep Batch ID: TRB230316QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Turbidity	HACHT.2	03/16/23 19:49	TRB230316QC
S46322.02	Turbidity	HACHT.2	03/16/23 19:50	TRB230316QC
S46322.03	Turbidity	HACHT.2	03/16/23 19:50	TRB230316QC
S46322.04	Turbidity	HACHT.2	03/16/23 19:51	TRB230316QC

Inorganics, Prep Batch ID: TSS230320

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320
S46322.02	Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320
S46322.03	Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320
S46322.04	Total Suspended Solids	SM2540D	03/20/23 20:30	TSS230320

Metals, Prep Batch ID: HGD-032123-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Mercury	E245.1	03/21/23 14:44	HG-23-0321A
S46322.02	Mercury	E245.1	03/21/23 14:47	HG-23-0321A
S46322.03	Mercury	E245.1	03/21/23 14:51	HG-23-0321A
S46322.04	Mercury	E245.1	03/21/23 14:54	HG-23-0321A

Metals, Prep Batch ID: MTD-032023-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Arsenic	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Barium	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Cadmium	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Calcium	E200.8	03/20/23 14:12	MT4-23-0320B

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-032023-1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S46322.01	Chromium	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Copper	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Iron	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Lead	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Selenium	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Silver	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.01	Zinc	E200.8	03/20/23 11:27	MT4-23-0320A
S46322.02	Arsenic	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Barium	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Cadmium	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Calcium	E200.8	03/20/23 14:13	MT4-23-0320B
S46322.02	Chromium	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Copper	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Iron	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Lead	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Selenium	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Silver	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.02	Zinc	E200.8	03/20/23 11:36	MT4-23-0320A
S46322.03	Arsenic	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Barium	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Cadmium	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Calcium	E200.8	03/20/23 14:15	MT4-23-0320B
S46322.03	Chromium	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Copper	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Iron	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Lead	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Selenium	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Silver	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.03	Zinc	E200.8	03/20/23 11:40	MT4-23-0320A
S46322.04	Arsenic	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Barium	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Cadmium	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Calcium	E200.8	03/20/23 14:18	MT4-23-0320B
S46322.04	Chromium	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Copper	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Iron	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Lead	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Selenium	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Silver	E200.8	03/20/23 11:43	MT4-23-0320A
S46322.04	Zinc	E200.8	03/20/23 11:43	MT4-23-0320A

QC Report - Batch QC Results

Inorganics, Prep Batch ID: ALK230316-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK230316-W1.LRB1

Run in Batch: ALK230316-W1, Run Date: 03/16/2023 14:00, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bicarbonate Alkalinity as CaCO3		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK230316-W1.LCS1

Run in Batch: ALK230316-W1, Run Date: 03/16/2023 14:06, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bicarbonate Alkalinity as CaCO3		102	90	110

Matrix Spike (MS)

Lab Sample ID: ALK230316-W1.MS1, Parent Sample ID: S46295.01

Run in Batch: ALK230316-W1, Run Date: 03/16/2023 14:14, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bicarbonate Alkalinity as CaCO3		116	80	120

Duplicate (DUP)

Lab Sample ID: ALK230316-W1.DP1, Parent Sample ID: S46216.01

Run in Batch: ALK230316-W1, Run Date: 03/16/2023 14:10, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 2

Analyte	Flags	RPD	RPD CL
Bicarbonate Alkalinity as CaCO3		1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: AMN230320B

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: AMN230320B.LRB1

Run in Batch: AMN230320B, Run Date: 03/20/2023 21:06, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Ammonia-N (Undistilled)		ND	0.02	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: AMN230320B.LCS1

Run in Batch: AMN230320B, Run Date: 03/20/2023 21:18, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ammonia-N (Undistilled)		102.0	90	110

Matrix Spike (MS)

Lab Sample ID: AMN230320B.MS1, Parent Sample ID: S46102.01

Run in Batch: AMN230320B, Run Date: 03/20/2023 21:44, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ammonia-N (Undistilled)		93.0	80	120

Duplicate (DUP)

Lab Sample ID: AMN230320B.DP1, Parent Sample ID: S46316.01

Run in Batch: AMN230320B, Run Date: 03/20/2023 22:12, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 20

Analyte	Flags	RPD	RPD CL
Ammonia-N (Undistilled)		6.8	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CHR230316-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: CHR230316-W1.LRB1

Run in Batch: CHR230316-W1, Run Date: 03/16/2023 10:30, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chromium VI		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CHR230316-W1.LCS1

Run in Batch: CHR230316-W1, Run Date: 03/16/2023 10:45, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI		101	90	110

Matrix Spike (MS)

Lab Sample ID: CHR230316-W1.MS1, Parent Sample ID: S46322.02

Run in Batch: CHR230316-W1, Run Date: 03/16/2023 11:05, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI		101	80	120

Duplicate (DUP)

Lab Sample ID: CHR230316-W1.DP1, Parent Sample ID: S46322.01

Run in Batch: CHR230316-W1, Run Date: 03/16/2023 10:55, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Chromium VI		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CL230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL230316-W1-A.LRB1

Run in Batch: CL230316-W1-A, Run Date: 03/16/2023 12:04, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloride		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL230316-W1-A.LCS1

Run in Batch: CL230316-W1-A, Run Date: 03/16/2023 12:26, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		96	90	110

Matrix Spike (MS)

Lab Sample ID: CL230316-W1-A.MS1, Parent Sample ID: S46295.01

Run in Batch: CL230316-W1-A, Run Date: 03/16/2023 14:17, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Chloride		104	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL230316-W1-A.MSD1, Parent Sample ID: CL230316-W1-A.MS1

Run in Batch: CL230316-W1-A, Run Date: 03/16/2023 14:27, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloride		105	80	120	1	15

Duplicate (DUP)

Lab Sample ID: CL230316-W1-A.DP1, Parent Sample ID: S46295.01

Run in Batch: CL230316-W1-A, Run Date: 03/16/2023 13:06, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Chloride		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COD230316QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: COD230316QC.LRB1

Run in Batch: COD230316QC, Run Date: 03/16/2023 16:17, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
COD		ND	10	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COD230316QC.LCS1

Run in Batch: COD230316QC, Run Date: 03/16/2023 16:18, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
COD		96	90	110

Matrix Spike (MS)

Lab Sample ID: COD230316QC.MS1, Parent Sample ID: S46231.01

Run in Batch: COD230316QC, Run Date: 03/16/2023 16:20, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
COD		98	80	120

Duplicate (DUP)

Lab Sample ID: COD230316QC.DP1, Parent Sample ID: S46171.01

Run in Batch: COD230316QC, Run Date: 03/16/2023 16:19, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
COD		4.6	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND230317-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: COND230317-W1.LRB1

Run in Batch: COND230317-W1, Run Date: 03/17/2023 15:00, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND230317-W1.LCS1

Run in Batch: COND230317-W1, Run Date: 03/17/2023 15:06, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		99	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND230317-W1.LCS2

Run in Batch: COND230317-W1, Run Date: 03/17/2023 15:08, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92	90	110

Duplicate (DUP)

Lab Sample ID: COND230317-W1.DP1, Parent Sample ID: S45979.01

Run in Batch: COND230317-W1, Run Date: 03/17/2023 15:12, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 50

Analyte	Flags	RPD	RPD CL
Conductivity		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: FL230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: FL230316-W1-A.LRB1

Run in Batch: FL230316-W1-A, Run Date: 03/16/2023 12:04, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Fluoride (Undistilled)		ND	0.2	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: FL230316-W1-A.LCS1

Run in Batch: FL230316-W1-A, Run Date: 03/16/2023 12:26, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Fluoride (Undistilled)		99	90	110

Matrix Spike (MS)

Lab Sample ID: FL230316-W1-A.MS1, Parent Sample ID: S46295.01

Run in Batch: FL230316-W1-A, Run Date: 03/16/2023 14:17, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Fluoride (Undistilled)		106	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: FL230316-W1-A.MSD1, Parent Sample ID: FL230316-W1-A.MS1

Run in Batch: FL230316-W1-A, Run Date: 03/16/2023 14:27, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Fluoride (Undistilled)		110	80	120	4	15

Duplicate (DUP)

Lab Sample ID: FL230316-W1-A.DP1, Parent Sample ID: S46295.01

Run in Batch: FL230316-W1-A, Run Date: 03/16/2023 13:06, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Fluoride (Undistilled)		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: NTRA230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA230316-W1-A.LRB1

Run in Batch: NTRA230316-W1-A, Run Date: 03/16/2023 12:04, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Nitrate-N		ND	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA230316-W1-A.LCS1

Run in Batch: NTRA230316-W1-A, Run Date: 03/16/2023 12:26, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Nitrate-N		97	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA230316-W1-A.MS1, Parent Sample ID: S46295.01

Run in Batch: NTRA230316-W1-A, Run Date: 03/16/2023 14:17, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Nitrate-N		110	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA230316-W1-A.MSD1, Parent Sample ID: NTRA230316-W1-A.MS1

Run in Batch: NTRA230316-W1-A, Run Date: 03/16/2023 14:27, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nitrate-N		110	80	120	0	15

Duplicate (DUP)

Lab Sample ID: NTRA230316-W1-A.DP1, Parent Sample ID: S46295.01

Run in Batch: NTRA230316-W1-A, Run Date: 03/16/2023 13:06, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Nitrate-N		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: NTRI230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRI230316-W1-A.LRB1

Run in Batch: NTRI230316-W1-A, Run Date: 03/16/2023 12:04, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Nitrite-N		ND	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRI230316-W1-A.LCS1

Run in Batch: NTRI230316-W1-A, Run Date: 03/16/2023 12:26, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Nitrite-N		91	90	110

Matrix Spike (MS)

Lab Sample ID: NTRI230316-W1-A.MS1, Parent Sample ID: S46295.01

Run in Batch: NTRI230316-W1-A, Run Date: 03/16/2023 14:17, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Nitrite-N		94	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRI230316-W1-A.MSD1, Parent Sample ID: NTRI230316-W1-A.MS1

Run in Batch: NTRI230316-W1-A, Run Date: 03/16/2023 14:27, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nitrite-N		94	80	120	0	15

Duplicate (DUP)

Lab Sample ID: NTRI230316-W1-A.DP1, Parent Sample ID: S46295.01

Run in Batch: NTRI230316-W1-A, Run Date: 03/16/2023 13:06, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Nitrite-N		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: OP230316QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: OP230316QC.LRB1

Run in Batch: OP230316QC, Run Date: 03/16/2023 09:50, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Ortho Phosphate		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: OP230316QC.LCS1

Run in Batch: OP230316QC, Run Date: 03/16/2023 09:56, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ortho Phosphate		99	90	110

Matrix Spike (MS)

Lab Sample ID: OP230316QC.MS1, Parent Sample ID: S46216.01

Run in Batch: OP230316QC, Run Date: 03/16/2023 10:14, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ortho Phosphate		96	80	120

Matrix Spike (MS)

Lab Sample ID: OP230316QC.MS2, Parent Sample ID: S46322.01

Run in Batch: OP230316QC, Run Date: 03/16/2023 20:15, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ortho Phosphate		106	80	120

Duplicate (DUP)

Lab Sample ID: OP230316QC.DP1, Parent Sample ID: S46292.01

Run in Batch: OP230316QC, Run Date: 03/16/2023 10:32, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Ortho Phosphate		2.1	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: PHS230317QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: PHS230317QC.LRB1

Run in Batch: PHS230317QC, Run Date: 03/17/2023 12:23, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Phosphorus		ND	0.01	mg/L

Blank (BLK)

Lab Sample ID: PHS230317QC.LRB2

Run in Batch: PHS230317QC, Run Date: 03/17/2023 12:30, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Phosphorus		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: PHS230317QC.LCS1

Run in Batch: PHS230317QC, Run Date: 03/17/2023 12:37, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Phosphorus		100	90	110

Matrix Spike (MS)

Lab Sample ID: PHS230317QC.MS1, Parent Sample ID: S46262.01

Run in Batch: PHS230317QC, Run Date: 03/17/2023 19:05, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Phosphorus		80	80	120

Duplicate (DUP)

Lab Sample ID: PHS230317QC.DP1, Parent Sample ID: S46257.02

Run in Batch: PHS230317QC, Run Date: 03/17/2023 19:01, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Phosphorus		2.2	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: SFT230316-W1-A

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT230316-W1-A.LRB1

Run in Batch: SFT230316-W1-A, Run Date: 03/16/2023 12:04, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sulfate		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT230316-W1-A.LCS1

Run in Batch: SFT230316-W1-A, Run Date: 03/16/2023 12:26, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		97	90	110

Matrix Spike (MS)

Lab Sample ID: SFT230316-W1-A.MS1, Parent Sample ID: S46295.01

Run in Batch: SFT230316-W1-A, Run Date: 03/16/2023 14:17, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Sulfate		112	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT230316-W1-A.MSD1, Parent Sample ID: SFT230316-W1-A.MS1

Run in Batch: SFT230316-W1-A, Run Date: 03/16/2023 14:27, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sulfate		112	80	120	0	15

Duplicate (DUP)

Lab Sample ID: SFT230316-W1-A.DP1, Parent Sample ID: S46295.01

Run in Batch: SFT230316-W1-A, Run Date: 03/16/2023 13:06, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Sulfate		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TDS230317

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TDS230317.LRB1

Run in Batch: TDS230317, Run Date: 03/17/2023 19:05, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 2

Analyte	Flags	Conc	RDL	Units
Total Dissolved Solids		ND	50	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TDS230317.LCS1

Run in Batch: TDS230317, Run Date: 03/17/2023 19:05, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 4

Analyte	Flags	% Rec	LCL	UCL
Total Dissolved Solids		98.6	90.0	110

Duplicate (DUP)

Lab Sample ID: TDS230317.DP1, Parent Sample ID: S46327.07

Run in Batch: TDS230317, Run Date: 03/17/2023 19:05, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 2

Analyte	Flags	RPD	RPD CL
Total Dissolved Solids		1.00	10

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TKN230319QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: TKN230319QC.LRB1

Run in Batch: TKN230319QC, Run Date: 03/19/2023 13:12, Prep Date: 03/19/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Kjeldahl Nitrogen		ND	0.02	mg/L

Blank (BLK)

Lab Sample ID: TKN230319QC.LRB2

Run in Batch: TKN230319QC, Run Date: 03/19/2023 15:29, Prep Date: 03/19/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Kjeldahl Nitrogen		ND	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TKN230319QC.LCS1

Run in Batch: TKN230319QC, Run Date: 03/19/2023 16:10, Prep Date: 03/19/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Kjeldahl Nitrogen		91	90	110

Matrix Spike (MS)

Lab Sample ID: TKN230319QC.MS1, Parent Sample ID: S46316.02

Run in Batch: TKN230319QC, Run Date: 03/19/2023 17:03, Prep Date: 03/19/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Kjeldahl Nitrogen		98	80	120

Duplicate (DUP)

Lab Sample ID: TKN230319QC.DP1, Parent Sample ID: S46316.01

Run in Batch: TKN230319QC, Run Date: 03/19/2023 16:39, Prep Date: 03/19/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Kjeldahl Nitrogen		5.4	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TOC230317-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: TOC230317-W1.LRB1

Run in Batch: TOC230317-W1, Run Date: 03/17/2023 12:32, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TOC230317-W1.LCS1

Run in Batch: TOC230317-W1, Run Date: 03/17/2023 13:10, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		98	90	110

Matrix Spike (MS)

Lab Sample ID: TOC230317-W1.MS1, Parent Sample ID: S46326.02

Run in Batch: TOC230317-W1, Run Date: 03/17/2023 15:29, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		91	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC230317-W1.MSD1, Parent Sample ID: TOC230317-W1.MS1

Run in Batch: TOC230317-W1, Run Date: 03/17/2023 15:49, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		89	80	120	1	15

Duplicate (DUP)

Lab Sample ID: TOC230317-W1.DP1, Parent Sample ID: S46322.01

Run in Batch: TOC230317-W1, Run Date: 03/17/2023 15:09, Prep Date: 03/17/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TRB230316QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: TRB230316QC.LRB1

Run in Batch: TRB230316QC, Run Date: 03/16/2023 19:36, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Turbidity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TRB230316QC.LCS1

Run in Batch: TRB230316QC, Run Date: 03/16/2023 19:39, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Turbidity		101	90	110

Matrix Spike (MS)

Lab Sample ID: TRB230316QC.MS1, Parent Sample ID: S46327.01

Run in Batch: TRB230316QC, Run Date: 03/16/2023 19:41, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Turbidity		103	80	120

Duplicate (DUP)

Lab Sample ID: TRB230316QC.DP1, Parent Sample ID: S46327.09

Run in Batch: TRB230316QC, Run Date: 03/16/2023 19:47, Prep Date: 03/16/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Turbidity		1.2	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TSS230320

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TSS230320.LRB1

Run in Batch: TSS230320, Run Date: 03/20/2023 20:30, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TSS230320.LCS1

Run in Batch: TSS230320, Run Date: 03/20/2023 20:30, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		91.4	81.3	112

Duplicate (DUP)

Lab Sample ID: TSS230320.DP1, Parent Sample ID: S46434.04

Run in Batch: TSS230320, Run Date: 03/20/2023 20:30, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 20

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		1.80	10

QC Report - Batch QC Results

Metals, Prep Batch ID: HGD-032123-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: HG-23-0321A.045.LRB

Run in Batch: HG-23-0321A, Run Date: 03/21/2023 14:41, Prep Date: 03/21/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Mercury		ND	0.20	ug/L

Laboratory Control Sample (LCS)

Lab Sample ID: HG-23-0321A.044.LCS

Run in Batch: HG-23-0321A, Run Date: 03/21/2023 14:38, Prep Date: 03/21/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		106	85	115

Matrix Spike (MS)

Lab Sample ID: HG-23-0321A.052.MS, Parent Sample ID: S46329.02

Run in Batch: HG-23-0321A, Run Date: 03/21/2023 15:04, Prep Date: 03/21/2023, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Mercury		111	80	120

Matrix Spike (MS)

Lab Sample ID: HG-23-0321A.069.MS, Parent Sample ID: S46428.01

Run in Batch: HG-23-0321A, Run Date: 03/21/2023 16:00, Prep Date: 03/21/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		114	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-23-0321A.053.MSD, Parent Sample ID: HG-23-0321A.052.MS

Run in Batch: HG-23-0321A, Run Date: 03/21/2023 15:07, Prep Date: 03/21/2023, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Mercury		110	80	120	0	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-23-0321A.070.MSD, Parent Sample ID: HG-23-0321A.069.MS

Run in Batch: HG-23-0321A, Run Date: 03/21/2023 16:03, Prep Date: 03/21/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Mercury	*	122	80	120	4	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-032023-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-23-0320A.022.LRB

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 11:24, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chromium		ND	0.001	mg/L
Iron		ND	0.004	mg/L
Nickel		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Zinc		ND	0.001	mg/L
Silver		ND	0.0001	mg/L
Cadmium		ND	0.0001	mg/L
Barium		ND	0.001	mg/L
Lead		ND	0.0006	mg/L
Arsenic		ND	0.0004	mg/L
Selenium		ND	0.001	mg/L

Blank (BLK)

Lab Sample ID: MT4-23-0320B.014.LRB

Run in Batch: MT4-23-0320B, Run Date: 03/20/2023 14:10, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Calcium		ND	0.05	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-23-0320A.020.LCS

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 11:09, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		100	85	115
Iron		103	85	115
Nickel		99	85	115
Copper		97	85	115
Zinc		103	85	115
Silver		99	85	115
Cadmium		101	85	115
Barium		97	85	115
Lead		99	85	115
Arsenic		108	85	115
Selenium		99	85	115

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-23-0320B.013.LCS

Run in Batch: MT4-23-0320B, Run Date: 03/20/2023 14:09, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Calcium		95	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-23-0320A.043.MS, Parent Sample ID: S46322.04

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 12:05, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		99	75	125
Iron		99	75	125

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-032023-1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT4-23-0320A.043.MS, Parent Sample ID: S46322.04

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 12:05, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Nickel		97	75	125
Copper		93	75	125
Zinc		104	75	125
Silver		87	75	125
Cadmium		100	75	125
Barium		95	75	125
Lead		93	75	125
Arsenic		114	75	125
Selenium		106	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-23-0320A.059.MS, Parent Sample ID: S46329.05

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 12:33, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Iron		104	75	125
Nickel		98	75	125
Copper		90	75	125
Zinc		103	75	125
Silver		83	75	125
Cadmium		95	75	125
Barium		94	75	125
Lead		90	75	125
Arsenic		109	75	125
Selenium		102	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-23-0320B.024.MS, Parent Sample ID: MT4-23-0320B.022.DIL

Run in Batch: MT4-23-0320B, Run Date: 03/20/2023 14:21, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Calcium		105	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0320A.044.MSD, Parent Sample ID: MT4-23-0320A.043.MS

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 12:07, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		101	75	125	2	20
Iron		98	75	125	0	20
Nickel		100	75	125	3	20
Copper		93	75	125	0	20
Zinc		106	75	125	2	20
Silver		89	75	125	2	20
Cadmium		100	75	125	0	20
Barium		95	75	125	0	20
Lead		90	75	125	3	20
Arsenic		115	75	125	1	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-032023-1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-23-0320A.044.MSD, Parent Sample ID: MT4-23-0320A.043.MS

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 12:07, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Selenium		112	75	125	5	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0320A.060.MSD, Parent Sample ID: MT4-23-0320A.059.MS

Run in Batch: MT4-23-0320A, Run Date: 03/20/2023 12:35, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		105	75	125	2	20
Iron		109	75	125	5	20
Nickel		99	75	125	1	20
Copper		94	75	125	3	20
Zinc		107	75	125	4	20
Silver		86	75	125	3	20
Cadmium		98	75	125	2	20
Barium		94	75	125	1	20
Lead		90	75	125	1	20
Arsenic		112	75	125	3	20
Selenium		106	75	125	5	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0320B.025.MSD, Parent Sample ID: MT4-23-0320B.024.MS

Run in Batch: MT4-23-0320B, Run Date: 03/20/2023 14:21, Prep Date: 03/20/2023, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		101	75	125	1	20

REPORT TO

CONTACT NAME Tom Wackerman			
COMPANY ASTI Environmental			
ADDRESS 10448 Citation Dr. San			
CITY Brighton		STATE MI	ZIP CODE 48116
PHONE NO. (810) 599-5463		CELL NO.	P.O. NO.
E-MAIL ADDRESS twackerman@asti-env.com / bear@asti-env.com		QUOTE NO.	

CHAIN OF CUSTODY RECORD

CONTACT NAME		E-NAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

INVOICE TO

PROJECT NO./NAME 1-10860 / RTRR Riverview	SAMPLER(S) - PLEASE PRINT/SIGN NAME Aaron Arnold / <i>Aaron Arnold</i>
TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____	
DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER _____	

MATRIX	W=WATER	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
CODE:	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR	WS=WASTE

Containers & Preservatives

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York
☐ Other _____

Special Instructions

[illegible]

RELINQUISHED BY:	<i>Aaron Bure</i>	<i>X</i> Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			3/15/23	15:00
RECEIVED BY:	ASTI COLD STORAGE		DATE	TIME
SIGNATURE/ORGANIZATION			3/15/23	15:00
RELINQUISHED BY:	ASTI Cold Storage		DATE	TIME
SIGNATURE/ORGANIZATION			3/16/23	84
RECEIVED BY:	BK		DATE	TIME
SIGNATURE/ORGANIZATION			3/16/23	84

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 3/16/23		TIME 102	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 3/16/23		TIME 1024	
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES:	TEMP. ON ARRIVAL	5.1
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS			

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 1.26.22

Attachment C

Summary of Surface Water Analytical Results

Table 1 Summary of Groundwater Sample Analytical Results
RTRR
ASTI File No. 1-10860

Parameters (ug/L)	Residential Drinking Water Criteria*	Nonresidential Drinking Water Criteria*	Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation Criteria*	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria*	SW-1 3/15/2023 µg/L	SW-2 3/15/2023 µg/L	SW-3 3/15/2023 µg/L	Dup-1SW SW-3 3/15/2023 µg/L
Metals									
Total Barium	2000 (A)	2000 (A)	(G)	NLV	NLV	157	150	138	134
Total Calcium						277,000	263,000	246,000	239,000
Total Iron	300 E	300 E	NA	NLV	NLV	<20	<20	<20	50
Total Zinc	2,400	5,000	(G)	NLV	NLV	<5	6	9	<5
Inorganics									
Chloride	250,000	250,000	(FF)	NLV	NLV	44,000	44,000	41,000	42,000
Fluoride (undistilled)						2,100	2,100	2,100	2,100
Sulfate	250,000	250,000	NA	NLV	NLV	155,000	150,000	130,000	131,000
COD						33,000	33,000	24,000	30,000
Alkalinity as CaCO ₃						550,000	530,000	506,000	524,000
Total Dissolved Solids	500,000	500,000	(EE)	ID	ID	868,000	854,000	796,000	808,000
Total Suspended Solids						42,000	6,000	13,000	6,600
Total Kjeldahl Nitrogen						2,100	2,000	1,900	2,200
Ammonia-N (undistilled)	10,000 (N)	10,000 (N)	(CC)	3,200,000	7,100,000	1,750	1,780	1,650	1,690
Total Phosphorus	63,000	24,000	(EE)	NLV	NLV	<10	20	20	40
TOC-Dissolved						8,900	8,800	8,300	8,500
pH (STD Units)						12.04	12.04	12.03	12.03
turbidity (FTU)						<1	<1	<1	<1

*Per R299.44, June 25, 2018.

NA-Not available.

NLV-Hazardous substance is not likely to volatilize under most conditions.

A-Criterion is the State of Michigan drinking water standard established pursuant to Section 5.

E-Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the act.

G-Groundwater Surface Water Interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.

M-Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

S-Criterion defaults to the hazardous substance-specific water solubility limit.

X-The Groundwater Surface Water Interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as drinking water source.

CS-Compound specific

<RL-Below reporting limit

April 4, 2023

Riverview-Trenton Railroad Company

Mr. Todd Goss
12225 Stephens Road
Warren, MI 48089-2010

*RE: Former McLouth Steel Site, West Jefferson Avenue, Riverview, Michigan
(ASTI Project No. 1-10860)*

Dear Mr. Goss:

ASTI Environmental (ASTI) was retained by the Riverview-Trenton Railroad Company to collect surface water split samples with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) from the former McLouth Steel Site located on West Jefferson Avenue in Riverview, Wayne County Michigan (the "Subject Property"). The purpose of this work was to investigate surface water conditions of Huntington Creek which runs along the northwest boundary of the Subject Property. This work was performed for the benefit of Riverview-Trenton Railroad Company and ASTI acknowledges that said party may rely on the contents and conclusions presented in this letter report.

Limited Phase II Environmental Site Assessment

On March 29, 2023, ASTI mobilized to the Subject Property to collect split surface water samples from Huntington Creek with EGLE personnel. All sampling was organized and performed by EGLE following their standard operating procedures (SOPs).

It was noted by the staff on-site (both EGLE and ASTI) that the river was now flowing South (toward the Detroit River). On the previous sampling date (3/15/23) the river was observed to be flowing North. It was also noted that there was very little visible particulate flowing within the river compared to the last sampling date. EGLE took elevation data of the water table and conducted a drone flight on the Subject Property. Ground water and surface water elevation was taken and compared relative to one base location. Elevation locations were taken from the previously installed ground water monitoring well MW-104 i & s, the creek bend, and the high pH pit that was the subject of the last sampling event. Notes of elevation taken by EGLE field staff are included in this report as attachment C.

The surface water samples were taken via a 500 mL bottle attached to a telescopic pole. The bottle was dipped into the water slowly and held for a few seconds before pulling it out of the river and pouring the collected water directly into the sample containers. A total of two samples were taken: one taken on the cut bank of the river on the north side of the Subject Property, and the other taken approximately three meters north of the bridge north of the Subject Property. ASTI's split samples were collected into two 1-Liter glass amber jars and one 500 mL unpreserved polyethylene bottle. ASTI's field personnel donned a new pair of nitrile gloves and replaced or decontaminated the 500 mL polyethylene bottle (usingalconox powder and distilled water wash) used to scoop each sample from the river before each sample was taken to minimize cross contamination.

On March 30, 2023, the samples were shipped under standard chain of custody protocols to Merit Laboratories Inc. in East Lansing, Michigan for analysis of Alkalinity, Ammonia, Chemical Oxygen Demand, Chloride, Conductivity, Dissolved Organic Carbon, Fluoride, Kjeldahl Nitrogen, Nitrate/Nitrite, Nitrite, Ortho Phosphate, pH, Sulfate, Total Dissolved Solids, Total Organic Carbon, Total Phosphorous, Total Suspended Solids, and Turbidity. ASTI's samples were analyzed for the same parameters as EGLE's samples per the EGLE field staff on-site.

A sample location map is detailed in this report as "Attachment A". Analytical results from Merit Laboratories Inc. are included as "Attachment B". A table summary of the analytical results is attached as "Attachment C". Elevation Data of the water table taken by EGLE field staff are attached as "Attachment D"

If you have any questions regarding the contents and/or conclusions in this report, please do not hesitate to call ASTI at (800) 395-2784.

Sincerely,

ASTI ENVIRONMENTAL



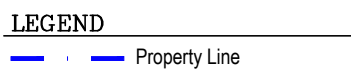
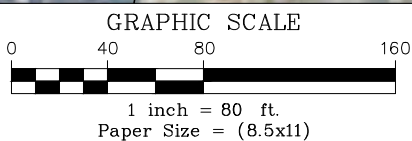
Aaron Arnold
Environmental Technician

Attachments

- A – Sample Location Map
- B – Laboratory Analytical Datasheets and Chain of Custody Document
- C – Summary of Surface Water Analytical Results
- D – EGLE Field Staff Elevation Notes

Attachment A
Sample Location Map

Y:\Project Files\Current and Closed\10000-10999\10860-McLouth RTRR Property\CA0\2-10860.dwg: 6/28/2023 7:50 AM



RTRR
West Jefferson Ave

Client: Riverview-Trenton Railroad Company
ASTI Project 2-10860, JRN, June 28, 2023

Riverview, MI



Creek Sample Location Map

Attachment B

Laboratory Analytical Data Sheets and Chain of Custody Records



Analytical Laboratory Report

Report ID: S46869.01(01)
Generated on 04/06/2023

Report to

Attention: Tom Wackerman
ASTI Environmental
10448 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-599-5463 FAX: 810-225-3800
Email: twacker@asti-env.com

Additional Contacts: John Kemp, Brad Buswell

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S46869.01-S46869.02
Project: 1-10860 / RTRR Riverview
Collected Date(s): 03/29/2023
Submitted Date/Time: 03/30/2023 13:15
Sampled by: Aaron Arnold
P.O. #:

Table of Contents

Cover Page (Page 1)
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Method Summary (Page 4)
Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E300.0	EPA Method 300.0 Revision 2.1 (1993)
E410.4	EPA Method 410.4 Revision 2.0
HACHT.2	HACHT.2
SM2320B	Standard Method 2320 B 2011
SM2540C	Standard Method 2540 C 2015
SM2540D	Standard Method 2540 D 2015
SM3500-Cr B	Standard Method 3500 Cr B 2011
SM4500-H+ B	Standard Method 4500 H + B 2011
SM4500-N(org)/NH	Standard Method 4500 N(org)B / NH3D 2011
SM4500-NH3 G	Standard Method 4500 NH3 G 2017
SM4500-PE	Standard Method 4500 P E 2011 / 4500 P B(5) 2011
SM5310C	Standard Method 5310C 2011



Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S46869.01	Creek	Water	03/29/23 10:20
S46869.02	Creek 2	Water	03/29/23 11:45



Analytical Laboratory Report

Lab Sample ID: S46869.01

Sample Tag: Creek

Collected Date/Time: 03/29/2023 10:20

Matrix: Water

COC Reference: 153269

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	5.1	IR
2	1L Amber	None	Yes	5.1	IR

Inorganics

Method: E120.1, Run Date: 04/05/23 14:10, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,269	1		umhos/cm	1		

Method: E300.0, Run Date: 03/31/23 09:45, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	226	50	0.80	mg/L	50	16887-00-6	

Method: E300.0, Run Date: 03/31/23 06:45, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Fluoride (Undistilled)	Not detected	1.0	0.13	mg/L	5	16984-48-8	
Nitrate-N	Not detected	0.5	0.04	mg/L	5	14797-55-8	
Nitrite-N	Not detected	0.5	0.02	mg/L	5	14797-65-0	
Sulfate	120	10	0.59	mg/L	10	14808-79-8	

Method: E410.4, Run Date: 04/04/23 13:15, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
COD	25	10	8	mg/L	1		

Method: HACHT.2, Run Date: 03/30/23 16:32, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Turbidity*	32	1		FTU	1		

Method: SM2320B, Run Date: 04/05/23 16:08, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Alkalinity as CaCO3	178	2		mg/L	2		

Method: SM2540C, Run Date: 03/31/23 18:45, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Dissolved Solids	776	50		mg/L	1		

Method: SM2540D, Run Date: 03/31/23 18:45, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	66.4	3		mg/L	1		

Method: SM3500-Cr B, Run Date: 03/30/23 15:17, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.01		mg/L	1	18540-29-9	H

H-Sample submitted and run outside of holding time



Analytical Laboratory Report

Lab Sample ID: S46869.01 (continued)

Sample Tag: Creek

Method: SM4500-H+ B, Run Date: 03/30/23 17:01, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
pH*	8.42	0.01		STD Units	1		H

Method: SM4500-N(org)/NH, Run Date: 04/02/23 19:26, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Kjeldahl Nitrogen	1.0	0.1		mg/L	1		

Method: SM4500-NH3 G, Run Date: 04/03/23 18:45, Analyst: ASB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Ammonia-N (Undistilled)*	0.43	0.02		mg/L	1	7664-41-7	

Method: SM4500-PE, Run Date: 03/31/23 18:28, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Phosphorus	0.09	0.01	0.009	mg/L	1	7723-14-0	

Method: SM4500-PE, Run Date: 03/30/23 17:45, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Ortho Phosphate*	Not detected	0.03		mg/L	1	14265-44-2	

Method: SM5310C, Run Date: 04/04/23 16:19, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC - Dissolved	3.4	1		mg/L	1		f

H-Sample submitted and run outside of holding time

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S46869.02

Sample Tag: Creek 2

Collected Date/Time: 03/29/2023 11:45

Matrix: Water

COC Reference: 153269

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	5.1	IR
2	1L Amber	None	Yes	5.1	IR

Inorganics

Method: E120.1, Run Date: 04/05/23 14:14, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,349	1		umhos/cm	1		

Method: E300.0, Run Date: 03/31/23 09:58, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	247	50	0.80	mg/L	50	16887-00-6	

Method: E300.0, Run Date: 03/31/23 06:58, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Fluoride (Undistilled)	Not detected	1.0	0.13	mg/L	5	16984-48-8	
Nitrate-N	Not detected	0.5	0.04	mg/L	5	14797-55-8	
Nitrite-N	Not detected	0.5	0.02	mg/L	5	14797-65-0	
Sulfate	131	5	0.30	mg/L	5	14808-79-8	

Method: E410.4, Run Date: 04/04/23 13:16, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
COD	30	10	8	mg/L	1		

Method: HACHT.2, Run Date: 03/30/23 16:33, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Turbidity*	29	1		FTU	1		

Method: SM2320B, Run Date: 04/05/23 16:12, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Alkalinity as CaCO3	190	2		mg/L	2		

Method: SM2540C, Run Date: 03/31/23 18:45, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Dissolved Solids	816	50		mg/L	1		

Method: SM2540D, Run Date: 03/31/23 18:45, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	30.3	3		mg/L	1		

Method: SM3500-Cr B, Run Date: 03/30/23 15:18, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.01		mg/L	1	18540-29-9	H

H-Sample submitted and run outside of holding time



Analytical Laboratory Report

Lab Sample ID: S46869.02 (continued)

Sample Tag: Creek 2

Method: SM4500-H+ B, Run Date: 03/30/23 17:23, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
pH*	7.88	0.01		STD Units	1		H

Method: SM4500-N(org)/NH, Run Date: 04/02/23 19:44, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Kjeldahl Nitrogen	0.9	0.1		mg/L	1		

Method: SM4500-NH3 G, Run Date: 04/03/23 18:43, Analyst: ASB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Ammonia-N (Undistilled)*	0.31	0.02		mg/L	1	7664-41-7	

Method: SM4500-PE, Run Date: 03/31/23 18:32, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Phosphorus	0.11	0.01	0.009	mg/L	1	7723-14-0	

Method: SM4500-PE, Run Date: 03/30/23 17:54, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Ortho Phosphate*	Not detected	0.03		mg/L	1	14265-44-2	

Method: SM5310C, Run Date: 04/04/23 16:36, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC - Dissolved	3.6	1		mg/L	1		f

H-Sample submitted and run outside of holding time

f-Filtered and preserved in lab

Merit Laboratories Login Checklist

Lab Set ID:S46869

Client:ASTI (ASTI Environmental)

Project: 1-10860 / RTRR Riverview

Submitted:03/30/2023 13:15 Login User: PFD

Attention: Tom Wackerman

Address: ASTI Environmental
10448 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-599-5463

FAX: 810-225-3800

Email: twacker@asti-env.com

Selection	Description	Note
Sample Receiving		
01. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C	Thermometer # IR 3.7
02. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun	
03. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped	
04. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box	
05. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out	
07. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab	
08. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC	
09. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to:	
Preservation		
10. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation	
11. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)	
12. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact	
14. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used	
15. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used	
16. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received	
17. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration	
18. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time	
19. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Tom Wackerman			CONTACT NAME X SAME		
COMPANY ASTI Environmental			COMPANY		
ADDRESS 10448 Citatvon Dr Suite 100			ADDRESS		
CITY Brighton		STATE MI	ZIP CODE 48116		
PHONE NO. (810) 599-5463	CELL NO.	P.O. NO.		E-MAIL ADDRESS	
E-MAIL ADDRESS t.wacker@asti-env.com		QUOTE NO.		DUPLICATION ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)	

PROJECT NO./NAME 1-10860/RTRR Riverview		SAMPLER(S) - PLEASE PRINT/SIGN NAME Aaron Arnold / <i>Aaron Arnold</i>		2, SS, TOS, Turbidity, F, SO ₄ , Cr ⁶⁺ , pH, C, DOC, NH ₃ , NO ₃ + NO ₂ P
TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____				
DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER _____				
MATRIX W=WATER GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WPE A=AIR WS=WASTE		# Containers & Preservatives		Certifications <input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water <input type="checkbox"/> DoD <input type="checkbox"/> NPDES Project Locations <input type="checkbox"/> Detroit <input type="checkbox"/> New York
(Empty space for additional notes or signatures)				

[illegible]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>Aaron Burd</i>	<input checked="" type="checkbox"/> Sampler	DATE 3/29/23	TIME 1345	RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE 3/30/23	TIME 1315
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>ASTI Cold Storage</i>		DATE 3/29/23	TIME 1345	RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE 3/30/23	TIME 1315
RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>" "</i>		DATE	TIME	SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES: TEMP. ON ARRIVAL
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>		DATE 3/30/23	TIME 1215	SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	3.7

Attachment C

Summary of Surface Water Analytical Results

Table 1 Summary of Detections Huntington River Sample Analytical Results

RTRR

ASTI File No. 1-10860

Parameters (ug/L)	Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation Criteria*	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria*	Creek 3/29/2023 µg/L	Creek 2 3/29/2023 µg/L
Inorganics					
Chloride	50,000 (FF)	NLV	NLV	226,000	247,000
Sulfate	NA	NLV	NLV	120,000	131,000
COD	-	-	-	25,000	30,000
Alkalinity as CaCO ₃	-	-	-	178,000	190,000
Total Dissolved Solids	500,000 (EE)	ID	ID	776,000	816,000
Total Suspended Solids	-	-	-	66,400	30,300
Total Kjeldahl Nitrogen	29 & 53 (CC)	3,200,000	7,100,000	1,000	900
Ammonia-N (undistilled)	29 & 53 (CC)	3,200,000	7,100,000	430	310
Total Phosphorus	1,000 (EE)	NLV	NLV	90	110
TOC-Dissolved	-	-	-	3,400	3,600
pH	-	-	-	8.42 STD units	7.88 STD units
turbidity	-	-	-	32 FTU	29 FTU
Conductivity	-	-	-	1,269 umhos/cm	1,349 umhos/cm

*Per R299.44, June 25, 2018.

~ Parameter not tested for at his location.

^ - Criteria are for soluble fluoride

ID-Inadequate data to develop criterion.

NA-Not available.

NLV-Hazardous substance is not likely to volatilize under most conditions.

A-Criterion is the State of Michigan drinking water standard established pursuant to Section 5.

E-Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the act.

N-The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L.

AA-Comparison of these criteria may take into account an evaluation of whether the hazardous

substances are adsorbed to particulates rather than dissolved in water and whether

filtered groundwater samples were used to evaluate groundwater.

CC-The generic GSI criteria are based on the toxicity of unionized ammonia (NH₃); the criteria are 29 ug/L and 53 ug/L for cold water and warm water surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH₃ in the surface water.

EE-The criteria are the applicable generic GSI criteria as required by Section 20120e of the NREPA.

FF-The chloride GSI criterion shall be 125 mg/l when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/l when the discharge is to the Great Lakes or connecting waters.

CS-Compound specific

<RL-Below reporting limit

Attachment D

EGLE Field Staff Elevation Notes

Shot - Survey
MW-104: $\rightarrow i = 1.64$ North
 $\rightarrow s = 1.60$ South
Creek $\rightarrow = 9.74$
High pH Pit $= 4.73$

DTW	Well
6.86	i MW-104
6.98	s