

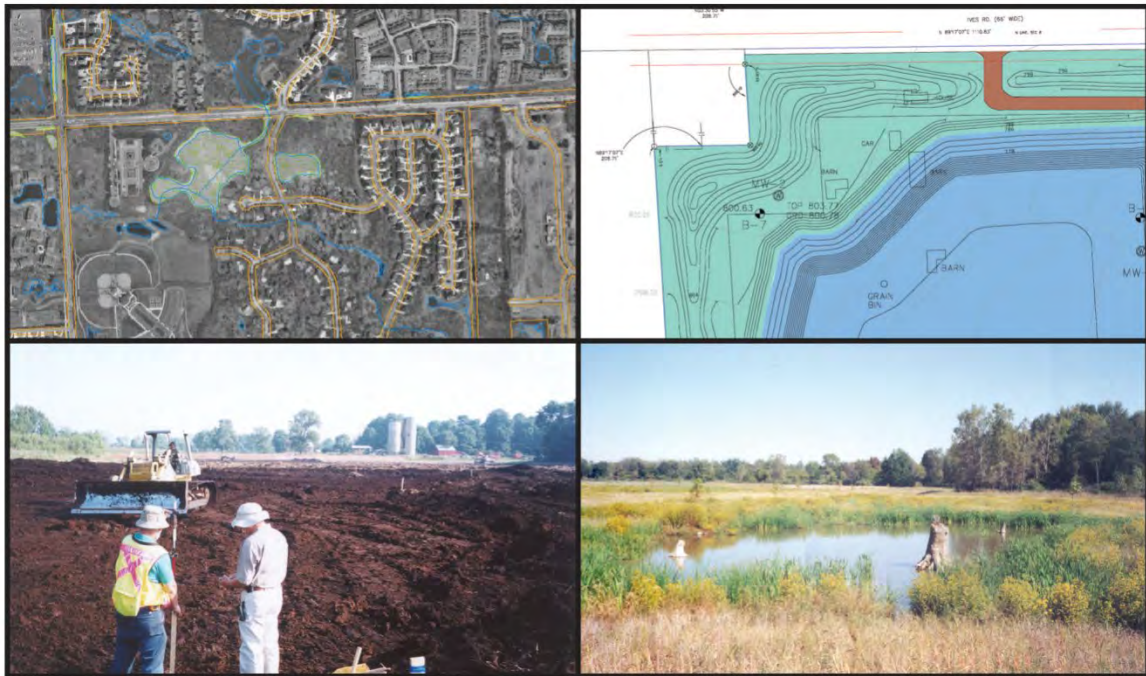
# Phase I Completion Report

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

April 19, 2021

ASTI ENVIRONMENTAL



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18251 West Jefferson  
Riverview, Michigan

April 19, 2021

**Prepared For:**

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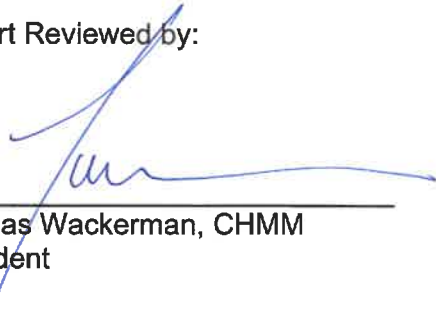
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President

**Phase I Completion Report**  
**RTRR Property – Former McLouth Steel**  
18251 West Jefferson Avenue,  
Riverview, Michigan  
ASTI Project Number: 10860

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## 1 Introduction

This Phase I Completion Report was prepared in accordance with the Corrective Action Consent Order (“CACO”) dated November 1, 2018 between the Riverview-Trenton Rail Road Company (“RTRR”) and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”) for the property located at 18251 West Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The CACO is pursuant to Sections 11115a and 11151 of Part 111, Hazardous Waste Management of the Michigan Natural Resources Protection Act, 1994 PA 451, as amended, Michigan Compiled Laws (“MCL”) 324.11101 (“NREPA”), Part 201, Environmental Remediation, of the NREPA, the rule promulgated under these parts, and the authority vested in EGLE as an authorized state under the Federal Resource Conservation and Recovery Act of 1976, as amended (“RCRA”).

The 75.8-acre Subject Property is zoned for industrial use and is located west of the Trenton Channel, south of the Grosse Ile Toll Bridge and Monguagon Creek, east of railroad tracks and West Jefferson Avenue, and north of the Former McLouth Steel Facility. The Sibley Quarry is located approximately 3,600 feet (“ft”) west of the Subject property. The portion of the Subject Property south of Sibley Road is located in Trenton, Michigan and the remainder of the Subject Property is located in Riverview, Michigan. Figure 1 provides a Site Location Map.

The parcels listed below comprise the entirety of the Subject Property:

Name	Address	Size	Also Known As	Parcel ID No. (PIN)
Riverview Trenton Railroad (RTRR) Property	18251 West Jefferson Ave., Riverview, MI	75.8 acres	Former McLouth Steel Property	51009030001000, 54001010082300, 54001990006704, and part of 54001990007701

The legal descriptions for parcels 51009030001000, 54001010082300, and 54001990006704 are provided in Attachment A<sup>1</sup> (DTE Electric Company has an easement on Parcel Number 54001990007701):

### 1.1 Project Objectives

The project objectives for Phase I, as defined in the CACO, were to conduct a groundwater investigation, investigate five Waste Management Units (“WMUs”), conduct an evaluation of stormwater management options, and provide a Dust Control Plan. Individual reports were submitted to EGLE for each task as described below.

### 1.2 Site History

The Subject Property originally consisted of wetlands and open water with some uplands in the northwestern portion of the property. The Monguagon Creek formerly bisected the property; flowing north to south before turning east to empty into the Trenton Channel of the Detroit River at about the eastern extension of Sibley Road. By 1952, much of the Subject Property had been filled to the current bank of the Trenton Channel but open water remained in the original Monguagon Creek Channel. By 1954, the mouth of the Monguagon Creek had been enlarged for docking and at least five above ground storage tanks (“ASTs”) were located to the north of the mouth (on the Subject Property). The ASTs were associated with a former bulk oil storage

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<sup>1</sup> www.landgrid.com

facility located on the Subject Property. By 1964, the original Monguagon Creek channel had been filled and the creek was redirected to its current location along the northern extent of the Subject Property and no open water remained on the Subject Property.

The McLouth Steel Company (“McLouth Steel”) operated a steel manufacturing facility on the adjacent property to the south and west. McLouth Steel acquired the Subject Property sometime between 1956 and 1961. McLouth Steel used the Subject Property for storage of raw materials, waste, and product that supported steel production between the time they acquired the property until about 1975. A large slag processing operation, operated by E. C. Levy Company, was also located on the Subject Property. After about 1975, steel production decreased at the McLouth Steel facility, and operations ceased in April of 1996 after McLouth Steel filed for Chapter 11 bankruptcy protection in September of 1995, which resulted in a reduction in activities on the Subject Property.

Hamlin Holdings, Inc. acquired the Subject Property in July of 1996. The Detroit Steel Company (“DSC Ltd”) obtained title for the Subject Property in August of 1996 and used it for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998 and those operations closed in 2005. On June 2, 2000, Crown Enterprises purchased the Subject Property but did not use it for any activities other than container storage and conveyed the property to RTRR in November of 2000. RTRR acquired the Subject Property after preparing a Baseline Environmental Assessment (“BEA”) in accordance with Part 201 of the NREPA. The BEA indicated that the Subject Property was subject to RCRA corrective action and Part 201 response activities as described in the December 17, 1999, Comprehensive Corrective Action and Remedial Consent Order between DSC Ltd. and EGLE (then known as the Michigan Department of Environmental Quality [“DEQ”] under RCRA with respect to an area referred to as the “Trenton Facility” (“DSC Consent Order”). All structures have been removed from the Subject Property and only two concrete pads remain.

The “Trenton Facility” included the Subject Property along with the remainder of the former McLouth Steel Facility which adjoins the Subject Property to the south and west. The DSC Consent Order identified five (5) Waste Management Units (“WMUs”) and five (5) Areas of Concern (“AOCs”) on the Subject Property.

### 1.3 Waste Management Units

The five WMUs are depicted on Figure 2 – Site Features Map and are described in the sections below:

#### 1.3.1 WMU-26 – Former North Debris Piles

WMU-26 is an approximately 20-acre area on the central portion of the Subject Property that McLouth Steel used to accumulate debris generated at the plant for reclamation prior to disposal.

Numerous solid waste streams, including refractory material, slag, air pollution control solids (“bag houses”), basic oxygen furnace (“BOF”) scrubber sludge, and scale pit sludge are assumed to have been collected in various piles. The piles were magnetically processed and screened to reclaim steel-containing material. Processed residuals were then stockpiled in the area pending transportation to McLouth’s Gibraltar Landfill. Piles of ore and slag were also stored in this area.

Waste streams designated for reclamation were not segregated, but randomly mixed in the former piles area. DSC began processing the debris piles for recovery of recyclable steel scrap

in June 1997<sup>2</sup>. The debris was processed using magnetic separation and screens to generate three types of materials; recovered steel, steel fines, and processed debris residuals (all non-magnetic material that passed through the processing plant). Reclaimed steel-containing materials were recycled in the steel-making process and processed debris residuals were transferred to new piles in the same area or directly into trucks for transfer to a landfill.

In July 2000, Detroit Steel Corporation (“DSC”) began transporting remaining debris pile material to the Countywide Landfill for disposal. Removal actions at WMU-26 took place beginning in July 2000 and continued into late 2002. Approximately 400,000 cubic yards of debris pile material was processed for recovery, disposal, or spread onsite<sup>3</sup>.

### 1.3.2 WMU-27 – Former Equipment Storage Yard

WMU-27 was a fenced area of approximately 1.2 acres on the northern portion of the Subject Property that was used for secure storage of valuable surplus electrical and mechanical equipment. The area is identified as a WMU because it may have been used to store surplus transformers before construction of the Toxic Substance Control Act (“TSCA”) Storage Building (“WMU-29”) in 1980. A small (approximately 1,000 square feet) building was located in the northwest corner of the storage yard. The building was not known to have been used for equipment storage; therefore, it is not considered part of the WMU. The primary equipment stored in this area was blast furnace equipment and it was also used to store surplus transformers prior to construction of the TSCA Storage Building. The chain-link fence around the former Equipment Storage Yard has been removed.

### 1.3.3 WMU – 29 – Former TSCA Storage Building

WMU-29 was a concrete block building constructed around 1980 which measured approximately 46 feet by 20 feet. The building was used to store containers of transformers containing polychlorinated biphenyls (“PCBs”) and materials in compliance with TSCA regulations. The sealed concrete floor was constructed with secondary containment curbs that served as footings for the block walls. The building was demolished by early 2001 and only the concrete pad and secondary containment curbs remain.

### 1.3.4 WMU-30 – Former Electric Arc Furnace Admission Control/Dust Storage Pile

McLouth Steel used both BOF and an Electric Arc Furnace (“EAF”) for production. The waste emission control dust generated from the EAF air pollution control systems was designated as a listed hazardous waste (K061) under RCRA. Sludge was accumulated in a concrete sump and transferred to the interim status EAF Dust Pile storage area. McLouth filed a notification of waste activity and a RCRA Part A permit on November 17, 1980 for storage of EAF dust prior to treatment or disposal. The unit was classified as an Interim Status Hazardous Waste Storage Unit in McLouth’s 1980 Part A permit application. WMU-30 was a roughly 25,000 square feet area with an earthen berm built on top of the fill that covers most of the Subject Property.

Part B of McLouth’s RCRA storage permit application was called in by the United States Environmental Protection Agency (“USEPA”) in 1984. McLouth made various submissions, resulting in a final RCRA/Act 64 permit application dated February 27, 1988. After rejection of that permit, McLouth decided to close the EAF Dust Pile and accumulate EAF dust for no longer than 90 days.

McLouth operated the waste management unit continuously until early 1989, when new concrete accumulation tanks (WMU-31) were constructed and placed into use. Final removal

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2 Debris Pile Characterization Plan, Techna Corporation, June 8, 1998

3 Status of Consent Order Activities, Trenton and Gibraltar, Michigan, DSC Ltd., June 2002

of waste took place in 1991. Approximately 980 tons of EAF dust were transported to Horsehead Resource Development Company in Palmerton, Pennsylvania.

McLouth prepared the EAF Dust Pile Closure Plan ("Closure Plan") in August 1988 and revised the Closure Plan in response to comments by EGLE (then known as the Michigan Department of Natural Resources). The revised Closure Plan was approved on October 31, 1988 with a stipulation which required a hydrogeological investigation. The hydrogeological investigation plan was approved by EGLE (then known as the DEQ) on October 17, 1995.

Closure activities were conducted in accordance with the revised Closure Plan and the Hydrogeological Investigation Plan. The closure activities consisted of the following:

- Final removal of waste,
- Soil assessment,
- Groundwater assessment, and
- Final Closure Report and Certification.

McLouth initiated the closure activities in accordance with the revised Closure Plan through removal of residual waste material from the EAF Dust Storage pile area on September 23, 1991. McLouth continued waste removal activities until November 13, 1991. Clayton Environmental Consultants, Inc. ("Clayton") completed the initial soil sampling, supplemental soil sampling, and Soil Assessment Report and Certification between February 1997 and August 1997.

The hydrogeological investigation began on October 30, 1996 with the installation of five groundwater monitoring wells: three upgradient of WMU-30 and two downgradient of WMU-30. Four consecutive quarters of groundwater sampling and analysis began in November 1996 and were completed in August 1997. Groundwater analytical results from downgradient wells were compared to results from upgradient wells to determine if the EAF Dust Storage Pile impacted groundwater. Based on that investigation, Techna concluded that contaminants from the EAF Dust Storage Pile were not released to groundwater. The Final Closure Report provides details of the geology and hydrogeology of the WMU-30 area.

The Final Closure Report and Certification – Interim Status Hazardous Waste Storage Unit ("Final Closure Report") prepared by Techna Corporation ("Techna") in March 1998 provides detail about the assessment and closure activities.

#### 1.3.5 WMU-31 - Former EAF Emission Control Sludge/Dust Storage Tanks

The EAF Emission Control Sludge/Dust Storage Tanks were reinforced concrete tanks used to accumulate EAF air pollution control sludge and baghouse dust. Two tanks were used to store the material for less than 90 days before shipment off-site for disposal or reclamation at RCRA permitted hazardous waste facility as K061 waste. The tanks and concrete secondary containment structure were constructed beginning in late 1988 to early 1989 and were used until steel-making operations ceased. No releases to the interstitial space or surrounding ground were reported. McLouth reportedly removed all wastes and cleaned the unit in 1996, after EAF operations ceased. After removal of the tanks, the cavity was backfilled to grade and the concrete pad remains in place.

In the first quarter of 2001, DSC transported approximately 14.7 tons of material from the EAF Emission Control Sludge/Dust Storage Tanks and transported it to the EQ Landfill in Belleville, Michigan as K061 waste. The interior walls and floors of the storage tanks were then pressure washed and 16 concrete chip samples were collected from the tank walls and floors for analysis of total barium, total lead, and total manganese and the laboratory analytical results were

compared to the EGLE Generic Nonresidential Cleanup Criteria (“GNRCC”) under Part 201 of Michigan’s *Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended* (Part 201) for direct contact (“DC”). Additionally, the samples were analyzed using the Synthetic Precipitation Leaching Procedure (SPLP) for barium and lead.

Three concrete samples contained concentrations of lead which exceeded GNRCC for DC. Therefore, the areas with exceedances were pressure washed a second time and two verification samples were collected. Analytical results for the verification samples did not contain lead concentrations in exceedance of the GNRCC for DC.

#### 1.4 Areas of Concern

Five Areas of Concern (“AOCs”) were also identified at the Subject Property in the DSC Consent Order. The AOCs are listed below:

- AOC-58 - North Slag Processing Plant,
- AOC-64 - Possible Fill Area,
- AOC-67 - Former Oil Terminal,
- AOC-68 - Former Monguagon Creek Channel, and
- AOC-72 - Former Coke Storage Area.

The AOCs are described in more detail below; however, no investigation of these AOCs was required by the CACO.

##### *AOC-58 - North Slag Processing Plant*

The Former Slag Processing Plant – North was located in the southern portion of the Subject Property. This AOC was reportedly a process area operated by the E.C. Levy Company to reclaim and store slag product for later sale.

##### *AOC-64 - Possible Fill Area*

The Possible Fill Area was depicted in the 1999 Consent Order in the northern portion of the Subject Property, east of WMU-29 (Figure 2). The area was reportedly filled prior to McLouth’s occupation of the Subject Property.

##### *AOC-67 - Former Oil Terminal*

The Former Oil Terminal was located in the central portion of the Subject Property. The Former Oil Terminal included five above ground storage tanks (“ASTs”) and was removed from the Subject Property by 1964.

##### *AOC-68 - Former Monguagon Creek Channel*

Prior to 1964, the Monguagon Creek flowed south through the Subject Property from the northern portion of the Subject Property. The creek bed was located west of the Former Oil Terminal (Figure 2). South of the Former Oil Terminal, the creek turned east and emptied into the Trenton Channel. After 1964, the Monguagon Creek bed on the Subject Property was filled and the creek was rerouted to its present-day channel (Figure 2).

##### *AOC-72 - Former Coke Storage Area*

The Former Coke Storage Area was located in the northwestern portion of the Subject Property. The area was used to store piles of coke used in the blast furnace.

## 1.5 Geology and Hydrogeology

The Subject Property is in the Eastern Lowlands Physiographic Region of Michigan. This region is located near the coast in the southeastern part of Michigan and extends north to the tip of the Lower Peninsula. The lowlands were deposited under large glacial lakes and rose when the lakes lowered. This region is defined by its flat topography and poorly drained soils<sup>4</sup>.

The Subject Property is underlain by the Dundee Limestone formation which overlies the Detroit River Group<sup>5</sup>. The Middle Devonian Dundee Limestone underlies most of the Southern Peninsula and averages a thickness of approximately 100 ft in the southeastern portion of Michigan's Southern Peninsula. The Dundee Limestone is a gray to buff cherty, crystalline limestone of high purity which was formerly mined at the Sibley Quarry located south of Sibley Road and approximately 3,600 ft west of the Subject Property (Figure 1). Bedrock was encountered in four soil borings (MW-104, MW-108, MW-109, and MW-110) during the groundwater investigation at elevations between approximately 535.5 ft above mean sea level ("AMSL") and 588 ft AMSL. Bedrock was encountered at a higher elevation in borings in the southern portion of the Subject Property. Limestone was visually confirmed at two of the four locations (MW-104 and MW-110) during drilling. Bedrock cuttings were not returned in the other two borings and the determination of bedrock was based on the driller's opinion due to change in subsurface characteristics encountered by response of the rig.

The confined deep aquifer lies above the bedrock and below the basal clay unit. The deep aquifer which, consists of clayey sand and gravel, was not present at each location during the groundwater investigation. Two groundwater monitoring wells (MW-102D and MW-107D) were installed into the deep aquifer during the groundwater investigation. Well MW-107D was installed as a nested well pair with MW-107s set into the shallow aquifer. Well MW-102D was set near existing shallow well TMW-27. Groundwater elevations in the deep aquifer were lower than those in the shallow aquifer. Based on the presence and thickness of the clay unit and groundwater elevations, the deep aquifer does not appear to be hydraulically connected to the shallow aquifer.

A clay layer overlies the deep aquifer (where present) beneath the Subject Property and the thickness of the clay layer increases toward the northern portion of the Subject Property based on lithology encountered during the groundwater investigation. The clay layer was thinner in areas which were formerly open water; however, based on the groundwater investigation, the clay layer appears to be present below the entirety of the Subject Property and the top of the clay layer was encountered at elevations between 551 ft AMSL and 581 ft AMSL. The lowest elevation of the top of the clay layer was encountered in the northern most boring; drilled into the former Monguagon Creek bed in the northern portion of the Subject Property.

The basal clay unit is overlain primarily by fill material. The Subject Property consisted of wetlands prior to about 1952 and the wetlands have since been filled in. The shallow aquifer exists primarily in the fill material and above the basal clay unit. The water table was present at elevations ranging between approximately 572 ft AMSL and 581 ft AMSL during the groundwater investigation. Based on groundwater elevation data collected during the investigation, groundwater flow in the shallow aquifer beneath the Subject Property is toward the Trenton Channel in the southern portion of the Subject Property and toward the Monguagon Creek in the northern portion of the Subject Property.

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<sup>4</sup> <http://geo.msu.edu/extra/geogmich/phy-regions.html>

<sup>5</sup> <https://www.deq.state.mi.us/GeoWebFace/>

Regional groundwater flow is assumed to be controlled by the Detroit River. The Eastern Lowlands Physiographic Region is characterized by deposits of glacio-lacustrine clay and silt deposits. These deposits are not a significant source of groundwater due to their low permeability. The Dundee Limestone can yield significant quantities of groundwater; however, high mineral concentrations limit consumptive use.

## **2 Project Organization**

### **2.1 Scope of Work**

The Scope of Work, as provided in the CACO (Attachment A – Statement of Work) is provided below:

*1. Groundwater Investigation: A hydrogeological investigation will be conducted on the RTRR Facility to determine the vertical and horizontal extent of impacts including: (a) an evaluation of the flow direction and hydrogeologic conductivity across the RTRR Facility; (b) an evaluation of groundwater contamination on the RTRR Facility, including an assessment of the nature of any off-site sources of groundwater contaminants and an assessment of the nature and extent of groundwater contamination at the RTRR Facility; and (c) a determination of groundwater flow (including volume and contaminant composition) from the RTRR Facility to the Detroit River and Monguagon Creek. The investigation will include up to ten groundwater monitoring wells to be installed in the upper aquifer along the property line and river to determine upgradient and downgradient impacts. Seven of these wells will include a nested well in the lower aquifer, and four wells will include nested pairs in the upper and lower portions of the upper aquifer. An additional two monitoring wells will be installed in the upper aquifer, one each downgradient of WMU27 and WMU29. When possible, groundwater monitoring wells from previous investigations will be used for sample collection. Four quarterly sampling events will be completed. Samples will be analyzed for chemicals of interest as identified in Appendix 1. Analytical results will be compared to applicable non-residential criteria under Part 201 of Michigan Act 451. A report detailing the results of the investigation will be prepared and provided to the DEQ.*

*2. Dust Control: A dust control plan for the RTRR Facility will be prepared and implemented until the property has been developed or meets restricted non-residential criteria under Part 201 of Michigan Act 451. This plan will consist of the following items: haul roads will be covered with asphalt millings; other exposed surfaces where site activities will be conducted will be wetted as required to control dust; trucks will be decontaminated, as necessary, before leaving the property. Dust monitoring for manganese will be conducted at the property line during soil or material removal or excavation.*

*3. Surfacewater Run-Off: Options for stormwater management to eliminate sheet flow to the Trenton Channel and Monguagon Creek will be assessed. This will include, among other options, regrading the site to collect stormwater. Options for stormwater management will include on-site retention, discharge under a general permit, discharging it to the Trenton Channel according to an NPDES permit, or discharge to the City of Trenton POTW. A report indicating feasible options for stormwater control will be prepared and provided to the DEQ.*

*4. Investigation of WMU26 North Debris Pile: The area of the former North Debris Pile will be inspected and surveyed to document that the pile has been removed and that the*

remaining surfacing materials are similar to other materials on the RTRR Facility. A report detailing the results of the investigation will be prepared and provided to the DEQ.

5. Investigation of MWU27 Equipment Storage Yard: A soils investigation around the former storage yard will be conducted to determine the horizontal and vertical extent of PCBs in soils that exceed 25 ppm (parts per million). Sample results will be compared to the low-occupancy closure options under TSCA. Based on the DEQ guidance document titled "Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria" dated 2002, or optionally using incremental sampling, an estimated 20 randomly selected boring locations will be installed, with two to three samples collected per boring location, based on site conditions, and shall include surface samples (1-3 inches BGS) for PCBs. A report providing the results of sampling and analysis, and further identifying any necessary measures to be taken to prevent unacceptable human exposure to PCBs, will be provided to the DEQ.

6. Cleaning and Investigation of WMU29 TSCA Storage Building: The existing concrete pad from the former TSCA storage building will have the surfaces removed or cleaned by power washing. Cleaning liquids will be characterized and either disposed off-site as allowed under 40 CFR 761 .79(g) and 761 .79(b)(1 ), or discharged to the City of Trenton POTW under permit. Following surface removal or cleaning activities, concrete samples will be collected and analyzed for total PCBs. If the sampling results indicate the presence of PCBs over 25 ppm, the contaminated surfaces will be removed for off-site disposal or recleaned and retested until sampling results indicate PCBs below 25 ppm.

A soils investigation around the former storage building will be conducted to determine the horizontal and vertical extent of PCBs in soils that exceed 25 ppm. Sample results will be compared to the low-occupancy closure options under TSCA. Based on the DEQ guidance document titled "Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria" dated 2002, or optionally using Incremental Sampling, an estimated 16 boring locations will be installed around and beneath the concrete pad, with two to three samples collected per boring location, based on site conditions, and shall include surface samples (1-3 inches BGS) for PCBs. A report providing the results of sampling and analysis, and further identifying any necessary measures to be taken to prevent unacceptable human exposure to PCBs. will be provided to the DEQ.

7. Investigation of WMU30 Former Electric Arc Furnace Admission Control/Dust Storage Pile: This regulated unit was "clean closed" under Part 111 on September 1, 1998. A soils investigation in this area will be conducted to determine the horizontal extent of lead in surface soils that exceed nonresidential generic direct contact criteria. In conducting the soils investigation, existing data from other studies in this area may be used. A report providing the results of the investigation and analysis will be provided to the DEQ, including measures to be taken to prevent unacceptable human exposure to lead, if any.

8. Investigation of WMU31 Electric Arc Furnace Emission Control Sludge/Dust Storage Tanks: This WMU was cleaned and closed in 1996. In the event that appropriate closure documentation can be identified it will be provided to the DEQ. In the event that documentation is insufficient, concrete samples from the remaining enclosure will be collected and analyzed for the ten Michigan metals. If concentrations are above the applicable non-residential criteria for soils using the groundwater surface water interface criteria under Part 201 of Michigan Act 451, the concrete will again be recleaned and retested, or will be removed for off-site disposal. A report providing the results of investigation and analysis will be provided to the DEQ.



9. *Manganese: Historic data will be used to identify dust control measures to be taken to prevent unacceptable human exposure to manganese. As additional data are available, the dust control measures will be adjusted to continue to prevent unacceptable human exposure to manganese.*

#### 2.1.1 Chemicals of Interest

The chemicals of interest selected for this investigation vary between the WMUs and groundwater based on previous use and the results of previous investigations. The chemicals of interest for each area and matrix of investigation are provided in the Statement of Work above and summarized in the table below:

Area of Investigation	Chemical(s) of Interest
WMU-26	N/A
WMU-27	Polychlorinated Biphenyls ("PCBs")
WMU-29	PCBs
WMU-30	Lead
WMU-31	Michigan 10 Metals (arsenic, barium, cadmium, chromium (total), copper, lead, mercury, selenium, silver, and zinc)
Groundwater	Ammonia, arsenic, barium, chloride, chromium, copper, free cyanide, lead, manganese, mercury, nickel, selenium, silver, vanadium, zinc, volatile organic compounds ("VOCs"), semi-volatile organic compounds ("SVOCs"), PCBs, total dissolved solids

#### 2.1.2 Project Work Plans

In accordance with the CACO, ASTI submitted the following work plans to EGLE for review on April 1, 2019:

- Dust Control Work Plan,
- Groundwater Investigation Work Plan,
- Stormwater Management Work Plan, and
- Waste Management Unit Investigations Work Plan ("WMU Work Plan").

EGLE provided comments to the work plans via emails dated May 10, 2019 and June 3, 2019. Based on EGLE's comments, ASTI revised the work plans and resubmitted to EGLE on June 28, 2019. EGLE approved all four work plans in a letter dated July 29, 2019.

ASTI submitted the project Quality Assurance Project Plan ("QAPP") on October 2, 2019. Based on comments provided by EGLE on October 8, 2019, ASTI revised and resubmitted the QAPP on October 8, 2019. EGLE provided approval of the QAPP in a letter dated October 11, 2019.

ASTI completed the scope of work for the WMU-31 area as described in the WMU Work Plan and submitted the WMU-31 Concrete Investigation Report ("WMU-31 Investigation Report") to EGLE on January 22, 2021, then resubmitted to EGLE on March 3, 2021 based on comments received from EGLE. Based on ASTI's recommendation to collect additional concrete samples, EGLE requested a work plan for the recommended sampling. ASTI submitted the Work Plan

– Additional Concrete Investigation – Waste Management Unit 31 (WMU-31 Work Plan) to EGLE on February 9, 2021. EGLE provided approval of the WMU-31 Work Plan in a letter dated February 19, 2021. Attachment B includes EGLE’s Work Plan Approval letters for the July 29, 2019, October 11, 2019 and February 19, 2021 approval dates as described above.

#### 2.1.2.1 Deviations from Work Plans

ASTI conducted the investigations in accordance with the applicable work plans except for the deviations noted below.

##### Groundwater Investigation Work Plan

The Groundwater Investigation Work Plan stated that hollow-stem augers would be used to install the groundwater monitoring wells. Based on the requirement to install nested wells, Roto-sonic drilling methods were employed.

Several locations which required screening of the top and bottom of the upper aquifer were screened using one well screen due to the limited thickness of the saturated zone. Installing multiple wells in the upper aquifer in those locations would have been impracticable. The wells installed in those locations contained a screen which screened the water table and the lower portion of the upper aquifer.

ASTI chose a subset of the newly installed wells for aquifer testing (slug testing). The chosen subset of wells tested provides a representation of the shallow aquifer beneath the Subject Property.

A bladder pump was employed for sample collection from newly installed groundwater monitoring well (“MW”) MW-102D due to the depth to water within the well. The depth was beyond the capability for a peristaltic pump.

During the final two quarterly groundwater sampling events, low-level mercury analysis (USEPA Method 1631E) was added to the list of parameters above. Low-level mercury analysis was required to achieve detection limits below the EGLE Generic Cleanup Criteria under Part 201 of Michigan’s *Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended* (Part 201) for the Groundwater Surface Water Interface (GSIC).

##### WMU Work Plan

The WMU Work Plan described concrete sampling and cleaning (if necessary) in the WMU-29 area. Concrete sampling and cleaning were conducted previously by others and samples collected after cleaning contained PCB concentrations above 25 micrograms per kilogram (“mg/kg” or parts per million [“ppm”]). The soil investigation was completed in the WMU-29 area as described in the WMU Work Plan and the laboratory analytical results for PCBs in soil beneath the pad indicated concentrations above the action level. Concrete removal will be required to access the soil for remedial excavation, but due to winter conditions, was not completed as part of this report. The concrete will be removed and transported off site for proper disposal and an addendum to this report will be provided.

The WMU Work Plan stated that concrete core samples would be collected from the remaining pad at WMU-31. Instead, ASTI collected pulverized concrete samples during that concrete investigation.

### *2.1.3 Site Layout*

The Subject Property is surrounded by a fence except for along the Trenton Channel. Access to the Subject Property is through a locked gate near West Jefferson Avenue in the northwestern portion of the Subject Property. The asphalt-paved entrance leads to an asphalt-paved parking area and short access road (Figure 2).

No structures currently exist at the Subject Property. The concrete pad and curb remain at the former TSCA Waste Storage Building (WMU-29) and the concrete apron remains for the former EAF Emission Control Sludge/Dust Storage Tanks (WMU-31).

A steel pylon seawall is located along the bank of the Trenton Channel near the northern portion of the Subject Property. The seawall begins approximately 130 feet south of the confluence of the Monguagon Creek and the Trenton Channel and extends south for approximately 270 feet.

#### *2.1.3.1 Haul Roads*

One haul road extends south from the asphalt parking area. Portions of the haul road are paved, and the unpaved portion is covered with asphalt milling or other coarse grain material which limited nuisance dust during routine travel required for completion of Phase I of the CACO.

### *2.1.4 Problems Encountered*

ASTI and EGLE personnel visited the Subject Property on May 13, 2019 to evaluate current conditions, discuss the work plans, and evaluate a suspected drainage issue along West Jefferson Avenue, north of the Subject Property. During the visit, a downed power pole including a non-PCB transformer was observed near the east-central portion of the Subject Property. No surface staining was observed near the downed transformer. The downed power pole and transformer were later removed by the power company.

During the May 13, 2019 visit, damage to the chain-link portion of the fence along West Jefferson Avenue in the northern lobe of the Subject Property was noted. The section of damaged fence was approximately 100 feet and that section has since been repaired.

Stormwater drains along West Jefferson Avenue, north of the Subject Property, do not function properly and ponding was historically reported in that area. ASTI and EGLE observed that the catch basins, located on West Jefferson Avenue adjacent to the northwest corner of the Subject Property appeared to be filled with sediment which prevents proper drainage. EGLE was concerned that the ponding was caused from storm water run-off from the Subject Property on to West Jefferson Avenue. Based on observations made during the May 13, 2019 visit, specifically the existing berms, it is unlikely that stormwater from the Subject Property is the cause of the ponding along West Jefferson Avenue and the blockage in the storm drains is the cause of the ponding. The ground surface in the northwestern portion of the Subject Property is sloped such that storm water does not flow off of the Subject Property on to West Jefferson Avenue at the northwest corner of the Subject Property.

Per EGLE's request, ASTI collected pH readings of the ponded water on West Jefferson Avenue in October 2019. EGLE representatives were on-site at the time and witnessed pH readings of 7.1 and 7.2 standard units.

### 3 Project Implementation

Project implementation for each WMU and for the groundwater investigation are described below.

#### 3.1 Waste Management Unit Investigations

##### 3.1.1 *WMU-26 – Former North Debris Piles Investigation*

ASTI performed a non-invasive investigation of the WMU-26 Area (Figure 2) to determine if the former debris piles were still present at the Subject Property. To complete this investigation, ASTI reviewed historical and current topographic maps, historical reports, and performed field reconnaissance to determine if the debris material is still present.

Review of the topographic map produced in 2000 depicts several mounds throughout the WMU-26 area which are not present in the topographic map produced in 2018. The heights of the mounds generally ranged from 15 feet to 30 feet with an approximate maximum elevation of 610 ft AMSL. The approximate maximum elevations depicted in the 2018 topographic map were approximately 595 ft AMSL.

No large-scale mounding was observed in the southern portion of WMU-26 during field reconnaissance. One construction debris pile was evident near the western border of the Subject Property. ASTI observed a gently sloped mound consisting of asphalt millings located in the northern portion of WMU-26. A review of historical aerial photographs shows that the asphalt millings were placed after January 2004 and before March 2005 and was placed after removal of the debris piles.

Additional details for the WMU-26 investigation are provided in the Waste Management Unit 26 Investigation Report completed by ASTI and dated May 18, 2019. The WMU-26 Investigation Report is included as Attachment C. The topographic maps produced in 2000 and in 2018 are included in the WMU-26 Investigation Report.

##### 3.1.2 *WMU-27 Soil Investigation*

ASTI performed a soil investigation at the WMU-27 area to determine if PCBs were present in soil based on former use of the area (Section 1.3.2). In addition to the subsurface investigation, ASTI reviewed historical PCB data for the WMU-27 area. Soil investigations, completed by others in October 2000 and January 2001, resulted in collection of 24 soil samples for laboratory analysis of PCBs. The maximum reported PCB concentration during the October 2000 soil investigation was 0.4 ppm. The maximum detected PCB concentration in samples collected during the January 2001 soil investigation was 33 ppm. That sample (identified as W27-08-06 0-6") was collected between ground surface and six inches below ground surface ("bgs"). The soil sample collected from the interval between six inches and 12 inches bgs in the same soil boring, contained a total PCB concentration of 2.9 ppm.

On December 16, 2019, ASTI conducted the soil investigation as described in the approved WMU Investigation Work Plan. ASTI installed 20 soil borings whose locations were pre-determined using a systematic random approach as described in the EGLE Guidance Document titled Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria ("S3TM" [EGLE, 2002]). At each sampling location ASTI collected one surface soil sample and one deeper soil sample for laboratory analysis of PCBs. Additionally, for quality assurance/quality control ("QA/QC"), ASTI collected two duplicate soil samples.

The laboratory analytical results for the soil samples collected by ASTI in December 2019 did not report PCB concentrations greater than 13 ppm in any sample. One soil sample collected from the WMU-27 area during multiple investigations contained PCB concentration exceeding

the 25-ppm action level. Soil removal took place in the third quarter of 2001 and laboratory analysis of eight soil verification samples did not detect PCB concentrations above 25 ppm. Attachment D provides a copy of the Waste Management Unit 27 Soil Investigation Report completed by ASTI and dated May 21, 2020 ("WMU-27 Soil Investigation Report"). The WMU-27 Soil Investigation Report includes the laboratory analytical report and chain-of-custody, a figure showing sample collection locations, and a summary of the laboratory analytical data.

Note that institutional controls, such as a deed restriction for the WMU-27 area, will be required due to the presence of PCB concentrations less than 25 ppm and greater than 1 ppm.

### *3.1.3 WMU-29 Soil Investigation*

ASTI reviewed historical investigations for the WMU-29 area and conducted a PCB investigation of soils beneath and adjacent to the existing concrete pad for the former TSCA Waste Storage Building (WMU-29).

Review of historical investigations showed that after an attempt to clean the concrete, PCBs were still present in the concrete at a concentration greater than 50 ppm. In addition, soil sampling and analysis detected PCB concentrations in soil beneath the concrete pad at a maximum concentration of 806 ppm.

ASTI conducted a soil investigation on December 17, 2019. ASTI installed 14 soil borings from predetermined locations around the concrete pad and collected two soil samples from each soil boring. Soil boring locations were determined using the Systematic Random Approach as described in the EGLE S3TM Guidance Document. Additionally, two soil borings were installed through the concrete pad in locations where elevated PCB concentrations were historically detected in soil.

ASTI collected a total of 28 soil samples and one duplicate soil sample from the 14 soil borings adjacent to the concrete pad. PCBs were not detected at a concentration exceeding 25 ppm (maximum concentration of 12.7 ppm) in any of these samples. Additionally, ASTI collected a total of four soil samples from the two borings installed beneath the concrete pad. Total PCBs were detected at a maximum concentration of 2,200 ppm in soil beneath the concrete pad. That concentration was detected in soil collected from the interval between zero and three inches below the pad. The sample collected from the same boring at a depth of 6 ft bgs to 7 ft bgs contained PCBs at a concentration of 0.15 ppm.

Redevelopment plans are not complete at this time; however, based on this investigation and the historical data, the concrete pad will be removed, and soil removal will take place to remove PCB impacted soil to a depth of approximately two feet to achieve low-occupancy closure under TSCA. Additional details regarding ASTI's December 17, 2019 WMU-29 soil investigation, including the laboratory analytical report and chain-of-custody, figure showing sample locations, and a summary of the laboratory analytical data, are included in the Waste Management Unit 29 Soil Investigation Report prepared by ASTI and dated January 19, 2021 included as Attachment E.

### *3.1.4 WMU-30 Surface Soil Lead Investigation*

Multiple WMU-30 surface soil lead investigations were conducted by others in November 1996, February 1997, and July 1997. Soil samples were collected in accordance with the approved EAF Dust Pile Closure Plan dated August 1988 ("Closure Plan") and its subsequent revision.

ASTI reviewed the surface soil lead investigation and compared the results to the current GNRCC for DC (900 mg/kg) but did not collect additional samples. Soil samples were collected on a grid which measured 50 feet by 50 feet, as originally described in the Closure Plan.

Soil sampling during the November 1996 investigation consisted of pre-determined sample locations and the analytical results showed that the locations were not sufficient to provide delineation of lead in surface soil to concentrations below the current GNRCC for DC. Therefore, additional sampling was performed in February 1997 to target the areas where delineation was not complete. The results of the February 1997 investigation delineated lead in surface soil with respect to the current GNRCC for DC (900 mg/kg) with one exception; a duplicate sample collected in the northern portion of the grid area contained a lead concentration exceeding 900 mg/kg. Therefore, additional sampling conducted in July 1997 provided delineation in this northern portion of the grid area. Additional details of the surface soil lead investigation, including the laboratory analytical reports and chain-of-custody (within attachments), a figure showing sample locations, and a tabularized summary of the laboratory analytical data, are provided in the Waste Management Unit 30 Surface Soil Lead Investigation – Revision 1 prepared by ASTI and dated March 29, 2021, included as Attachment F.

### *3.1.5 WMU-31 Concrete Investigation*

In accordance with the WMU Work Plan, ASTI collected concrete samples from the existing pad at the WMU-31 area on July 7, 2020. ASTI determined a grid area based on the S3TM Guidance Document. Prior to collection, ASTI calculated random sample locations within each grid. ASTI collected one sample of pulverized concrete from each grid and one duplicate sample for laboratory analysis of the Michigan 10 Metals.

The laboratory analytical results for the concrete samples indicated concentrations of total chromium and arsenic in exceedance of the GNRCC for Groundwater to Surface Water Interface Protection (“GSIP”) in each sample and for selenium in one sample. ASTI provided the Waste Management Unit 31 Concrete Investigation report (“WMU-31 Investigation report”) to EGLE on January 22, 2021, with resubmittal based on verbal comments on March 3, 2021.

In the WMU-31 Investigation report, ASTI recommended collection of additional concrete samples for analysis of hexavalent chromium to determine the speciation of chromium and leachability testing for constituents which exceeded the GNRCC for GSIP.

ASTI collected additional concrete samples in accordance with the approved WMU-31 Work Plan on March 5, 2021. Each sample was analyzed for hexavalent chromium and the remaining sample was held by the laboratory pending those results. Hexavalent chromium concentrations did not exceed the GNRCC for GSIP. Therefore, the remaining volume of each sample was analyzed for toxicity characteristic leach procedures (“TCLP”) arsenic and one sample was analyzed for TCLP selenium due to exceedances of the GNRCC for GSIP in the samples collected in July 2020. The TCLP analysis did not report any arsenic or selenium concentrations above the laboratory detection limit. ASTI prepared an addendum to the WMU-31 Investigation Report and submitted to EGLE on April 5, 2021. A copy of the WMU-31 Concrete Investigation Report prepared by ASTI and dated January 22, 2021, and its Addendum prepared by ASTI and dated April 5, 2021, are included as Attachment G. The WMU-31 Concrete Investigation Report and its Addendum include the laboratory analytical data, a figure showing sample locations, and a summary of the laboratory analytical data.

## 3.2 Stormwater Options Report

In accordance with the Stormwater Management Work Plan, ASTI conducted an analysis of potential stormwater management options for the Subject Property. The potential options included:

- Grade the Subject Property to collect stormwater,

- On-site retention,
- Discharge under a general permit,
- Discharge to the Trenton Channel under a National Pollutant Discharge Elimination System (“NPDES”) permit, or
- Discharge to the publicly owned treatment system (“POTW”).

ASTI evaluated the potential options and provided the Stormwater Management Options Report to EGLE on March 3, 2021. A copy of the Stormwater Management Options Report dated March 3, 2021 is included as Attachment H.

### 3.3 Groundwater Investigation Report

In accordance with the Groundwater Investigation Work Plan, ASTI installed 14 new groundwater monitoring wells throughout the Subject Property. Monitoring wells were installed in the upper portion of the shallow aquifer, the lower portion of the shallow aquifer, and in the deep aquifer. Existing monitoring well TMW-27 was also used for collection of groundwater elevation data and for collection of groundwater analytical samples during the investigation. After installation, ASTI developed each new well and existing well TMW-27, then a licensed surveyor provided a location and elevation survey for each newly installed well, TMW-27, and a location at the steel pylon seawall along the Trenton Channel (“TC-1”) to measure the depth to surface water. Depth to groundwater measurements and depth to surface water were collected prior to each quarterly groundwater sampling event and one additional measurement event was conducted on July 7, 2020. The groundwater monitoring wells used during the investigation and TC-1 are depicted on Figure 3.

Lithology encountered during well installation showed that the Subject Property is underlain by the shallow aquifer (between 4 ft bgs and 15 ft bgs) which is confined from the deep aquifer by the basal clay unit. The deep aquifer was found beneath the basal clay unit and above bedrock. No groundwater monitoring wells were installed below the deep aquifer (i.e. into bedrock) during this investigation.

Based on evaluation of the groundwater elevation contours, ASTI determined that there are two flow zones in the shallow aquifer: groundwater flow toward the Monguagon Creek north of the steel pylon wall (“Northern Flow Zone”) and groundwater flow toward the Trenton Channel south of the steel pylon wall (“Southern Flow Zone”). The steel pylon wall restricts groundwater flow to the Trenton Channel along the wall. Based on a review available online of depth sounding charts for the Trenton Channel adjacent to the Subject Property, and the elevation of the bottom of the basal clay unit near the channel, the deep aquifer does not appear to be directly hydraulically connected to the Trenton Channel.

ASTI conducted slug tests on a subset of the newly installed monitoring wells on August 4, 2020 to evaluate the average hydraulic conductivity in the shallow aquifer at the Subject Property. The average hydraulic conductivity, along with the gradient was used to calculate groundwater flow from the Subject property to the Monguagon Creek in the Northern Flow Zone and to the Trenton Channel in the Southern Flow Zone. Additional details about groundwater investigation including groundwater elevation contour maps, are provided in the Groundwater Investigation Report, prepared by ASTI, and dated April 12, 2021, which is included as Attachment I.

ASTI collected groundwater analytical samples from each of the newly installed monitoring wells, except for well MW-109s, and from TMW-27 during four consecutive quarters between the fourth quarter of 2019 and the third quarter of 2020 (“2019-2020 Sampling Event”). The

bottom of the well screen for MW-109s was set above the top of the water table. A deeper well, MW-109D was later determined to be set in the shallow aquifer.

Groundwater samples were collected using low flow purging techniques and submitted to Fibertec Laboratory in Holt, Michigan ("Fibertec") for analysis of the parameters listed above. The Groundwater Investigation Report (Attachment I) provides additional details about groundwater sampling and analysis.

ASTI reviewed the Mixing Zone Determination Request ("Mixing Zone Request") submitted by Environmental Strategies Corporation ("ESC") on behalf of DSC Ltd. on April 23, 2001. The Mixing Zone Request was later denied by EGLE (then MDEQ) based on a potential for the discharge of chemicals to cause or contribute to exceedances of water quality standards in surface waters. It should be noted that ESC's investigation was conducted in the Southern Flow Zone as defined by ASTI's April 12, 2021 Groundwater Investigation Report. The table below provides a summary of the maximum concentrations reported by ESI for use in the mixing zone determination and the maximum concentrations detected during this groundwater investigation.

<b>Constituent</b>	<b>2019-2020 Maximum Detected Concentration (µg/L)<sup>(1)</sup></b>	<b>ESC Maximum Detected Concentration <sup>(2)</sup> (µg/L)</b>
Arsenic	470	
Barium	-- <sup>(3)</sup>	1,140
Vanadium	--	140
Total Chromium	52	
Mercury	0.424	1.0
Selenium	12	
Silver	0.63	
Aniline	7.3	
Carbazole	12	32
Dibenzofuran	4.2	23
2,4-Dimethylphenol	--	3,800
3- and 4- Methylphenol	110	
Fluoranthene	3.1	14
Phenanthrene	5.8	48
Phenol	--	1,700
Naphthalene	240	340
1,3,4-Trimethylbenzene	51	
Vinyl Chloride	29	
Xylenes	84	
Chloride	290,000	
Total Dissolved Solids	2,900,000	

(1) – "µg/L" – micrograms per liter or parts per billion

(2) – ESC samples were collected in June and September 2000

(3) "–" No exceedance of the GNRCC for GSI.

Blank – constituents not included in the mixing zone request (not analyzed or did not exceed GNRCC for GSI).

The table presented above shows that the maximum detected concentrations in groundwater identified during the 2019-2020 Sampling Event were lower than those presented in ESC's Mixing Zone Request.



In addition, the 2019-2020 Sampling Event resulted in a lower estimated volume of groundwater venting to the Trenton Channel due to a lower hydraulic conductivity value and lower gradient. A mixing zone determination was not requested as part of this investigation.

#### **3.4 Quarterly Reporting**

ASTI prepared quarterly status reports to provide updates to the progress of the work performed, samples collected, and planned tasks. The first CACO Quarterly Progress Report was submitted to EGLE for the fourth quarter of 2018 and the most recent report was submitted for the fourth quarter of 2020 on January 15, 2021. Quarterly reporting will continue until the CACO requirements are complete and approved by EGLE.

### **4 Conclusions**

ASTI completed the tasks described above in accordance with the Statement of Work provided in the CACO and provided reports for each task completed (Attachments C – I). The conclusions for each portion of the Statement of Work are provided in the individual reports and are summarized below.

#### **4.1 WMU-26 – Former North Debris Piles**

Based review of historical documentation, topographic maps, and site reconnaissance, ASTI believes that the debris piles were removed from the Subject Property. The asphalt millings pile near the center of the Subject Property was placed after the former North Debris Piles were processed.

#### **4.2 WMU-27 – Former Equipment Storage Yard**

The soil investigation conducted by ASTI did not detect PCBs in soil in the former Equipment Storage Yard at a concentration above 13 ppm. One historical soil sample contained a PCB concentration which exceeded 25 ppm, and soil removal took place to remove that soil. Verification sampling did not detect PCBs above 25 ppm.

Soil containing PCB concentrations below 25 ppm remains at the WMU-27 area. Institutional controls will be required to prevent unacceptable human exposure to PCBs. The institutional control will likely consist of maintenance of the existing fences around the Subject Property and a deed restriction for the WMU-27 area to allow for a low-occupancy closure.

Shallow groundwater monitoring well MW-104 was installed immediately downgradient of WMU-27 for the groundwater investigation. Groundwater sampling took place during four consecutive quarters and PCBs were not detected in samples collected from MW-104.

#### **4.3 WMU-29 – Former TSCA Waste Storage Building**

Based on concentrations of PCBs beneath the concrete pad detected during ASTI's soil investigation, ASTI recommends removal of impacted soil for proper offsite disposal. The volume of soil to remove will depend on future use of the WMU-29 area. Assuming low occupancy use of the area, soil will be removed to meet one of the requirements presented in 40 Code of Federal Law § 761.61(a)(4)(i)(B)(1) through (3). Each of these remedial options require removal of the concrete pad, because the pad contains concentrations of PCB above the minimum requirement (1 ppm) for a protective cap. The concrete will be removed from the Subject Property for proper disposal and if required for the intended future use, soils will be removed for proper disposal. Samples will be conducted as necessary to characterize waste materials for disposal or to delineate remaining soil impacts.

Dust control measures will be implemented during excavation activities as described in the Dust Control Work Plan. The excavation will require movement of heavy equipment in the

WMU-29 area and transport of soil and concrete waste via dump trailers. WMU-29 is accessible from the main entrance of the Subject Property via haul roads which are covered with asphalt millings, therefore dust creation would be expected to be minimal due to soil and concrete transport. However, ASTI will review historical manganese data, and use the data to identify if modifications to the dust control measures described in the Dust Control Work Plan are required. ASTI will implement the best management practices (“BMPs”) described in the Dust Control Work Plan including, but not limited to:

- Lightly spraying work areas with water as necessary before and during dust-generating activities (truck traffic),
- While on the Subject Property, all vehicles will maintain speeds of five miles per hour or less to minimize dust generation,
- Material loaded for transportation will be covered,
- Vehicles will be decontaminated with a brush to remove dust or soil adhered to the vehicle prior to leaving the property, and
- Work will cease, or work will transition to non-dust generating activities, when sustained wind speed in excess of 40 miles per hour for a period of 5 minutes or more as measured by a proximate weather station (the weather station located at the McLouth Steel County property will be used to determine this measurement). Work will resume when the wind speed falls below 40 miles per hour for a minimum of one-half hour.

PCB-containing concrete and soil will be excavated and loaded directly into lined trailers for transport off-site to a license disposal facility. If direct loading cannot take place, the excavated soil and concrete will be staged near the work area on plastic liners with a secondary containment berm surrounding the pile. Any piles of excavated soil and concrete that remain at the end of a workday will be covered with plastic as part of the dust control program.

Soil excavation will remove soil with PCB concentrations above the applicable action level, depending on future use and maintenance of the WMU-29 area. Low occupancy use is assumed for the WMU-29 area.

Shallow groundwater monitoring well MW-105 was installed immediately downgradient of WMU-29 during the groundwater investigation. Groundwater sampling events took place in four consecutive quarters and PCBs were not detected in groundwater samples collected from well MW-105.

#### 4.4 WMU-30 – Former EAF Dust Pile

Soil investigations conducted by others, after removal of the dust pile, delineated lead in surface soil at the WMU-30 area for concentrations exceeding the current GNRCC for DC. Measures to prevent unacceptable human exposure to the surface soil should be considered in this area. Those measures may include installation options such as installation of a low-permeability cap. A deed restriction will be required with the use of the cap and the cap should be maintained until the unacceptable risk to human health is removed.

#### 4.5 WMU-31 – Former EAF Emission Control Sludge/Dust Storage Tanks

ASTI investigated the concrete pad for the former tanks for the presence of the Michigan 10 Metals in comparison to the GNRCC for GSIP. Initial sampling showed that total chromium exceeded the hexavalent chromium criteria (but not trivalent chromium criteria), therefore hexavalent chromium was analyzed on additional samples and showed that neither chromium species exceeded criteria. Arsenic and selenium (at one location) exceeded the criteria, therefore, leachability analysis was performed. Arsenic and selenium were not detected at

concentrations above the laboratory reporting limit in the leachate. Therefore, the arsenic and selenium are bound into the concrete matrix and will not leach from the WMU-31 concrete pad into groundwater at concentrations exceeding the GNRCC for GSIP.

#### 4.6 Groundwater

Evaluation of the data collected during the groundwater investigation show that the shallow aquifer beneath the Subject Property exists primarily in fill material and is underlain by a clay aquitard. The deep aquifer does not appear to be hydraulically connected to the shallow aquifer based on groundwater elevations, the thickness of the clay unit, and chemical concentrations.

Several constituents exceeded the GNRCC for Drinking Water, however the drinking water pathway is not relevant for the Subject Property. No drinking water wells currently exist, and the shallow aquifer will not likely provide sufficient quantities of water. A deed restriction should be placed on the Subject Property to restrict well installation for consumptive use.

Several constituents were detected in groundwater at concentrations exceeding the GNRCC for GSI. Mixing zone calculations were not completed during this investigation however, the Groundwater Investigation Report provides calculations of chemical mass loading to the Monguagon Creek and to the Trenton Channel for the constituents which exceeded the GNRCC for GSI in wells which meet the definition of Groundwater Surface Water Interface monitoring points ("GSI monitoring point"), as well as MW-101. MW-101 does not meet the definition of a GSI monitoring point; however, it is the southernmost well on the Subject Property and was used in chemical mass loading calculations as a conservative measure.

Several SVOCs and VOCs were detected in the MW-100s and MW-100i nested well pair at concentrations exceeding the GNRCC for GSI that were not detected, or did not exceed criteria, in other parts of the Subject Property. The MW-100s and MW-100i nested well pair are located in the former Monguagon Creek bed near the northern property border (Figure 3). These constituents may have been deposited with fill material in the stream before it was rerouted to its current bed. The former stream channel may also serve as a preferential pathway for a localized component of groundwater flow toward the Subject Property from offsite, or from the Monguagon Creek.

The compound 1,2,4-trimethylbenzene exceeded the GNRCC for GSI only in samples collected from MW-101 (in each of the four quarters sampled). MW-101 is located on the upgradient portion of the Subject Property, near the southern extent of the Subject Property. Based on the well location and detection of constituents which did not exceed criteria elsewhere, it is likely that the 1,2,4-trimethylbenzene is a result of migration to the Subject Property from an offsite source.

Results of the groundwater investigation indicate that waste storage in the WMUs did not impact groundwater. Concentrations of metals in groundwater samples exceeding EGLE GNRCC were found in several wells sampled during the investigation with the fewest exceedances detected in the deep wells (MW-102D and MW-107D). However, the exceedances of metals in groundwater samples does not appear to be limited to wells downgradient of the WMUs or to be associated with these WMUs. In specific:

- Groundwater monitoring wells MW-106, MW-107s, MW-107D, and MW-108 were each installed within the footprint of WMU-26. MW-107D is screened in the deep aquifer and is not directly hydraulically connected to the shallow aquifer. Groundwater concentrations in wells MW-106, MW-107s, and MW-108 do not show an apparent trend when compared to other wells sampled during the investigation which are located upgradient or cross-gradient to WMU-26.

- Groundwater monitoring wells MW-104 and MW-105 were installed immediately downgradient of WMU-27 and WMU-29, respectively. PCBs are the chemical of interest for WMU-27 and WMU-29, yet PCBs were not detected in groundwater samples collected from MW-104 or MW-105 during the investigation.
- A hydrogeologic investigation was completed previously by Techna to evaluate if operations at WMU-30 impacted groundwater at the Subject Property. Techna concluded that contaminants from the EAF dust storage pile were not released to groundwater. No wells were installed immediately downgradient of WMU-30 during ASTI's 2019-2020 Sampling Event; however, MW-107s and MW-107D are approximately 500 ft downgradient (east). Mercury was the only metal which exceeded the GNRCC (in two of four samples collected) in MW-107s. MW-107D is installed beneath the clay confining layer and only manganese was detected at a concentration exceeding the GNRCC (in one of four samples collected).
- No releases were reported from the former tanks in WMU-31 and the Michigan 10 Metals within the concrete matrix are the chemicals of concern for this unit. Based on the concrete investigation conducted at WMU-31, metals are not likely to leach from the concrete into groundwater.

## 5 RCRA Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

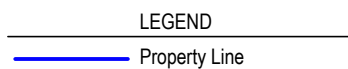
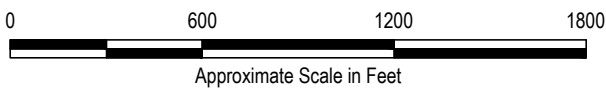
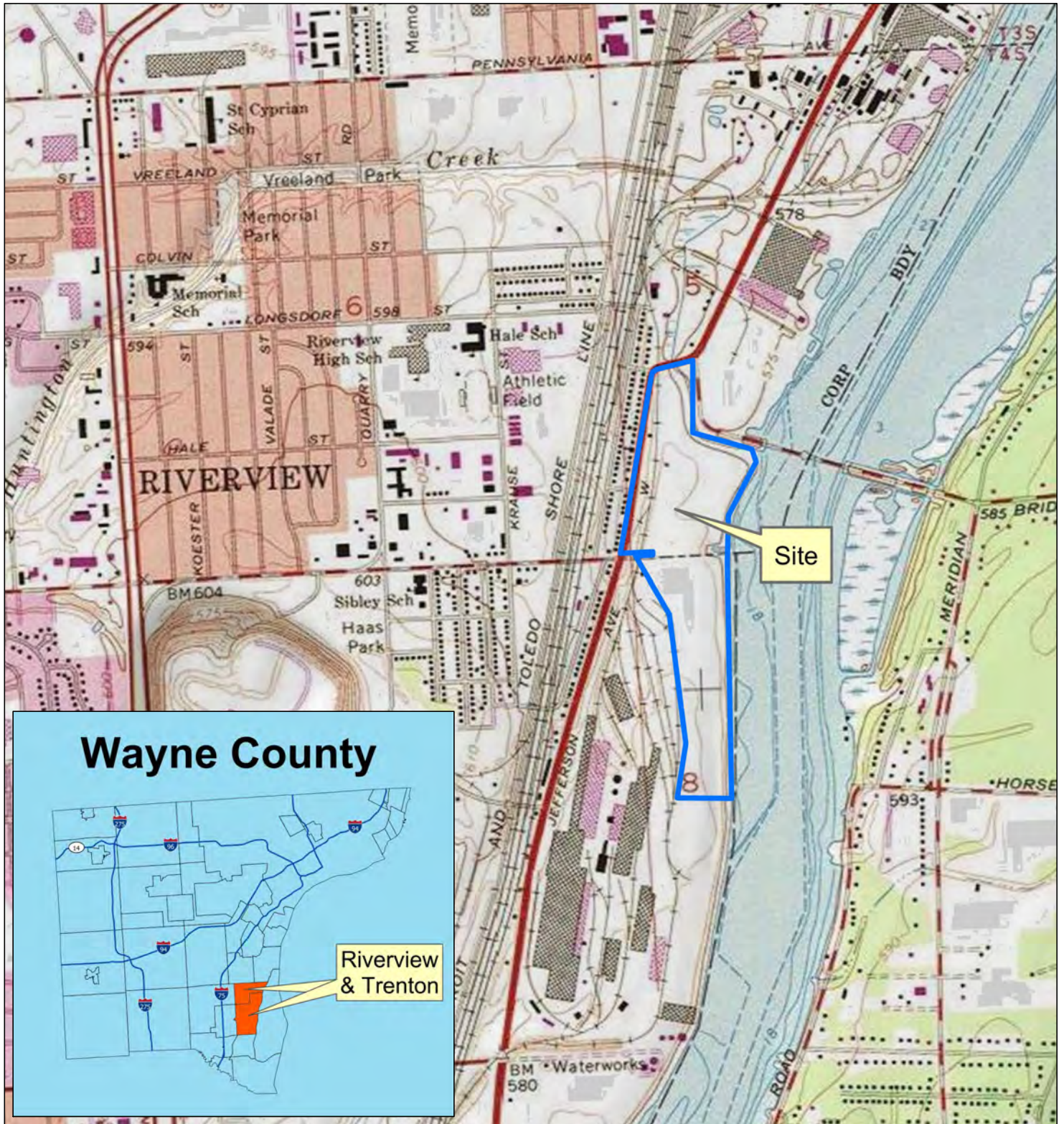


Greg S. Oslosky, P.G.  
Director – Grand Rapids

## FIGURES

- 1 Site Location Map
- 2 RTRR Site Features Map
- 3 Well Location Map





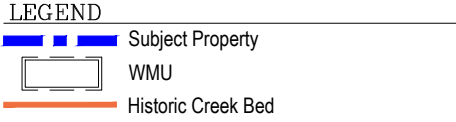
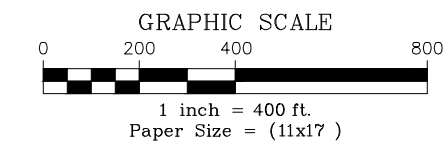
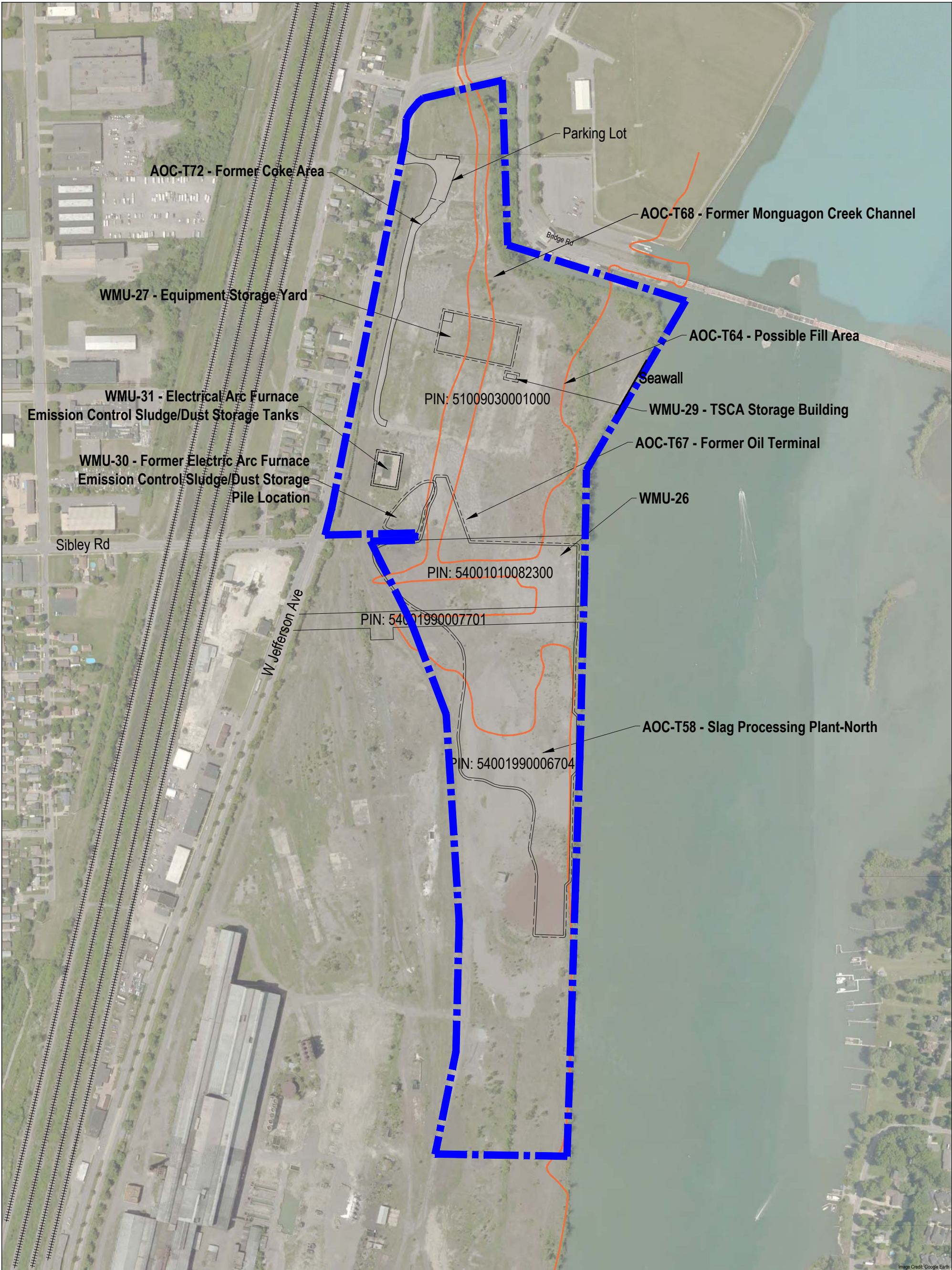
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# RTRR - Phase I Completion Report 18251 West Jefferson

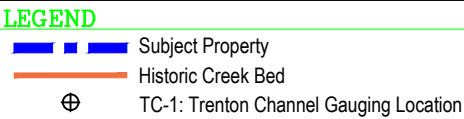
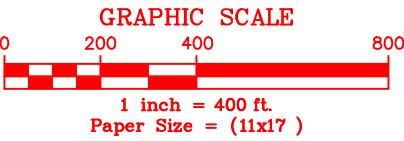
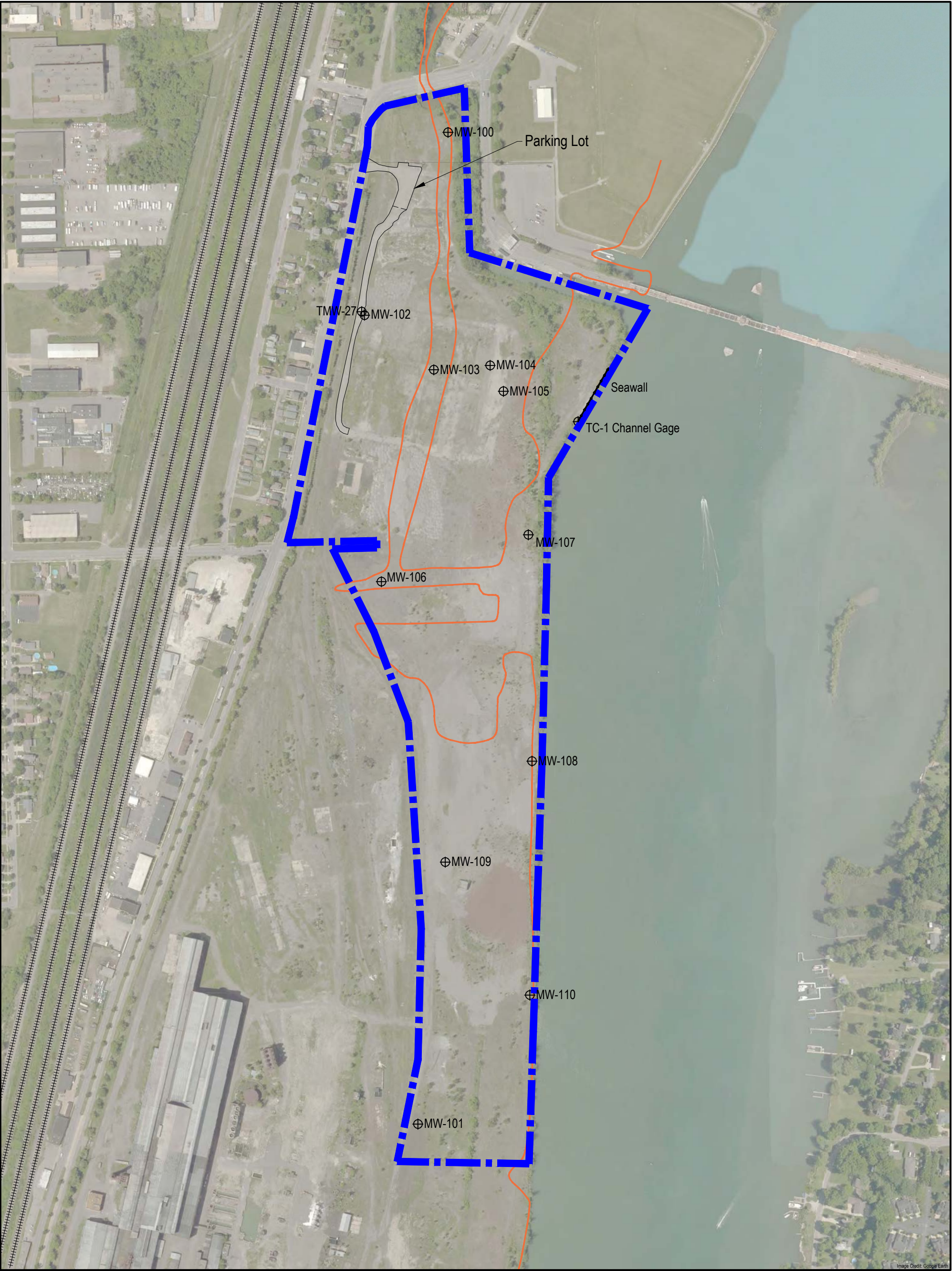
Created for: Riverview-Trenton Railroad Company  
ASTI Project 10860, JRN, March 3, 2020

Riverview, MI Figure 1 - Site Location Map









RTRR Property

Created for: Riverview-Trenton Railroad Company  
ASTI Project 10860, JMD, April 12, 2021

18251 West Jefferson Avenue, Riverview, MI

Figure 3 - Monitoring Well Locations and Former Creek Bed





## ATTACHMENTS

## **Attachment A**

### **Property Legal Descriptions**

RTRR – Riverview and Trenton, Michigan

Legal Property Descriptions

PIN 51009030001000: 05C1--OLA,O5K,L,N,P,Q THAT PART OF FRAC SEC 5 AND OF SEC 6 AND OF RIVERVIEW MANOR SUB L 49 OF PLATS P 92 DES AS BEG AT THE N E CORNER OF LOT 1 AND PROCEEDING TH ALONG TH U S HAR- BOR LINE S 31D 32M 20SEC W 572.25 FT AND S 1D 53M W 287.54 FT TH S 89D 22M W 1155.58 FT TH ALONG THE E LY LINE AND S LY LINE OF W JEFFERSON AVE N E LY 1910 FT AND ON A CURVE TO THE RIGHT R 150 FT A 147 FT AND N 78D 09M E 342.09 FT TH S 0D 40M E ALONG THE W LINE OF RIVERVIEW DRIVE 730 FT TH S 71D 52M E 818 FT TH S 31D 32M 20SEC W ALONG THE U S HARBOR LINE 290.54 FT TO THE P O B CONTAINING 41.02 ACRES

PIN 54001010082300: 08A82 TO 96 OLB 08A1\* THAT PT OF RIVERVIEW MANOR SUB LOTS 82 TO 96 INCL ALSO OUTLOT B T 4S R 11 E WCR ALSO PT OF NE 1/4 SEC 8 T 4S R 11 E DESC AS BEG N 88D 49M 45S E 134.15FT FROM THE NE COR OF SEC 7 - TH N 88D 49M 45S E 921.65FT - TH S 01D 23M 07S W 296.28FT - TH S 88D 49M 45S W 778.43FT - TH N 24D 53M 02S W 323.28FT - POB 5.78AC - - K - 5.78

PIN 54001990006704: 08PZ, Q2\* PT OF FRACL SEC 8 T4S R 11 E DESC AS BEG N 88D 49M 45S E 134.15FT AND S 24D 53M 02S E 377.90FT FROM THE NW COR OF SAID FRACL SEC 8 - TH N 88D 49M 45S E 754.23FT - TH S 01D 23M 07S W 2338.81FT- TH N 88D 36M 53S W 575.24FT - TH N 12D 09M 30S E 438.31FT - TH N 02D 05M 55S E 566.98FT - TH N 03D 14M 45S W 919.67FT - TH N 24D 53M 02S W 436.01FT - POB 28.86AC - - K - 28.86

**Attachment B**

**EGLE Work Plan Approval Letters**



GRETCHEN WHITMER  
GOVERNOR

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



LIESL EICHLER CLARK  
DIRECTOR

July 29, 2019

Mr. Greg Oslosky  
ASTI Environmental  
660 Cascade West Parkway SE, Suite 210  
Grand Rapids, Michigan 49546

Dear Mr. Oslosky:

SUBJECT: Approval of Work Plans pursuant to Corrective Action Consent Order (CACO) No. 111-06-2018; Riverview Trenton Railroad Company (RTRR), Riverview, Michigan, and Trenton, Michigan; MIK 420 024 889; Waste Data System Number 497352

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), has completed its review of the submitted Phase I CACO Work Plans for the RTRR site: *Groundwater Investigation Work Plan, Waste Management Unit Investigation Work Plan, Dust Control Work Plan, Stormwater Management Work Plan, and the Health and Safety Plan*. The Work Plans were modified by from their initial versions to incorporate necessary changes. Based on the review of the June 28, 2019, versions, the MMD hereby approves the Work Plans subject to the following condition:

1. The well logs from previous investigations referenced in the *Groundwater Investigation Work Plan* are sent to EGLE to confirm depth to groundwater, groundwater/surface water interface, and so on, are reasonable.

Should you have any questions, please contact me at 517-284-6580; RungeJ@Michigan.gov; or EGLE, MMD, P.O. Box 30241, Lansing, MI 48909-7741.

Sincerely,

Jacob Runge, Environmental Engineer  
Management and Tracking Unit  
Hazardous Waste Section  
Materials Management Division

cc: Mr. Tom Wackerman, ASTI Environmental  
Mr. Dennis Schreibeis, Crown Enterprises, Inc.  
Mr. Richard Conforti, EGLE  
Mr. Nathan Erber, EGLE  
Corrective Action File



GRETCHEN WHITMER  
GOVERNOR

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



LIESL EICHLER CLARK  
DIRECTOR

October 11, 2019

Mr. Greg Oslosky  
ASTI Environmental  
660 Cascade West Parkway SE, Suite 210  
Grand Rapids, Michigan 49546

Dear Mr. Oslosky:

SUBJECT: Approval of Quality Assurance Project Plan (QAPP) pursuant to Corrective Action Consent Order (CACO) No. 111-06-2018; Riverview Trenton Railroad Company (RTRR), Riverview, Michigan, and Trenton, Michigan; MIK 420 024 889; Waste Data System Number 497352

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), has completed its review of the Phase I CACO QAPP for the RTRR site, submitted by ASTI on October 2, 2019, and revised in response to MMD comments on October 8, 2019. Based on the review, the QAPP is hereby approved.

Should you have any questions, please contact me at 517-284-6580; RungeJ@Michigan.gov; or EGLE, MMD, P.O. Box 30241, Lansing, MI 48909-7741.

Sincerely,

Jacob Runge, Environmental Engineer  
Management and Tracking Unit  
Hazardous Waste Section  
Materials Management Division

cc: Mr. Tom Wackerman, ASTI Environmental  
Mr. Dennis Schreibeis, Crown Enterprises, Inc.  
Mr. Richard Conforti, EGLE  
Mr. John McCabe, EGLE  
Mr. Nathan Erber, EGLE  
Corrective Action File



GRETCHEN WHITMER  
GOVERNOR

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



LIESL EICHLER CLARK  
DIRECTOR

February 19, 2021

VIA E-MAIL AND U.S. MAIL

Mr. Greg Oslosky, Director  
Western Great Lakes Office  
ASTI Environmental  
660 Cascade West Parkway SE, Suite 210  
Grand Rapids, Michigan 49546

Dear Mr. Oslosky:

SUBJECT: Approval of Work Plan pursuant to Corrective Action Consent  
Order No. 111-06-2018 (CACO); Riverview Trenton Railroad  
Company (RTRR), Riverview, Michigan, and Trenton, Michigan;  
MIK 420 024 889; Waste Data System Number 497352

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), has completed its review of the Additional Concrete Investigation for Waste Management Unit 31 (Work Plan) at the RTRR site, submitted by ASTI Environmental on February 10, 2021. The Work Plan was reviewed for compliance with the applicable sections of Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and its administrative rules, as well as the site's current CACO. Based on the review, the Work Plan is approved.

If you have any questions, please contact me at 517-242-8496; RungeJ@Michigan.gov; or EGLE, MMD, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Jacob Runge, Environmental Engineer  
Management and Tracking Unit  
Hazardous Waste Section  
Materials Management Division

cc: Mr. Tom Wackerman, President, ASTI Environmental  
Mr. Dennis Schreibeis, Director, Crown Enterprises, Inc.  
Mr. Richard Conforti, EGLE  
Mr. John McCabe, EGLE  
Ms. Jennifer Hazelton, EGLE  
Mr. Nathan Erber, EGLE  
Corrective Action File

## **Attachment C**

### **WMU-26 Investigation Report**



# Waste Management Unit 26 Investigation

18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

May 18, 2019

ASTI ENVIRONMENTAL



# Waste Management Unit 26 Investigation

18251 West Jefferson  
Riverview, Michigan

May 18, 2019

**Prepared For:**

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

**Report Prepared By:**


ASTI Environmental  
10448 Citation Drive, Suite 100  
Brighton, Michigan 48116  
(810) 225-2800

**ASTI Project No. 10860**

Report Prepared by:

  
\_\_\_\_\_  
Greg S. Oslosky  
Director – Grand Rapids Office

Report Reviewed by:

  
\_\_\_\_\_  
Thomas Wackerman, CHMM  
President



## **Table of Contents**

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3.0	Investigation Activities .....	2
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3.2	Field Investigation .....	3
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## **Appendices**

- Attachment A -      Figure 1 - Site Location Map  
                             Figure 2 - RTRR Site Features Map
- Attachment B -      Topographic Maps
- Attachment C -      Photo Log

**Waste Management Unit 26 Investigation  
Riverview-Trenton Railroad Company  
Former McLouth Steel Site  
18251 West Jefferson Avenue  
Riverview, Michigan**

## **1.0 Introduction**

ASTI Environmental (“ASTI”) conducted an investigation to determine if the former North Debris Piles were removed from the Riverview-Trenton Railroad Company (“RTRR”) property at 18251 W. Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The portion of the Subject Property south of Sibley Road lies in the City of Trenton. This investigation was completed on behalf of RTRR as required by the Corrective Action Consent Order (“CACO”) between RTRR and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), Waste Management and Radiological Protection Division, dated November 1, 2018. This investigation was completed in accordance with the Statement of Work (“SOW”) included as Attachment A of the CACO for the Subject Property.

This investigation was completed for the area known as Waste Management Unit 26 (“WMU-26”) the former North Debris Piles. Attachment A includes Figure 1 – Site Location Map and Figure 2 – RTRR Site Features Map. Figure 2 includes the extents of WMU-26.

## **2.0 Background**

The McLouth Steel Company (McLouth) acquired the Subject Property between 1956 and 1961, and used portions of it for storage of raw materials, waste, and product to support the integrated production of steel and iron in the production facility located to the south (“McLouth Facility”). A large slag processing operation, operated by E. C. Levy Company, was located on the Subject Property. After about 1975, steel production decreased until McLouth ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection on September 29, 1995. At that time, only one blast furnace was operational and most other production units were operating at significantly reduced capacities.

Hamlin Holdings, Inc. acquired the Subject Property in July of 1996, although it is unclear what was conducted on the Subject Property during that time. Detroit Steel Company (“DSC”) obtained title for the Subject Property in August of 1996, during which time it used the Subject Property for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998. In support of the pickling operations, DSC started the scrubber, Central Wastewater Treatment Plant, and the pH adjustment station. Those operations closed in 2005. Crown Enterprises purchased the Subject Property on June 2, 2000 and conveyed the property to RTRR in November of 2000.

Historically, the Subject Property included the Monguagon Creek channel, an oil storage terminal, and a large building with docking facilities. By 1961, the large building and oil terminal had been demolished and the Monguagon Creek channel had been rerouted along River Road. By 1967, the original channel and mouth area of Monguagon Creek had been

filled completely and this area was used for storage of equipment and materials (ore, debris, and scrap)<sup>1</sup>.

WMU-26 is an approximately 20-acre area<sup>2</sup> of the Subject Property located in the central portion of the RTRR property that McLouth Steel used to accumulate various debris from its steel making activities.

### **3.0 Investigation Activities**

#### **3.1 Review of Historical Reports**

Based on historical documents, materials placed in the debris piles may have included refractory material, slags, air pollution control solids (from bag houses), basic oxygen furnace (“BOF”) scrubber sludge, scale pit sludges, lime handling dust, and air pollution dusts and sludges. The waste streams designated for reclamation were transferred to the Subject Property (former north debris piles) and later processed for recovery of steel scrap and fines.

Waste streams designated for reclamation were not segregated, but randomly mixed in the former piles area. DSC began processing the debris piles for recovery of recyclable steel scrap in June 1997<sup>3</sup>. The debris was processed using magnetic separation and screens to generate three types of materials; recovered steel, steel fines, and processed debris residuals (all non-magnetic material that passed through the processing plant). Reclaimed steel-containing materials were recycled in the steel-making process and processed debris residuals were transferred to new piles in the same area or directly into trucks for transfer to the landfill.

In July 2000, Detroit Steel Corporation (“DSC”) began transporting remaining debris pile material to the Countywide Landfill for disposal. Removal actions at WMU-26 took place beginning in July 2000 and continued into late 2002. Approximately 400,000 cubic yards of debris pile material was processed for recovery, disposal, or spread onsite<sup>4</sup>.

ASTI reviewed historical topographic maps (prior to debris removal by DSC) and compared them to a topographic map created in 2018. The historical topographic map used for comparison was originally included in the *North Area Characterization Plan (Revised)* prepared by Environmental Strategies Corporation (“ESC”) and dated November 2, 2000. The historical topographic maps, included in Attachment B, show several piles throughout WMU-26 at the time of the survey. The piles are evident based on topographic highs. ESC provided the extents of WMU-26 on the historical topographic map. The extents of WMU-26 are also depicted in the Site Plan provided as Figure 2. The 2018 topographic map is also included in Attachment B.

The topography in the northern portion of WMU-26 shown in the historical topographic map depicts several mounds throughout the WMU-26 in 2000. The elevation contours depicted in the historical topographic map are five-foot elevation contours. Most of the debris piles have

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<sup>1</sup> North Area Characterization Plan, Revised, ESC, November 2, 2000

<sup>2</sup> RCRA Facility Assessment Report – DSC Ltd. – Trenton Plant, ESC, November 2, 1999

<sup>3</sup> Debris Pile Characterization Plan, Techna Corporation, June 8, 1998

<sup>4</sup> Status of Consent Order Activities, Trenton and Gibraltar, Michigan, DSC Ltd, June 2002

a maximum elevation between approximately 610 feet above mean sea level (ft AMSL) to approximately 620 ft AMSL. The heights of the piles generally range from 15 feet to 30 feet.

A review of the topographic map produced in 2018 shows much less mounding compared to the historical topographic map. The elevation contours depicted in the 2018 topographic map are one-foot elevation contours. The elevation in the northern portion of WMU-26 generally ranges between 590 ft AMSL and 595 ft AMSL and is generally consistent with the elevation of the remainder of the property. A few small mounds, approximately five feet in height, are present in the 2018 elevation contours. However, the mounds present in the historical topographic map appear to have been removed from the site.

One large mound is evident in the 2018 topographic map located southeast of the concrete pad of WMU-31. As shown in Figure 2, the footprint of this mound is partially located within the WMU-26 extents. This mound has a maximum elevation of approximately 597 ft AMSL and is approximately six feet to seven feet higher than the surrounding ground surface. Based on a review of Google Earth aerial maps dated between April 2002 and April 2019, it appears that the material comprising the current mound was placed after January 2004 and before March 2005 (after completion of removal of debris material) with additional material placed in the same pile sometime between April 2015 and April 2016. Review of historical documents, and subsequent site investigation, indicated that this mound is composed of asphalt millings.

### ***3.2 Field Investigation***

On November 27, 2019, ASTI investigated the area of the former North Debris Piles to determine if the piles are still present. The field investigation consisted of visual reconnaissance of the northern and southern portions of the WMU-26 area as shown on Figure 2. The location of the northern and southern portions of the former North Debris pile were inspected to determine if the surface soil material in those areas are similar to surface soil material outside of the former North Debris pile locations. Photographs taken during the field investigation are shown in the Photo Log included as Attachment C.

The mound currently located partially within WMU-26 near the northern extent is gradually sloped and the material at the surface of the mound was confirmed to be comprised of asphalt millings with grain sizes ranging from coarse sand to fine cobbles mixed with brown silty sand. Some of this material was excavated in 2019, revealing that the asphalt millings range to a depth of up to six feet below the top of the mound.

No large-scale mounding was observed in the southern portion of WMU-26 during the field investigation. One smaller mound was observed near the border of the Subject Property and the County Property which is approximately 60 ft long by 20 ft wide and 10 ft high. It does not appear that the material in this mound is associated with the debris from WMU-26 because it appears to be comprised of construction material.

The western portion of the surface in southern WMU-26 is comprised of sand to gravel size slag and asphalt material. Trace amounts of metal debris is present in the surface. The eastern portion of southern WMU-26 is comprised of similar material although more metal debris is present and larger slag debris is present.

#### **4.0 Conclusions**

As required by the CACO, ASTI investigated the WMU-26 area. The investigation includes review of historical documents (reports and topographic maps) and a field investigation. Based on the investigation, ASTI believes that the former North Debris Piles have been removed from the Subject Property. One mound, consisting of asphalt millings, is present near the northern extent of WMU-26. Based on a review of historical aerial photos this material was placed after the McLouth Facility ceased operations. Additionally, this mound is located partially outside of the documented extents of WMU-26. A review of the topographic map produced in 2018 shows that surface elevations in the WMU-26 area are generally consistent with the remainder of the Subject Property. Additionally, surface material within the WMU-26 area is consistent with the surface material on other portions of the Subject Property.

#### **5.0 RCRA Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



---

Greg S. Oslosky, P.G.  
Director – Grand Rapids

**Attachment A**  
**Figures**

**Waste Management Unit 26 Investigation**

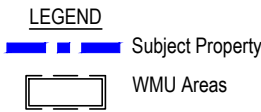
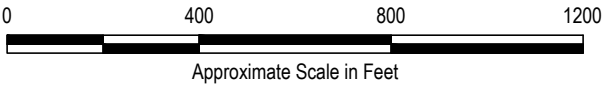








Image Credit: Google Earth



# RTRR - WMU-26 Investigation

Created for: Riverview-Trenton Railroad Company  
ASTI Project 10860,JRN/JMD, March 4, 2020

18251 West Jefferson Avenue, Riverview, MI



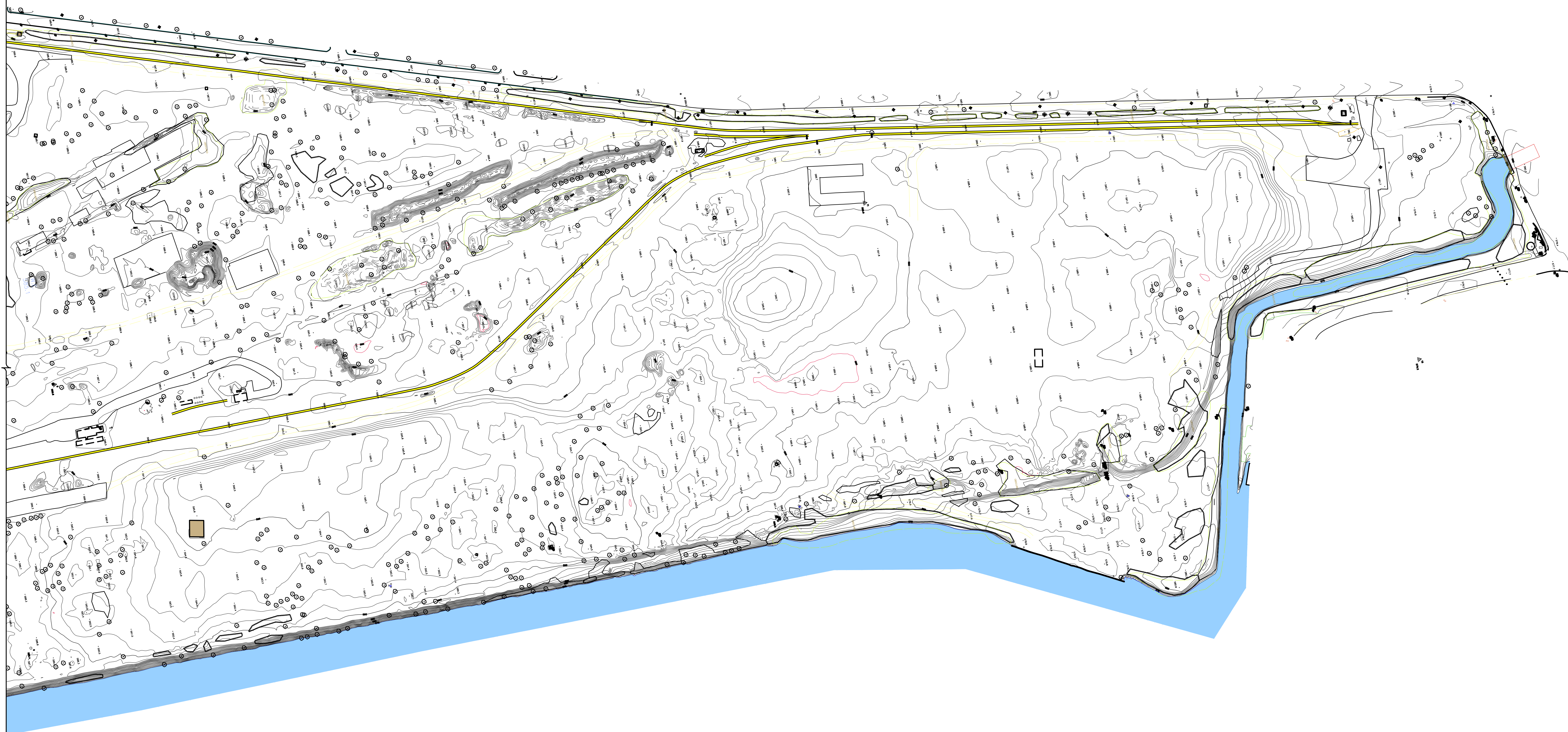
Figure 2 - Site Features Map

**Attachment B**  
**Topographic Maps**

**Waste Management Unit 26 Investigation**



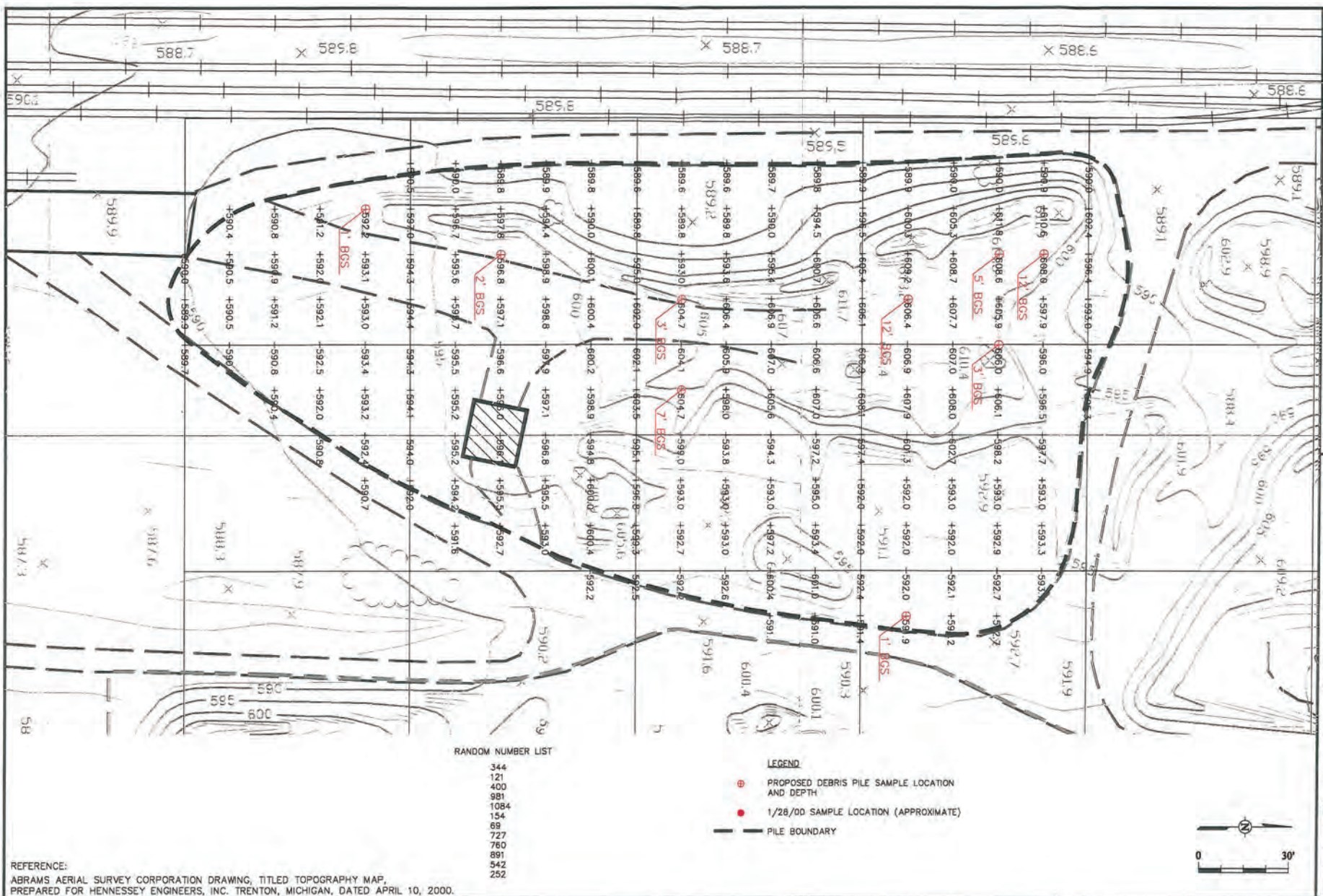
MATCHLINE



SCALE: 1" = 120'

DATE	REVISION		
<div> <div>McLouth RTRR</div> <div>JEFFERSON AVE</div> <div>RIVERVIEW TRENTON</div> </div>		<div>DRAWN BY</div> <div>JMH</div>	
<div>Former McLouth Steel - Northern Property</div>		<div>DATE</div> <div>2-7-18</div>	
<div>Topo Survey</div>			<div>P1</div>





ENVIRONMENTAL STRATEGIES CORPORATION

11911 Freedom Drive Suite 900

Reston, Virginia 20190

703-709-6500

Figure 7

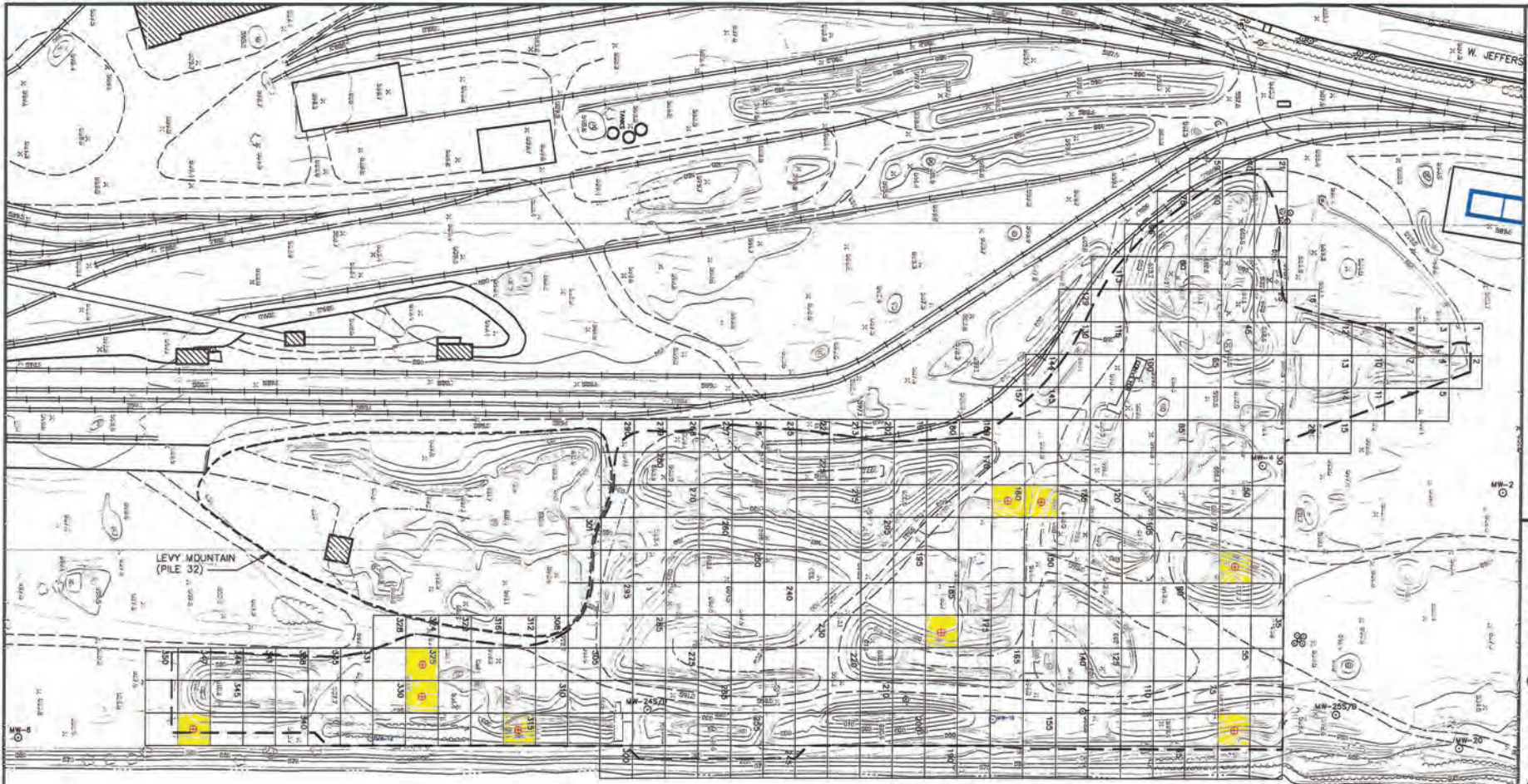
Levy Mountain Sample Locations

DSC Ltd.

Trenton, Michigan

DSC-TRENTON-B04.DWG





NOTE: SURFACE TOPOGRAPHY HAS CHANGED DUE TO  
REMOVAL OF DEBRIS PILES.

#### SAMPLE LOCATIONS

160  
57  
52  
349  
325  
315  
148  
326  
186  
248  
41  
254

#### LEGEND

- MONITORING WELL LOCATION
- PROPOSED SOIL SAMPLE LOCATION  
DEPTH = 2-4 FEET, 8-10 FEET
- - - PILE BOUNDARY
- FORMER PILE AREA (APPROXIMATELY 17 ACRES)

REFERENCE:  
ABRAMS AERIAL SURVEY CORPORATION DRAWING, TITLED TOPOGRAPHY MAP,  
PREPARED FOR HENNESSEY ENGINEERS, INC. TRENTON, MICHIGAN, DATED APRIL 10, 2000.

ENVIRONMENTAL STRATEGIES CORPORATION

11911 Freedom Drive Suite 900  
Reston, Virginia 20190  
703-709-6500



Figure 8  
Soil Sample Locations - North Debris Piles (WMU-26)  
DSC Ltd.  
Trenton, Michigan




**Attachment C**  
**Photo Log**

**Waste Management Unit 26 Investigation**



## PHOTO LOG

WMU-26, RTRR, 18251 West Jefferson Ave., Riverview, Michigan

	<p><b>Photo 1.</b></p> <p>View looking south toward former North Debris Pile. Former McLouth Production Facility in the background.</p>
	<p><b>Photo 2.</b></p> <p>View looking west toward location of the former North Debris Pile.</p>
	<p><b>Photo 3.</b></p> <p>View looking west. Location of former North Debris Pile. Unvegetated area is covered with asphalt millings. Residential area west of West Jefferson in background.</p>



## PHOTO LOG

WMU-26, RTRR, 18251 West Jefferson Ave., Riverview, Michigan



**Photo 4.**

View looking north-northwest. Area of former North Debris Pile in foreground.



**Photo 5.**

View looking north. Asphalt millings pile in foreground. Gross Ile Bridge Toll Plaza in background.






**Photo 6.**

View of asphalt millings in the area of former North Debris Piles.

## PHOTO LOG

WMU-26, RTRR, 18251 West Jefferson Ave., Riverview, Michigan

	<p><b>Photo 7.</b></p> <p>View looking west. Asphalt millings in foreground. Photograph taken from top of topographic high. Intersection of West Jefferson and Sibley Road in background.</p>
	<p><b>Photo 8.</b></p> <p>View looking south. Topographic high comprised of asphalt millings in left foreground. Former McLouth Production Facility in background.</p>
	<p><b>Photo 9.</b></p> <p>View looking southeast. Location of former North Debris Pile in background. Southwest corner of concrete slab for WMU-31 in foreground.</p>



## PHOTO LOG

WMU-26, RTRR, 18251 West Jefferson Ave., Riverview, Michigan



**Photo 10.**

View looking east-northeast. Location of the former North Debris Pile in the background. Eastern edge of the concrete slab of WMU-31 in foreground.



**Photo 11.**

View looking west. Apparent construction material pile near western property border. Former McLouth Production Facility in background.



**Photo 12.**

View looking north. Location of the former location of the southern portion of the North Debris Pile. Former McLouth Production Facility visible in the left half of the photograph.

**ASTI ENVIRONMENTAL**  
**ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND**  
**RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.**

**OUR SERVICES INCLUDE:**

- **ASBESTOS, LEAD, MOLD, AND RADON ASSESSMENTS**
- **BROWNFIELD/GREYFIELD REDEVELOPMENT ASSISTANCE**
- **DEVELOPMENT INCENTIVES AND GRANT MANAGEMENT**
- **ECOLOGICAL ASSESSMENTS AND RESTORATION**
- **ENVIRONMENTAL ASSESSMENTS AND IMPACT STATEMENTS**
- **ENVIRONMENTAL OPPORTUNITIES ASSESSMENT**
- **GIS MAPPING**
- **HAZARD MITIGATION PLANNING**
- **MINING AND RECLAMATION ASSISTANCE**
- **REMEDIATION IMPLEMENTATION, OPERATION AND MAINTENANCE**
- **PHASE I ESA AND ENVIRONMENTAL DUE DILIGENCE ASSESSMENTS**
- **REGULATORY COMPLIANCE AND PERMITTING**
- **SOIL AND GROUNDWATER ASSESSMENTS**
- **SOIL AND GROUNDWATER REMEDIATION**
- **STORAGE TANK COMPLIANCE AND CLOSURE**
- **THREATENED AND ENDANGERED SPECIES SURVEYS**
- **WATERSHED AND STORMWATER MANAGEMENT PROGRAMS**
- **WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING**

**Attachment D**

**WMU-27 Soil Investigation Report**

# Waste Management Unit 27 Soil Investigation

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

May 21, 2020

ASTI ENVIRONMENTAL



# Waste Management Unit 27 Soil Investigation

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

May 21, 2020

**Prepared For:**

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

**Report Prepared By:**

ASTI Environmental  
10448 Citation Drive, Suite 100  
Brighton, Michigan 48116  
(810) 225-2800

**ASTI Project No. 10860**

Report Prepared by:



---

Greg S. Oslosky  
Director – Grand Rapids Office

Report Reviewed by:



---

Allison J. Rogowski, EP  
Associate Environmental Scientist



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## **Tables**

Table 1 – Summary of Laboratory Analytical Results

## **Attachments**

Attachment A -	Figures Figure 1 - Site Location Map Figure 2 - RTRR Site Features Map Figure 3 - WMU-27 Sample Location Map
Attachment B -	Historical Sample Location Map
Attachment C -	Soil Boring Logs
Attachment D -	Laboratory Analytical Report



**Waste Management Unit 27 Soil Investigation  
Riverview-Trenton Railroad Company  
Former McLouth Steel Site  
18251 West Jefferson Avenue  
Riverview, Michigan**

## **1.0 Introduction**

In accordance with the Corrective Action Consent Order (“CACO”) dated November 1, 2018 between the Riverview-Trenton Rail Road Company (“RTRR”) and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), ASTI Environmental (“ASTI”) conducted a soil investigation at the property located at 18251 West Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The portion of the Subject Property which lies south of Sibley Road, is located in the City of Trenton, Michigan. The investigation was completed in accordance with the Statement of Work included as Attachment A of the CACO for the Subject Property and with the Work Plan – Waste Management Unit Investigations prepared by ASTI dated June 28, 2019 (“Work Plan”). Attachment A includes Figure 1 - Site Location Map and Figure 2 - RTRR Site Features Map.

The investigation was completed for the former Equipment Storage Yard, also known as Waste Management Unit 27 (“WMU-27”). The location of the former Equipment Storage Yard is shown in Figure 2. The purpose of the investigation was to determine the horizontal and vertical extents of polychlorinated biphenyls (“PCBs”). As defined in the CACO, soil analytical results were compared to the Toxic Substance Control Act (“TSCA”) PCB Cleanup Level for Low Occupancy Areas of less than or equal to 25 parts per million (“ppm” or milligrams per kilogram).

## **2.0 Background**

The McLouth Steel Company (McLouth) acquired the Subject Property between 1956 and 1961, and used portions of it for storage of raw materials, waste, and product to support the integrated production of steel and iron in the production facility located to the south (“McLouth Facility”). A large slag processing operation, operated by E. C. Levy Company, was located on the Subject Property. After about 1975, steel production decreased until McLouth ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection on September 29, 1995. At that time, only one blast furnace was operational and most other production units were operating at significantly reduced capacities.

Hamlin Holdings, Inc. acquired the Subject Property in July of 1996, although it is unclear what was conducted on the Subject Property during that time. Detroit Steel Company (“DSC”) obtained title for the Subject Property in August of 1996, during which time it used it for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998. In support of the pickling operations, DSC started the scrubber, Central Wastewater Treatment Plant, and the pH adjustment station. Those operations closed in 2005. Crown Enterprises purchased the Subject Property on June 2, 2000 and conveyed the property to RTRR in November of 2000.

Historically, the Subject Property included the Monguagon Creek channel, an oil storage terminal, and a large building with docking facilities. By 1961, the large building and oil terminal had been demolished and the Monguagon Creek channel had been rerouted along River Road. By 1967, the original channel and mouth area of Monguagon Creek had been filled completely and this area was used for storage of equipment and materials (ore, debris, and scrap)<sup>1</sup>.

After about 1975, production decreased, until McLouth ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection on September 29, 1995. Hamlin Holdings, Inc. acquired the Subject Property in July of 1996, although it is unclear what was conducted on the Subject Property during that time. Detroit Steel Company ("DSC") obtained title for the Subject Property in August of 1996, during which time it used it for storage and conducted removal activities. Crown Enterprises purchased the Subject Property on June 2, 2000 and conveyed the property to RTRR in November of 2000.

WMU-27 was a fenced area, approximately 1.2 acres, on the northern portion of the RTRR property that was used for secure storage of valuable surplus electrical and mechanical equipment. The area is identified as a Waste Management Unit because it may have been used to store surplus transformers before construction of the Toxic Substance Control Act ("TSCA") Storage Building in 1980. A small (approximately 1,000 square feet) building was located in the northwest corner of the storage yard. The building was not known to have been used for equipment storage; therefore, it is not considered part of the Waste Management Unit<sup>2</sup>. The primary equipment stored in this area was blast furnace equipment. The yard was also used for storage of surplus transformers prior to construction of the TSCA building (WMU-29) in the 1980s. The chain-link fence around the former Equipment Storage Yard has been removed.

### **3.0 Review of Historical Data**

ASTI reviewed historical reports in reference to activities conducted at the WMU-27 area. In October 2000, Earth Tech conducted a PCB investigation in surface soil within the WMU-27 area. Earth Tech collected 12 soil samples from the interval between zero and six inches below ground surface ("bgs") for laboratory analysis of PCBs. The maximum detected PCB concentration was 0.4 ppm. Deeper soil samples (6 inches to 12 inches bgs) were collected during the investigation; however, they were not analyzed due to absence of PCBs in exceedance of 20 ppm which was the cleanup standard set in the Corrective Measures Work Plan (ESC, June 23, 2000).

In January 2001, Environmental Strategies Corporation ("ESC") investigated WMU-27 to determine if PCBs were present in surface soil within the area. Twelve surface soil samples were collected from the interval between zero and six inches bgs for laboratory analysis of PCBs. The maximum detected PCB concentration was 33 ppm (sample identification number W27-08-06 0-6"). The sample collected from the interval between 6 inches and 12 inches bgs in the same soil boring (W27-08-06) contained a total PCB concentration of 2.9

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<sup>1</sup> North Area Characterization Plan, Revised, ESC, November 2, 2000

<sup>2</sup> Corrective Measures Work Plan – Equipment Storage Yard (WMU-27), TSCA Storage Yard (WMU-29), ESC, July 27, 2000

ppm. The remaining PCB concentrations were below 25 ppm<sup>3</sup>. A map showing the January 2001 sample locations is provided in Attachment B.

In the third quarter of 2001, DSC excavated and loaded approximately 10 cubic yards of PCB-impacted soil from the WMU-27 area. The soil was placed in a roll-off container<sup>4</sup>. On March 8, 2002, the roll-off container was removed from the Subject Property and transported to the Waste Management Woodland Meadows facility for disposal as non-hazardous waste<sup>5</sup>. ASTI could not verify the location of the excavation within WMU-27.

On July 19, 2001, Earth Tech collected eight soil verification samples after removal of PCB-impacted soil from WMU 27<sup>6</sup>. The maximum detected total PCB concentration was less than 5 ppm.

#### **4.0 December 2019 PCB Investigation**

##### **4.1 Soil Sample Collection**

ASTI conducted a soil investigation in soil in accordance with the CACO and as described in the Work Plan. Prior to field investigation activities, ASTI determined the extents of the former Equipment Storage Yard through review of historical reports and aerial figures. ASTI determined the coordinates of the four corners of the rectangular storage area and the corners were staked by a licensed surveyor prior to field activities. The staked area included the footprint of the former storage yard. Additionally, ASTI's area of investigation extended 10 feet beyond the WMU-27 extents.

In accordance with the CACO Scope of Work, the locations for 20 soil borings were determined using a systematic random approach as described in the EGLE Guidance Document titled Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria ("S3TM" [EGLE, 2002]). WMU-27 measured approximately 330 feet (east/west) by approximately 170 feet (north/south). Including the additional 10 feet beyond side, the area of investigation measured approximately 350 feet (east/west) by approximately 190 feet (north/south). ASTI divided the area of investigation into 20 equally sized subsections, approximately 70 feet (east/west) by 47.5 feet (north/south). Each subsection represented one soil boring location. ASTI used Microsoft Excel to randomly generate specific soil sample locations within each of the 20 subsections. One random number between 0 and 70 was generated for the x-axis (east/west) and one random number between 0 and 47.5 was generated for the y-axis (north/south). The random number generated for the x-axis was 43 and the random number generated for the y-axis was 25. ASTI used these randomly generated numbers to measure from the southwest corner of each subsection; 43 feet east from the southwestern corner and 25 feet north of the southern border of the investigation area. Figure 3 - WMU-27 Sample Location Map shows the WMU-27 investigation area including the grid generated by ASTI and the soil boring locations.

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<sup>3</sup> Monitoring Well and Piezometer Installation and Analytical Results transmittal, Former DSC Ltd. Property, Trenton and Riverview, Michigan, ESC, September 18, 2001

<sup>4</sup> Quarterly Status Report, DSC LTD., Third Quarter 2001

<sup>5</sup> Quarterly Status Report, DSC LTD., First Quarter 2002

<sup>6</sup> September – November 2001 Comprehensive Corrective Action and Removal Consent Order Activities, North Area, Trenton and Riverview, Michigan, ESC, December 13, 2001

Prior to drilling, ASTI contacted Michigan's MISS DIG system to locate public utilities near the Subject Property. On December 16, 2019, an ASTI scientist supervised installation of 20 soil borings within the WMU-27 area of investigation. Prior to drilling, ASTI marked each soil boring location in the field with a pin flag. The soil borings were installed with the use of a track-mounted hydraulic direct push drill rig. The soil borings were designated as SB-1 through SB-20, with SB-1 located in the southwestern most subsection and numbering continued toward the east (Figure 3).

The ASTI scientist continuously logged and recorded lithology in the project field notebook. Each boring was advanced to drilling refusal and depths ranged from 7 feet bgs to 15 feet bgs. ASTI collected one surface soil sample from the interval between zero and three inches bgs. A second soil sample was collected from the interval directly above the depth of drilling refusal. The Work Plan also proposed collection of a third sample from a boring at an interval if it exhibited the potential for impacts based on visual observations (i.e. staining, odor, etc.). ASTI did not observe any intervals which displayed potential impacts requiring the need for a third sample; therefore, two soil samples were collected from each boring. The soil boring logs are provided in Attachment C.

Soil was retrieved from the borings in a clean disposable acetate liner and scanned with a photoionization detector ("PID"). Prior to sampling, the PID was calibrated to manufacturer specifications using 100 ppm isobutylene span gas. After logging the soil lithology, the ASTI scientist collected soil samples by placing soil directly into clean jars provided by the laboratory. Each sample was labeled with a unique identification number including the Waste Management Unit identification, soil boring identification number, and the depth interval. For example, the soil sample collected from the interval between zero to three-inches bgs in SB-1 was identified as WMU27-SB1-0-3". After collection, the samples were placed on ice and kept cold until delivery to Fibertech Laboratory (Fibertech) in Holt, Michigan using standard chain-of-custody procedures. For the purpose of quality control/quality assurance (QA/QC), ASTI collected a duplicate sample for every 20 samples collected. ASTI collected 40 samples; therefore, 2 duplicate soil samples were collected. Soil samples were analyzed for PCBs by United States Environmental Protection Agency (USEPA) Methods 3546 and 8082A.

#### **4.2 Laboratory Analytical Results**

The laboratory analytical results for the WMU-27 soil samples collected in December 2019 indicate that PCBs are not present in the samples at a concentration greater than 25 ppm. The maximum detected concentration detected during this investigation was 13 ppm (13,000 micrograms per kilogram [ $\mu\text{g/kg}$ ]). This concentration was detected in the sample collected in the interval between 8.5 feet and 9.5 feet bgs in SB-6 (Figure 3). Table 1 provides a summary of the laboratory analytical results for the December 2019 soil investigation. The laboratory analytical report is provided in Appendix D.

### **5.0 Conclusions**

In accordance with the CACO and the Work Plan, ASTI conducted a soil investigation at the WMU-27 area. ASTI collected 40 soil samples (plus 2 QA/QC samples) for analysis of PCBs. Based on laboratory analytical results for the December 2019 soil investigation, PCBs were not detected at concentrations exceeding 25 ppm. The maximum detected concentration was 13 ppm.

Three soil investigations and soil verification sampling has taken place in the WMU-27 area and 71 soil samples (including duplicates) have been collected from the area. One soil sample contained a concentration of PCBs in exceedance of 25 ppm. That sample was collected from the interval between zero and six inches bgs. PCBs were detected in the interval below at a concentration below 25 ppm. PCB-impacted soil was excavated from the WMU-27 area in in the third quarter of 2001 and soil verification sampling did not detect impacted soil above 25 ppm.

## 6.0 Measures to Prevent Unacceptable Human Exposure to PCBs

Multiple soil investigations have shown that one soil sample contained a concentration of PCBs in exceedance of 25 ppm. Soil excavation was performed, and soil verification sampling confirmed that the exceedance was removed during excavation.

The CACO requires that soil cleanup be based on a comparison to low occupancy closure options under TSCA. The table below provides a summary of low occupancy closure options for PCB impacted soil regulated by TSCA.

**TSCA Soil Closure Options – Low Occupancy**

<u>Concentration</u>	<u>Remedy</u>
≤25 ppm	Institutional control only
>25 ppm to ≤50 ppm	Fence and marked with a sign including the M <sup>L</sup> mark
>25 ppm to ≤100 ppm	Engineered cap
>100 ppm	Site specific risk-based closure

PCB concentrations are not present in the WMU-27 area in exceedance of 25 ppm. Therefore, institutional controls can be used to prevent unacceptable human exposure to PCBs in this area. An institutional control, such as a deed restriction for the WMU-27 area, could restrict the area to a low occupancy area and that restriction would be maintained in perpetuity.

## 7.0 RCRA Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Greg S. Oslosky, P.G.  
Director – Grand Rapids

**Table 1**  
**Summary of Laboratory Analytical Results**  
**Waste Management Unit 27 Investigation**

Table 1 Summary of WMU-27 Soil Analytical Results  
RTRR - Riverview, Michigan  
18251 West Jefferson Ave, Riverview, Michigan  
ASTI File No.: 10860

Parameters	TSCA PCB						
	Cleanup Level for	WMU27-SB1-0-3"	WMU27-SB1-11-12'	WMU27-SB2-0-3"	WMU27-SB2-11-12'	WMU27-SB3-0-3"	WMU27-SB3-11-12'
	Low Occupany	0-3"	11-12'	0-3"	11-12'	0-3"	11-12'
	Areas	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>							
PCB, Aroclor 1016		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<b>490</b>	<100	<b>150</b>	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1254		<b>7,400</b>	<b>460</b>	<100	<b>360</b>	<100	<b>480</b>
PCB, Aroclor 1260		<b>4,000</b>	<b>560</b>	<b>300</b>	<b>360</b>	<100	<b>920</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<b>11,400</b>	<b>1,510</b>	<b>300</b>	<b>870</b>	<100	<b>1,400</b>

Parameters	TSCA PCB						
	Cleanup Level for	WMU27-SB11-0-3"	WMU27-SB11-11-12'	WMU27-SB12-0-3"	WMY27-SB12-11-12'	WMU27-SB13-0-3"	WMU27-SB13-11-12'
	Low Occupany	0-3"	11-12'	0-3"	11-12'	0-3"	11-12'
	Areas	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>							
PCB, Aroclor 1016		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1260		<100	<b>110</b>	<b>240</b>	<100	<b>270</b>	<100
PCB, Aroclor 1262		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<100	<b>110</b>	<b>240</b>	<100	<b>270</b>	<100

Notes:

**Bold** indicates concentration above laboratory reporting limit.

"µg/kg" - micrograms per kilogram or parts per billion

"<" indicates concentration below laboratory reporting limit

Table 1 Summary of WMU-27 Soil Analytical Result  
RTRR - Riverview, Michigan  
18251 West Jefferson Ave, Riverview, Michigan  
ASTI File No.: 10860

Parameters	TSCA PCB	WMU27-SB4-0-3"	WMU27-SB4-11-12'	WMU27-SB5-0-3"	WMU27-SB5-9-10'	WMU27-SB6-0-3"
	Cleanup Level for	0-3"	11-12'	0-3"	9-10'	0-3"
	Low Occupany	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	Areas µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<b>180</b>	<100	<b>180</b>
PCB, Aroclor 1260		<b>210</b>	<b>540</b>	<b>160</b>	<100	<b>150</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<b>1,600</b>	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<b>210</b>	<b>2,140</b>	<b>340</b>	<100	<b>330</b>

Parameters	TSCA PCB	WMU27-SB14-0-3"	WMU27-SB14-11-11.75'	WMU27-SB15-0-3"	WMU27-SB15-11-12'	WMU27-SB16-0-3"
	Cleanup Level for	0-3"	11-11.75'	0-3"	11-12'	0-3"
	Low Occupany	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	Areas µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<100	<100	<100
PCB, Aroclor 1260		<100	<b>110</b>	<100	<b>3,600</b>	<100
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<100	<b>110</b>	<100	<b>3,600</b>	<100

Notes:

**Bold** indicates concentration above laboratory reporting li

"µg/kg" - micrograms per kilogram or parts per billion

"<" indicates concentration below laboratory reporting limi



Table 1 Summary of WMU-27 Soil Analytical Result  
RTRR - Riverview, Michigan  
18251 West Jefferson Ave, Riverview, Michigan  
ASTI File No.: 10860

Parameters	TSCA PCB	WMU27-DUP1				
	Cleanup Level for	WMU27-SB6-0-3"	WMU27-SB6-8.5-9.5'	WMU27-SB7-0-3"	WMU27-SB7-10.5-11.5'	WMU27-SB8-0-3"
	Low Occupany	0-3"	8.5-9.5'	0-3"	10.5-11.5'	0-3"
	Areas	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<100	<100	<100
PCB, Aroclor 1260		<b>2,300</b>	<b>13,000</b>	<100	<100	<100
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<b>2,300</b>	<b>13,000</b>	<100	<100	<100

Parameters	TSCA PCB	WMU27-SB16-0-3"	WMU27-SB16-7-8'	WMU27-SB17-0-3"	WMU27-SB17-6-7'	WMU27-SB18-0-3"
	Cleanup Level for	0-3"	7-8'	0-3"	6-7'	0-3"
	Low Occupany	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	Areas	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<100	<100	<100
PCB, Aroclor 1260		<100	<100	<100	<100	<b>140</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<100	<100	<100	<100	<b>140</b>

Notes:

**Bold** indicates concentration above laboratory reporting li

"µg/kg" - micrograms per kilogram or parts per billion

"<" indicates concentration below laboratory reporting limi

Table 1 Summary of WMU-27 Soil Analytical Result  
RTRR - Riverview, Michigan  
18251 West Jefferson Ave, Riverview, Michigan  
ASTI File No.: 10860

Parameters	TSCA PCB					
	Cleanup Level for	WMU27-SB8-10-11'	WMU27-SB9-0-3"	WMU27-SB9-7-8'	WMU27-SB10-0-3"	WMU27-SB10-7-8'
	Low Occupany	10-11'	0-3"	7-8'	0-3"	7-8'
	Areas	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<100	<100	<100
PCB, Aroclor 1260		<b>370</b>	<b>220</b>	<100	<100	<100
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<b>370</b>	<b>220</b>	<100	<100	<100

Parameters	TSCA PCB					
	Cleanup Level for	WMU27-SB18-9-10'	WMU27-SB19-0-3"	WMU27-SB19-6-7'	WMU27-SB20-0-3"	WMU27-SB20-9-10'
	Low Occupany	9-10'	0-3"	6-7'	0-3"	9-10'
	Areas	12/16/2019	12/16/2019	12/16/2019	12/16/2019	12/16/2019
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<b>120</b>	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<100	<100	<100	<100
PCB, Aroclor 1260		<b>1,400</b>	<b>200</b>	<100	<100	<100
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100
Polychlorinated biphenyls (PCBs)	25,000	<b>1,400</b>	<b>320</b>	<100	<100	<100

Notes:

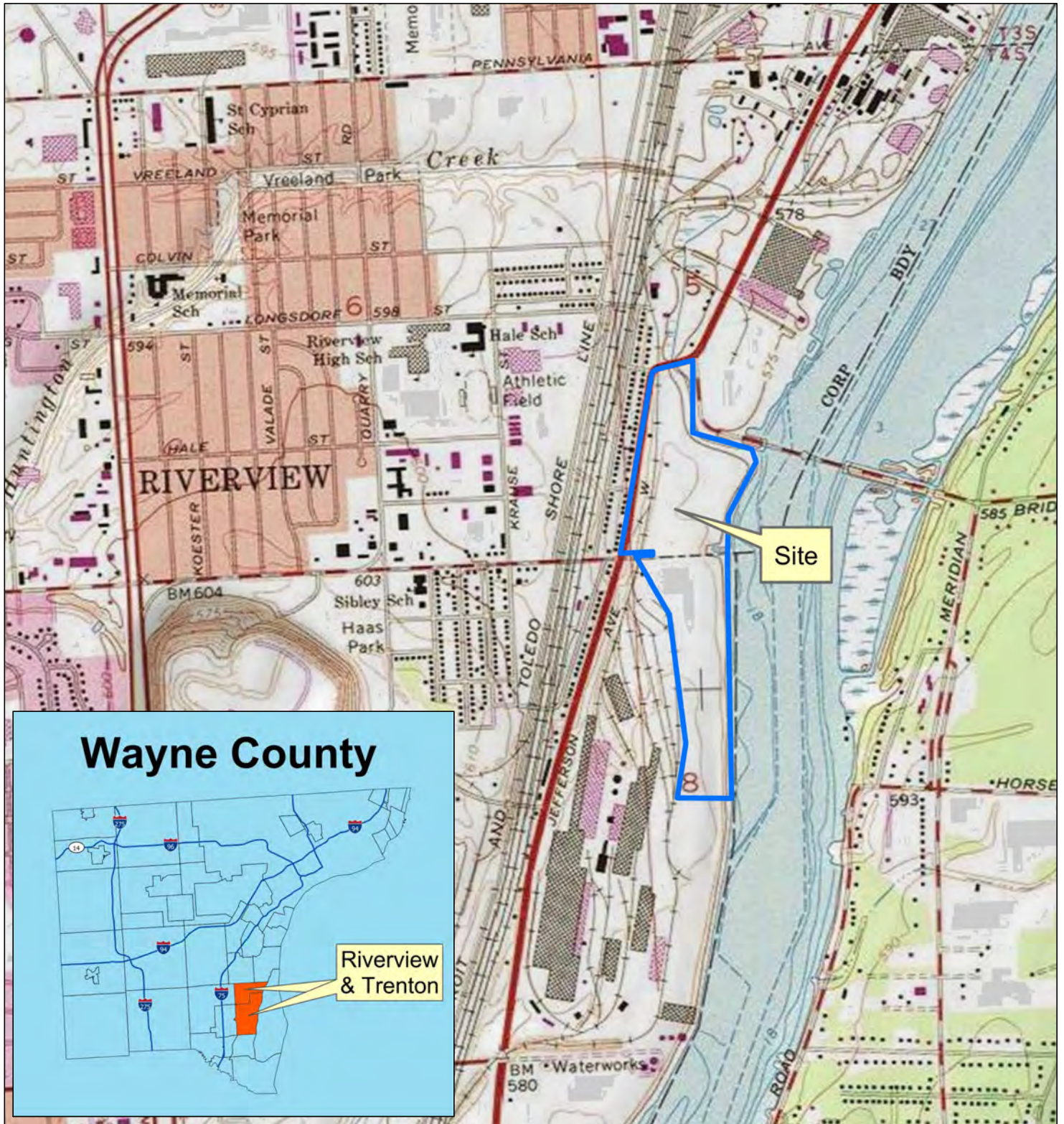
**Bold** indicates concentration above laboratory reporting li

"µg/kg" - micrograms per kilogram or parts per billion

"<" indicates concentration below laboratory reporting limi

**Attachment A**  
**Figures**

**Waste Management Unit 27 Investigation**

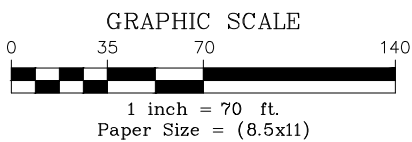
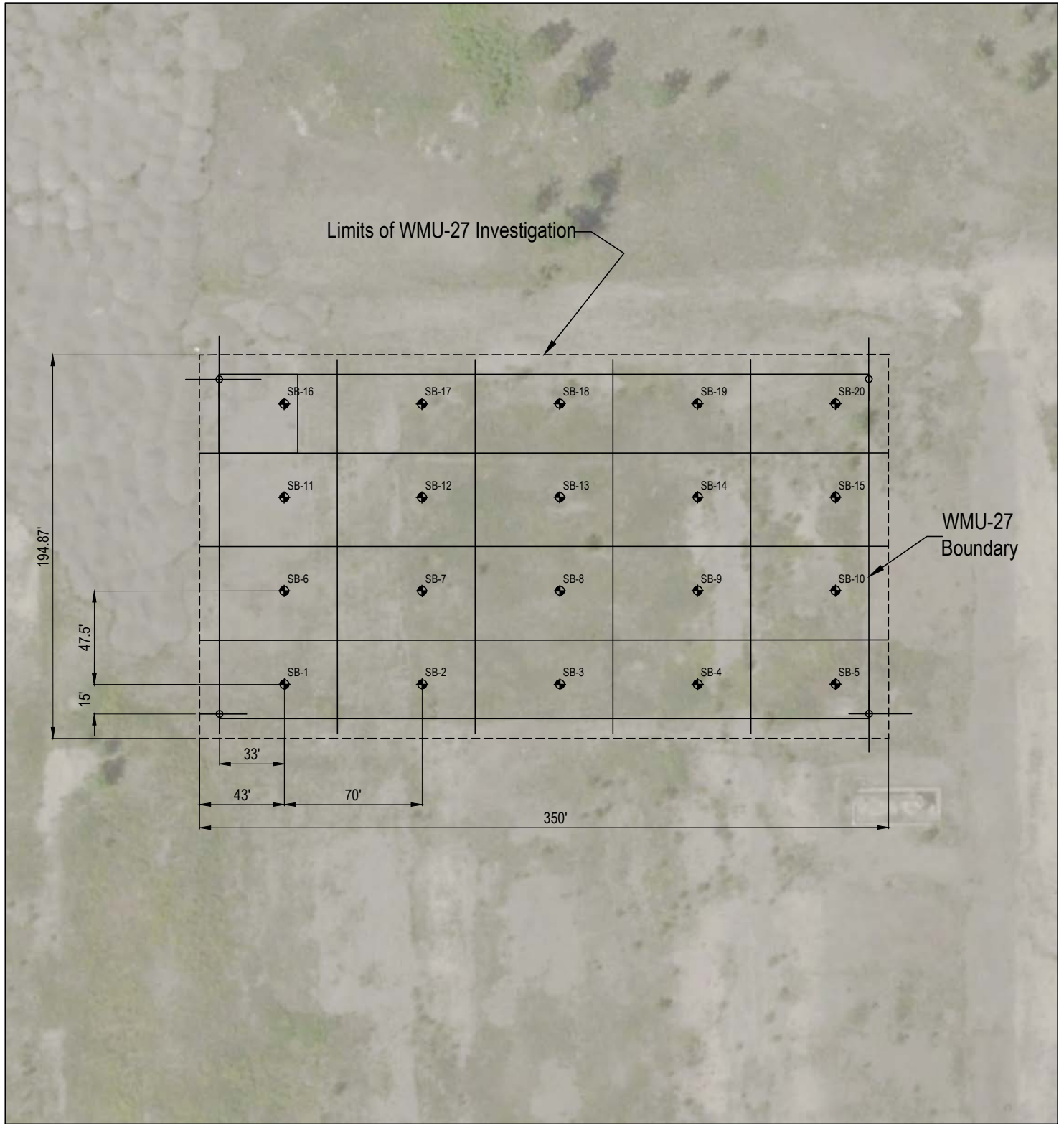










Y:\Project Files\Current and Closed\10000-10999\10860-10860 McLouth RTRR Property\10860-10860 RTRR.dwg: 5/19/2020 12:16 PM



LEGEND

-  Soil Boring Location
-  Stake Location



RTRR Property

18251 West Jefferson, Riverview, MI

Created for: Riverview-Trenton Railroad Company

Figure 3 - WMU-27 Sample Location Map

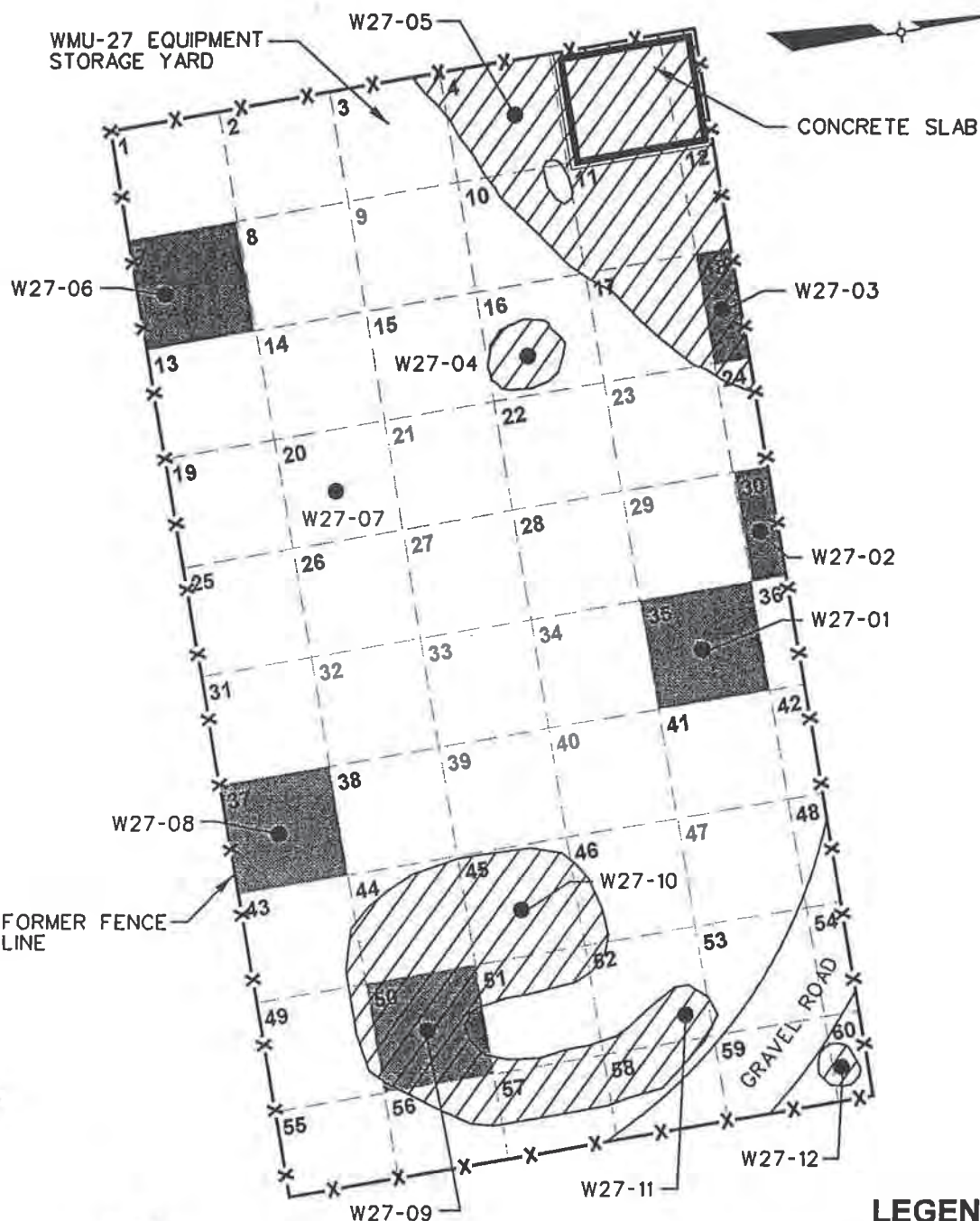
ASTI Project 10860, JRN, May 19, 2020






**Attachment B**  
**Sample Location Map – Previous Investigations**  
**Waste Management Unit 27 Investigation**

I:\projects\1003  
 ...RK\4...CADL...FACE.p...  
 DATE = Tue Apr 10 15:34:27 2001  
 DGN = L:\WORK\42702\CADD\SURFACE.DGN

DATE = Tue Apr 10 15:34:27 2001



- LEGEND**
-  RANDOM SAMPLE LOCATIONS
  -  32' X 32' GRID SPACING
  -  AREA OF LOW OR NO VEGETATION



SCALE: 1" = 50' 42702.01

**FIGURE 3**  
**WMU-27**  
**SURFACE SAMPLE LOCATIONS**  
 DETROIT STEEL  
 TRENTON, MICHIGAN

APRIL 2001

**Attachment C**  
**Soil Boring Logs**

**Waste Management Unit 27 Investigation**

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB1  
Total Depth: 15'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): 12'

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	Topsoil, medium to coarse grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	2'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and concrete, brown, moist, loose (fill)	0.0	
2'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and brick, black, moist, loose (fill)	0.0	
12'	15'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and brick, black, wet, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB2  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): 12'

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, slag, and concrete, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4.5'	10'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, slag, concrete, and metal, dark brown, moist, loose (fill)	0.0	
10'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, slag, and concrete, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB3  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, slag, and concrete, brown, moist, loose (fill)	0.0	Soil at 0-3"
4.5'	10'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, brown, moist, loose (fill)	0.0	
10'	12'	SAND, fine to medium grained, trace very fine grained sand, gravel, and silt, brown, moist, compact (sand)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)



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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB4  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	2'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, slag, and brick, brown, moist, loose (fill)	0.0	Soil at 0-3"
2'	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and slag, dark brown, moist, loose (fill)	0.0	
7'	7.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and metal, dark brown, moist, loose (fill)	0.0	
7.5'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, slag, and concrete, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB5  
Total Depth: 10'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	Topsoil, medium to coarse grained sand, trace silt, gravel, vegetation, slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	4'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, brick, and slag, dark brown, moist, loose (fill)	0.0	
4'	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, concrete, and slag, dark brown, moist, loose (fill)	0.0	
8'	10'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and concrete, dark brown with metallic shine, moist, loose	0.0	Soil at 9-10'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB6  
Total Depth: 9.5'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	1'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
1'	4'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, concrete and slag, dark brown, moist, loose (fill)	0.0	
4'	6.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and slag, dark brown, moist, loose (fill)	0.0	
6.5'	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, brick and slag, dark brown, moist, loose (fill)	0.0	
7'	9.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and slag, dark brown, moist, loose (fill)	0.0	Soil at 8.5-9.5'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface  
(USDA soil texture)

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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB7  
Total Depth: 11.5'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, concrete and vegetation, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	4.5'	SAND, fine to medium grained, trace very fine grained sand, gravel, concrete, and slag, dark brown, moist, loose (fill)	0.0	
4.5'	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, and concrete, dark brown, moist, loose (fill)	0.0	
8'	11.5'	SAND, fine to medium grained, trace very fine grained sand, gravel, concrete, wood, and slag, dark brown, moist, compacted (fill)	7.2	Soil at 10.5-11.5'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB8  
Total Depth: 11'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, and concrete, dark brown, moist, loose (fill)	0.0	
8'	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB9  
Total Depth: 8'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	4.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, brick, and concrete, dark brown, moist, loose (fill)	0.0	
4.5'	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 7-8'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)



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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB10  
Total Depth: 8'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, and concrete, dark brown, moist, loose (fill)	0.0	Soil at 7-8'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB11  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	6"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, asphalt, and vegetation, brown, moist, loose (fill)	0.0	Soil at 0-3"
6"	10'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	
10'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt and slag, dark brown, moist, compact (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB12  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation, and concrete, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	9'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, concrete and slag, brown, moist, loose (fill)	0.0	
9'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand and slag, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB13  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	9'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, metal and slag, dark brown, moist, loose (fill)	0.0	
9'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB14  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): 11.75

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	3.5'	SAND, medium to coarse grained, trace very fine to fine grained sand and slag, grey, moist, loose (fill)	0.0	
3.5'	11'	SAND, medium to coarse grained, trace very fine to fine grained sand and slag, dark brown, moist, loose (fill)	0.0	
11'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand and slag, black, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB15  
Total Depth: 12'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	7.75'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	
7.75'	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, and wood, dark brown, moist, loose (fill)	0.0	
8'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB16  
Total Depth: 8'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and asphalt, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 6-7'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)



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Brighton, MI 48116

## SOIL BORING LOG

### Boring Data

Boring ID: **WMU27-SB17**  
Total Depth: **7'**

Date Completed: **12/16/2019**

Proj. Name: **RTRR**  
Proj. Number: **10860**

Site Address: **18251 West Jefferson**  
**Riverview, Michigan**

Drilled by: **ERG**  
Method: **Direct push probe**  
Geologist: **Mitchel Dykla**

### MW Data

Size: **NA**  
Type: **NA**  
Screen Length: **NA**  
Well Depth: **NA**

GW Depth (▼): **NA**

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 6-7'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB18  
Total Depth: 10'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	1'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, and silt, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
1'	3.5'	SILTY CLAY, trace very fine to fine grained sand and gravel, brown, stiff (fill)	0.0	
3.5'	10'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 9-10'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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Brighton, MI 48116

## SOIL BORING LOG

### Boring Data

Boring ID: **WMU27-SB19**  
Total Depth: **7'**

Date Completed: **12/16/2019**

Proj. Name: **RTRR**  
Proj. Number: **10860**

Site Address: **18251 West Jefferson**  
**Riverview, Michigan**

Drilled by: **ERG**  
Method: **Direct push probe**  
Geologist: **Mitchel Dykla**

### MW Data

Size: **NA**  
Type: **NA**  
Screen Length: **NA**  
Well Depth: **NA**

GW Depth (▼): **NA**

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 6-7'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
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Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU27-SB20  
Total Depth: 10'

Date Completed: 12/16/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	10'	SAND, fine to medium grained, trace very fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 9-10'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

**Attachment D**  
**Laboratory Analytical Report**  
**Waste Management Unit 27 Investigation**



Friday, January 03, 2020

Fibertec Project Number: 94220  
Project Identification: 5-10860 /5-10860  
Submittal Date: 12/17/2019

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Wallace".

*By Stephanie Wallace at 10:30 AM, Jan 03, 2020*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-001

Order: 94220  
Page: 2 of 44  
Date: 01/03/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>WMU27-SB1-0-3"</b>	Chain of Custody:	<b>181437</b>
Client Project Name:	<b>5-10860</b>	Sample No:		Collect Date:	<b>12/16/19</b>
Client Project No:	<b>5-10860</b>	Sample Matrix:	<b>Soil/Solid</b>	Collect Time:	<b>09:37</b>

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-001** **Matrix: Soil/Solid**  
**Description: WMU27-SB1-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>13</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-001** **Matrix: Soil/Solid**  
**Description: WMU27-SB1-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	<b>7400</b>	J+	µg/kg	770	50	12/19/19	PS19L19F	01/02/20	SF20A02B	RDK
7. Aroclor-1260	<b>4000</b>	J+	µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	770	50	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-002

Order: 94220  
Page: 3 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB1-11-12'** Chain of Custody: **181437**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **09:47**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-002** **Matrix: Soil/Solid**  
**Description: WMU27-SB1-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>10</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-002** **Matrix: Soil/Solid**  
**Description: WMU27-SB1-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	<b>490</b>		µg/kg	100	5.0	12/19/19	PS19L19F	12/27/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	<b>460</b>	J+	µg/kg	100	5.0	12/19/19	PS19L19F	01/02/20	SF20A02B	RDK
7. Aroclor-1260	<b>560</b>	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-003

Order: 94220  
Page: 4 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB2-0-3"	Chain of Custody:	181437
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:57

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-003 Matrix: Soil/Solid  
Description: WMU27-SB2-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-003 Matrix: Soil/Solid  
Description: WMU27-SB2-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
7. Aroclor-1260	300		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-004

Order: 94220  
Page: 5 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB2-11-12'	Chain of Custody:	181437
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:06
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-004 Matrix: Soil/Solid  
Description: WMU27-SB2-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-004 Matrix: Soil/Solid  
Description: WMU27-SB2-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	150		µg/kg	100	5.0	12/19/19	PS19L19F	12/27/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	360	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	360	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-005

Order: 94220  
Page: 6 of 44  
Date: 01/03/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>WMU27-SB3-0-3"</b>	Chain of Custody:	<b>181437</b>
Client Project Name:	<b>5-10860</b>	Sample No:		Collect Date:	<b>12/16/19</b>
Client Project No:	<b>5-10860</b>	Sample Matrix:	<b>Soil/Solid</b>	Collect Time:	<b>10:13</b>

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-005** **Matrix: Soil/Solid**  
**Description: WMU27-SB3-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>9</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-005** **Matrix: Soil/Solid**  
**Description: WMU27-SB3-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-006

Order: 94220  
Page: 7 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB3-11-12'** Chain of Custody: **181437**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **10:25**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-006** **Matrix: Soil/Solid**  
**Description: WMU27-SB3-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>14</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-006** **Matrix: Soil/Solid**  
**Description: WMU27-SB3-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	<b>480</b>	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	<b>920</b>	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-007

Order: 94220  
Page: 8 of 44  
Date: 01/03/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>WMU27-SB4-0-3"</b>	Chain of Custody:	<b>181437</b>
Client Project Name:	<b>5-10860</b>	Sample No:		Collect Date:	<b>12/16/19</b>
Client Project No:	<b>5-10860</b>	Sample Matrix:	<b>Soil/Solid</b>	Collect Time:	<b>10:34</b>

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-007**  
**Description: WMU27-SB4-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>8</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-007**  
**Description: WMU27-SB4-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
7. Aroclor-1260	<b>210</b>		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-008

Order: 94220  
Page: 9 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB4-11-12'** Chain of Custody: **181437**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **10:41**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-008** **Matrix: Soil/Solid**  
**Description: WMU27-SB4-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>14</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-008** **Matrix: Soil/Solid**  
**Description: WMU27-SB4-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	<b>540</b>	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	<b>1600</b>	J+	µg/kg	390	25	12/19/19	PS19L19F	01/02/20	SF20A02B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-009

Order: 94220  
Page: 10 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB5-0-3"	Chain of Custody:	181437
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:47

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-009 Matrix: Soil/Solid  
Description: WMU27-SB5-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-009 Matrix: Soil/Solid  
Description: WMU27-SB5-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
6. Aroclor-1254	180	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	160	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-010

Order: 94220  
Page: 11 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB5-9-10'	Chain of Custody:	181437
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:57

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-010 Matrix: Soil/Solid  
Description: WMU27-SB5-9-10'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-010 Matrix: Soil/Solid  
Description: WMU27-SB5-9-10'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-011

Order: 94220  
Page: 12 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB6-0-3"	Chain of Custody:	181438
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:20

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-011 Matrix: Soil/Solid  
Description: WMU27-SB6-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	3		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-011 Matrix: Soil/Solid  
Description: WMU27-SB6-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
6. Aroclor-1254	180	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	150	J+	µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-012

Order: 94220  
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Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB6-8.5-9.5'** Chain of Custody: **181438**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **12:26**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-012 Matrix: Soil/Solid**  
**Description: WMU27-SB6-8.5-9.5'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>4</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-012 Matrix: Soil/Solid**  
**Description: WMU27-SB6-8.5-9.5'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
7. Aroclor-1260	<b>13000</b>		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	1400	100	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-013

Order: 94220  
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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB7-0-3"	Chain of Custody:	181438
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:02

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-013 Matrix: Soil/Solid  
Description: WMU27-SB7-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-013 Matrix: Soil/Solid  
Description: WMU27-SB7-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-014

Order: 94220  
Page: 15 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB7-10.5-11.5"	Chain of Custody:	181438
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:13

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-014 Matrix: Soil/Solid  
Description: WMU27-SB7-10.5-11.5"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-014 Matrix: Soil/Solid  
Description: WMU27-SB7-10.5-11.5"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-015

Order: 94220  
Page: 16 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB8-0-3"	Chain of Custody:	181438
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:46

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-015 Matrix: Soil/Solid  
Description: WMU27-SB8-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-015 Matrix: Soil/Solid  
Description: WMU27-SB8-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/30/19	SF19L30A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-016

Order: 94220  
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Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB8-10-11'** Chain of Custody: **181438**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **11:56**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-016** **Matrix: Soil/Solid**  
**Description: WMU27-SB8-10-11'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-016** **Matrix: Soil/Solid**  
**Description: WMU27-SB8-10-11'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
7. Aroclor-1260	370		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-017

Order: 94220  
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Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB9-0-3"** Chain of Custody: **181438**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **11:26**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-017** **Matrix: Soil/Solid**  
**Description: WMU27-SB9-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-017** **Matrix: Soil/Solid**  
**Description: WMU27-SB9-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
7. Aroclor-1260	220		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-018

Order: 94220  
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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB9-7-8'	Chain of Custody:	181438
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:39

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-018 Matrix: Soil/Solid  
Description: WMU27-SB9-7-8'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-018 Matrix: Soil/Solid  
Description: WMU27-SB9-7-8'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/26/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-019

Order: 94220  
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Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB10-0-3"** Chain of Custody: **181438**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **11:04**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-019** **Matrix: Soil/Solid**  
**Description: WMU27-SB10-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-019** **Matrix: Soil/Solid**  
**Description: WMU27-SB10-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-020

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Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB10-7-8'** Chain of Custody: **181438**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **11:15**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-020 Matrix: Soil/Solid**  
**Description: WMU27-SB10-7-8'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	6		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-020 Matrix: Soil/Solid**  
**Description: WMU27-SB10-7-8'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19F	12/20/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-021

Order: 94220  
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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB11-0-3"	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:31

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-021 Matrix: Soil/Solid  
Description: WMU27-SB11-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	4		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-021 Matrix: Soil/Solid  
Description: WMU27-SB11-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-022

Order: 94220  
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Date: 01/03/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>WMU27-SB11-11-12'</b>	Chain of Custody:	<b>181439</b>
Client Project Name:	<b>5-10860</b>	Sample No:		Collect Date:	<b>12/16/19</b>
Client Project No:	<b>5-10860</b>	Sample Matrix:	<b>Soil/Solid</b>	Collect Time:	<b>12:43</b>

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-022** **Matrix: Soil/Solid**  
**Description: WMU27-SB11-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>13</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-022** **Matrix: Soil/Solid**  
**Description: WMU27-SB11-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
7. Aroclor-1260	<b>110</b>		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-023

Order: 94220  
Page: 24 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB12-0-3"	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:52

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-023 Matrix: Soil/Solid  
Description: WMU27-SB12-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-023 Matrix: Soil/Solid  
Description: WMU27-SB12-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
7. Aroclor-1260	240		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-024

Order: 94220  
Page: 25 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB12-11-12'	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:03

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-024 Matrix: Soil/Solid  
Description: WMU27-SB12-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-024 Matrix: Soil/Solid  
Description: WMU27-SB12-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/27/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-025

Order: 94220  
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Date: 01/03/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>WMU27-SB13-0-3"</b>	Chain of Custody:	<b>181439</b>
Client Project Name:	<b>5-10860</b>	Sample No:		Collect Date:	<b>12/16/19</b>
Client Project No:	<b>5-10860</b>	Sample Matrix:	<b>Soil/Solid</b>	Collect Time:	<b>13:11</b>

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-025** **Matrix: Soil/Solid**  
**Description: WMU27-SB13-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>10</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-025** **Matrix: Soil/Solid**  
**Description: WMU27-SB13-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
7. Aroclor-1260	<b>270</b>		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-026

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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB13-11-12'	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:19

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-026 Matrix: Soil/Solid  
Description: WMU27-SB13-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-026 Matrix: Soil/Solid  
Description: WMU27-SB13-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-027

Order: 94220  
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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB14-0-3"	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:26

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-027 Matrix: Soil/Solid  
Description: WMU27-SB14-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	6		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-027 Matrix: Soil/Solid  
Description: WMU27-SB14-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-028

Order: 94220  
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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB14-11-11.75"	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:34

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-028 Matrix: Soil/Solid  
Description: WMU27-SB14-11-11.75"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-028 Matrix: Soil/Solid  
Description: WMU27-SB14-11-11.75"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
7. Aroclor-1260	110		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-029

Order: 94220  
Page: 30 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB15-0-3"	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:40

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-029 Matrix: Soil/Solid  
Description: WMU27-SB15-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-029 Matrix: Soil/Solid  
Description: WMU27-SB15-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-030

Order: 94220  
Page: 31 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB15-11-12'	Chain of Custody:	181439
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:47

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-030 Matrix: Soil/Solid  
Description: WMU27-SB15-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	22		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-030 Matrix: Soil/Solid  
Description: WMU27-SB15-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
7. Aroclor-1260	3600		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	1700	100	12/19/19	PS19L19G	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-031

Order: 94220  
Page: 32 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB16-0-3"	Chain of Custody:	181440
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	14:34

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-031 Matrix: Soil/Solid  
Description: WMU27-SB16-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	5		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-031 Matrix: Soil/Solid  
Description: WMU27-SB16-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/19/19	PS19L19G	12/26/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-032

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Page: 33 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB16-7-8'	Chain of Custody:	181440
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	14:37

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-032 Matrix: Soil/Solid  
Description: WMU27-SB16-7-8'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-032 Matrix: Soil/Solid  
Description: WMU27-SB16-7-8'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-033

Order: 94220  
Page: 34 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB17-0-3"	Chain of Custody:	181440
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	14:26

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-033 Matrix: Soil/Solid  
Description: WMU27-SB17-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-033 Matrix: Soil/Solid  
Description: WMU27-SB17-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-034

Order: 94220  
Page: 35 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB17-6-7'** Chain of Custody: **181440**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **14:31**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-034 Matrix: Soil/Solid**  
**Description: WMU27-SB17-6-7'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-034 Matrix: Soil/Solid**  
**Description: WMU27-SB17-6-7'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-035

Order: 94220  
Page: 36 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB18-0-3"	Chain of Custody:	181440
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	14:16

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-035 Matrix: Soil/Solid  
Description: WMU27-SB18-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-035 Matrix: Soil/Solid  
Description: WMU27-SB18-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	140		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-036

Order: 94220  
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Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB18-9-10'	Chain of Custody:	181440
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	14:22
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-036 Matrix: Soil/Solid  
Description: WMU27-SB18-9-10'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-036 Matrix: Soil/Solid  
Description: WMU27-SB18-9-10'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
7. Aroclor-1260	1400		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	370	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-037

Order: 94220  
Page: 38 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB19-0-3"** Chain of Custody: **181440**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **14:08**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-037** **Matrix: Soil/Solid**  
**Description: WMU27-SB19-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-037** **Matrix: Soil/Solid**  
**Description: WMU27-SB19-0-3"**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
4. Aroclor-1242	120		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
7. Aroclor-1260	200		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK

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F: (231) 775-8584



Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-038

Order: 94220  
Page: 39 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB19-6-7'** Chain of Custody: **181440**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **14:12**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-038** **Matrix: Soil/Solid**  
**Description: WMU27-SB19-6-7'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>13</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-038** **Matrix: Soil/Solid**  
**Description: WMU27-SB19-6-7'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-039

Order: 94220  
Page: 40 of 44  
Date: 01/03/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU27-SB20-0-3"	Chain of Custody:	181440
Client Project Name:	5-10860	Sample No:		Collect Date:	12/16/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	13:53

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94220-039 Matrix: Soil/Solid  
Description: WMU27-SB20-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94220-039 Matrix: Soil/Solid  
Description: WMU27-SB20-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-040

Order: 94220  
Page: 41 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-SB20-9-10'** Chain of Custody: **181440**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **14:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-040** **Matrix: Soil/Solid**  
**Description: WMU27-SB20-9-10'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	25		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-040** **Matrix: Soil/Solid**  
**Description: WMU27-SB20-9-10'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/20/19	PS19L20B	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-041

Order: 94220  
Page: 42 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-DUP1** Chain of Custody: **181441**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **NA**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-041** **Matrix: Soil/Solid**  
**Description: WMU27-DUP1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>3</b>		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-041** **Matrix: Soil/Solid**  
**Description: WMU27-DUP1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
7. Aroclor-1260	<b>2300</b>		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	340	25	12/20/19	PS19L20B	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94220  
Laboratory Sample Number: 94220-042

Order: 94220  
Page: 43 of 44  
Date: 01/03/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU27-DUP2** Chain of Custody: **181441**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/16/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **NA**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94220-042** **Matrix: Soil/Solid**  
**Description: WMU27-DUP2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	5		%	1	1.0	12/19/19	MC191219	12/20/19	MC191219	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94220-042** **Matrix: Soil/Solid**  
**Description: WMU27-DUP2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
2. Aroclor-1221	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
3. Aroclor-1232	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
4. Aroclor-1242	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
5. Aroclor-1248	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
6. Aroclor-1254	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
7. Aroclor-1260	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 8. Aroclor-1262	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK
‡ 9. Aroclor-1268	U		µg/kg	520	38	12/20/19	PS19L20B	12/21/19	SF19L20A	RDK

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

**J+** : The result is an estimated quantity, but the result may be biased high.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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**Analytical Laboratory**

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<b>email: lab@fibertec.us</b>	

**Industrial Hygiene Services, Inc.**  
1914 Holloway Drive  
Holt, MI 48842  
Phone: 517 699 0345  
Fax: 517 699 0382  
email: [asbestos@fibertecihs.com](mailto:asbestos@fibertecihs.com)

**Geoprobe**  
11766 E. Grand River Rd.  
Brighton, MI 48116  
Phone: 810 220 3300  
Fax: 810 220 3311

Chain of Custody #

181437  
PAGE 1 of 5

Client Name: ASTI Environmental						PARAMETERS										Matrix Code				Deliverables	
Contact Person: Greg Oslasky																S	Soil	GW	Ground Water		Level 2
Project Name/ Number: 5-10860																A	Air	SW	Surface Water		Level 3
Email distribution list: glosky@asti-env.com mdykla@asti-env.com																O	Oil	WW	Waste Water		Level 4
Quote#																P	Wipe	X	Other: Specify		EDD
Purchase Order#																Remarks:					
Date	Time	Sample #	Client Sample Descriptor			MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	HOLD SAMPLE													
12-16-19	937		WMVZ7-SB1-0-3"			5	1	X													
	947		WMVZ7-SB1-11-12'																		
	957		WMVZ7-SB2-0-3"																		
	1006		WMVZ7-SB2-11-12'																		
	1013		WMVZ7-SB3-0-3"																		
	1025		WMVZ7-SB3-11-12'																		
	1034		WMVZ7-SB4-0-3"																		
	1041		WMVZ7-SB4-11-12'																		
	1047		WMVZ7-SB5-0-3"																		
	1057		WMVZ7-SB5-9-10'																		
Comments:																					
Sampled/Relinquished By: Mitchell Dykstra						Date/ Time 12-16-19 1630				Received By: ASTI Cold Storage											
Relinquished By: ASTI Cold Storage						Date/ Time				Received By: Duke D. Shadrach 12/17/19 8:52											
Relinquished By: Duke D. Shadrach						Date/ Time 12/17/19 1530				Received By Laboratory:											
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																					
LAB USE ONLY																					
Fibertec project number: 94220																					
Temperature upon receipt at Lab: 0.9°C																					
Received On Ice																					
Please see back for terms and conditions																					



Client Name: <b>ASTI Environmental</b>				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MATRIX (SEE RIGHT CORNER FOR CODE)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"># OF CONTAINERS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PLB3</div> </div>												PARAMETERS												Matrix Code			Deliverables			
Contact Person: <b>Greg Oslosky</b>																												S Soil			GW Ground Water			
Project Name/ Number: <b>5-10860</b>																												A Air			SW Surface Water			
Email distribution list: <b>goslosky@asti-env.com mdy@asti-env.com</b>																												O Oil			ww Waste Water			
Quote#																												P Wipe			x Other: Specify			
Purchase Order#				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MATRIX (SEE RIGHT CORNER FOR CODE)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"># OF CONTAINERS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PLB3</div> </div>												HOLD SAMPLE			Remarks:															
Date	Time	Sample #	Client Sample Descriptor																															
12-16-19	1220		WMU27-SB6-0-3"																															
	1226		WMU27-SB6-8.5-9.5'																															
12-16-19	1202		WMU27-SB7-0-3"																															
	1213		WMU27-SB7- <del>10.5</del> 11.5'																															
	1146		WMU27-SB8-0-3"																															
	1156		WMU27-SB8-10-11'																															
	1126		WMU27-SB9-0-3"																															
	1139		WMU27-SB9-7-8'																															
	1104		WMU27-SB10-0-3"																															
✓	1115		WMU27-SB10-7-8'																															
Comments:				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MATRIX (SEE RIGHT CORNER FOR CODE)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"># OF CONTAINERS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PLB3</div> </div>																														
Sampled/Relinquished By: <b>Michel Dyck</b>																					Date/ Time: <b>12-16-19 16:30</b>	Received By: <b>ASTI Cold Storage</b>												
Relinquished By: <b>ASTI Cold Storage</b>																					Date/ Time:	Received By: <b>Rel. of Shute</b>												
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	1319		WMU27-SB13-11-12'																		
	1326		WMU27-SB14-0-3"																		
	1334		WMU27-SB14-11-11.75'																		
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Analytical Laboratory

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Chain of Custody #

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PAGE 5 of 5

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**ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND**  
**RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.**

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- **WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING**

**Attachment E**

**WMU-29 Soil Investigation Report**



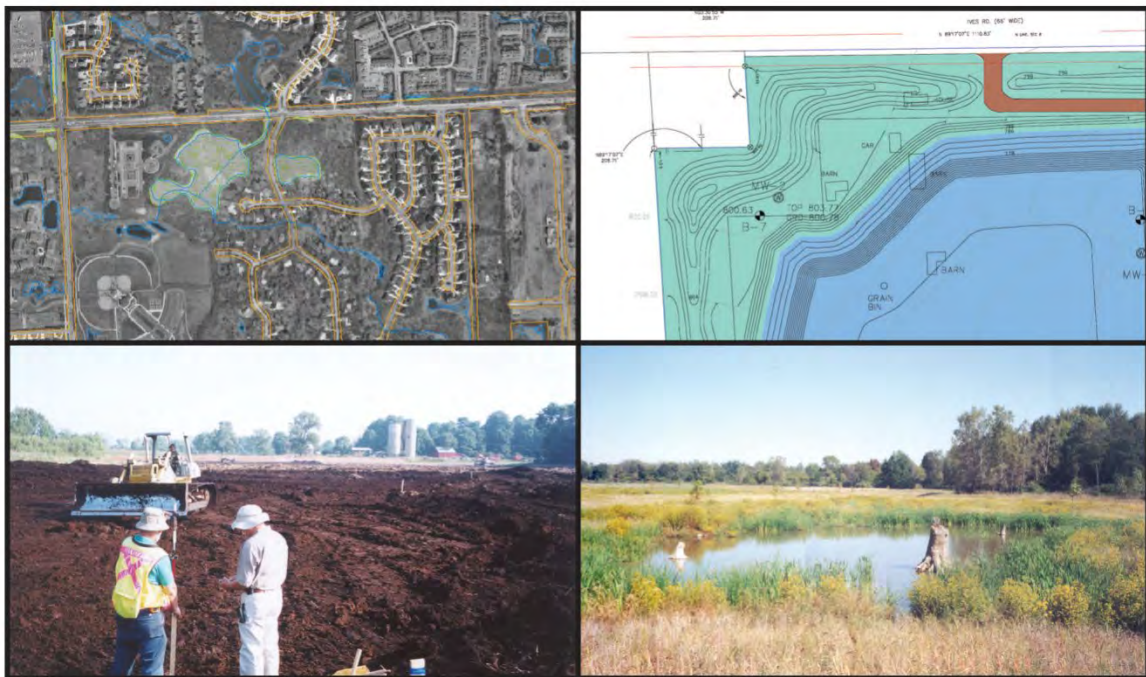
# Waste Management Unit 29 Soil Investigation

18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

January 19, 2021

ASTI ENVIRONMENTAL



# Waste Management Unit 29 Soil Investigation

18251 West Jefferson  
Riverview, Michigan

January 19, 2021

**Prepared For:**

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

**Report Prepared By:**

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**ASTI Project No. 10860**

Report Prepared by:

Report Reviewed by:



Greg S. Oslosky  
Director – Grand Rapids Office



Allison J. Rogowski, EP  
Associate Environmental Scientist





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- Attachment A -      Figures  
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                             Figure 3 - WMU-29 Sample Location Map
- Attachment B -      Soil Boring Logs
- Attachment C -      Laboratory Analytical Report

**Waste Management Unit 29 Soil Investigation  
Riverview-Trenton Railroad Company  
Former McLouth Steel Site  
18251 West Jefferson Avenue  
Riverview, Michigan**

## **1.0 Introduction**

In accordance with the Corrective Action Consent Order (“CACO”) dated November 1, 2018 between the Riverview-Trenton Rail Road Company (“RTRR”) and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), ASTI Environmental (“ASTI”) conducted a soil investigation at the property located at 18251 West Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The portion of the Subject Property which lies south of Sibley Road, is located in the City of Trenton. The investigation was completed in accordance with the Statement of Work included as Attachment A of the CACO for the Subject Property and with the Work Plan – Waste Management Unit Investigations prepared by ASTI dated June 28, 2019 (“Work Plan”). Attachment A includes Figure 1, Site Location Map and Figure 2, a Site Features Map.

The investigation was completed for the former Toxic Substance Control Act (“TSCA”) waste storage building, also known as Waste Management Unit 29 (“WMU-29”). The location of WMU-29 is shown in Figure 2. The purpose of the investigation was to determine the horizontal and vertical extent of polychlorinated biphenyls (“PCBs”). As defined in the CACO, soil analytical results were compared to the TSCA PCB Cleanup Level for Low Occupancy Areas of less than or equal to 25 parts per million (“ppm” or milligrams per kilogram).

## **2.0 Background**

The McLouth Steel Company (“McLouth”) acquired the Subject Property between 1956 and 1961, and used portions of it for storage of raw materials, waste, and product to support the integrated production of steel and iron in the production facility located to the south (“McLouth Facility”). A large slag processing operation, operated by E. C. Levy Company, was located on the Subject Property. After about 1975, steel production decreased until McLouth ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection on September 29, 1995. At that time, only one blast furnace was operational and most other production units were operating at significantly reduced capacities.

Hamlin Holdings, Inc. acquired the Subject Property in July of 1996, although it is unclear what was conducted on the Subject Property during that time. Detroit Steel Company (“DSC”) obtained title for the Subject Property in August of 1996, during which time it used the Subject Property for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998. In support of the pickling operations, DSC started the scrubber, Central Wastewater Treatment Plant, and the pH adjustment station. Those operations closed in 2005. Crown Enterprises purchased the Subject Property on June 2, 2000 and conveyed the property to RTRR in November of 2000.

Historically, the Subject Property included the Monguagon Creek channel, an oil storage terminal, and a large building with docking facilities. By 1961, the large building and oil terminal had been demolished and the Monguagon Creek channel had been rerouted to its current location along River Road. By 1967, the original channel and mouth area of Monguagon Creek had been filled completely and this area was used for storage of equipment and materials (ore, debris, and scrap)<sup>1</sup>.

WMU-29 was a concrete block building constructed around 1980 which measured approximately 46 feet by 20 feet. The building was used to store containers of PCB transformers and materials in compliance with TSCA regulations. The sealed concrete floor was constructed with secondary containment curbs that served as footings for the block walls. The building was demolished by early 2001 and only the concrete pad and secondary containment curbs remain.

### **3.0 Previous Investigations**

In October 2000, Environmental Strategies Corporation ("ESC") collected samples of the concrete pad, the cinder block walls, and soil from beneath the pad. Results of laboratory analysis indicated that soil beneath the pad contained PCB concentrations which exceeded 25 ppm in two of the five soil borings. In both locations, PCBs exceeded 25 ppm in the samples collected from 0 to 6 inches below the concrete pad and in the samples collected 6 inches to 12 inches below the concrete pad. PCBs were detected at a maximum concentration of 806 ppm in soil, a maximum concentration of 0.5 ppm in the concrete core samples, and a maximum concentration of 2.5 ppm in the concrete block samples.

Additional investigation was performed in January 2001 which included collection of composite soil samples from around the concrete pad and concrete samples from the pad. Laboratory analytical concentrations indicated that PCBs were detected in composite samples around the concrete pad at concentrations less than 25 ppm. Individual soil grab samples for each composite were also collected and analyzed and a maximum concentration of 4 ppm was reported. PCBs were detected in each of the five concrete samples collected and the maximum concentration was 1,400 ppm. Three of the five concrete samples collected contained a PCB concentration greater than 1 ppm; the allowable limit for a PCB cap as defined in the Code of Federal Regulations ("CFR") 761.61(a)(7).

In July 2001, the concrete slab of the former TSCA waste storage building was cleaned with a surfactant solution. After cleaning, one verification sample was collected from the full thickness of the slab. The concrete sample contained a concentration of PCBs greater than 50 ppm<sup>2</sup>.

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<sup>1</sup> North Area Characterization Plan, Revised, ESC, November 2, 2000

<sup>2</sup> Quarterly Status Report, DSC LTD., Third Quarter 2001, November 14, 2001

## **4.0 December 2019 PCB Investigation**

### **4.1 Soil Sample Collection**

ASTI conducted a soil investigation in accordance with the CACO and the Work Plan. The Work Plan described installation of 14 soil borings surrounding the concrete pad and 2 soil borings beneath the pad. ASTI considered a five-foot wide perimeter surrounding the concrete pad for the WMU-29 investigation. The concrete pad measures approximately 46 feet (east/west) by approximately 20 feet (north/south). ASTI determined sample locations for the area surrounding the concrete pad using a Systematic Random Approach as described in the EGLE Guidance Document titled Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria ("S3TM" [EGLE, 2002]). ASTI used one sample locating approach for the grids north and south of the concrete pad and a separate locating approach for the grids to the east and west of the pad due to different orientations of the grid blocks.

The grid sizes were determined by allowing for a five-foot wide investigation area around the pad and locating two samples on each side of the pad and five samples along the length of each side of the pad. The dimensions of the grids located to the north and south of the concrete pad were 11.2 feet (east/west) by 5 feet (north/south). The dimensions of the grids located on the east and west sides of the pad were five feet (east/west) by ten feet (north/south). One sample was collected from each grid.

ASTI used Microsoft Excel to randomly generate soil sample locations within each grid. For the grids located on the north and south of the pad, one random number between 0 and 11.2 was generated for the x-axis (east/west) and one random number between 0 and 5 was generated for the y-axis (north/south). The random number generated for the x-axis was 8 and the random number generated for the y-axis was 4. ASTI used these randomly generated numbers to measure from the southwest corner of each grid; 8 feet east from the southwestern corner and 4 feet north of the southern border of each grid. Figure 3 shows the WMU-29 area of investigation including the grids and sample locations.

For the grids located on the east and west of the pad, one random number between 0 and 5 was generated for the x-axis (east/west) and one random number between 0 and 10 was generated for the y-axis (north/south). The random number generated for the x-axis was 3 and the random number generated for the y-axis was 4. ASTI used these randomly generated numbers to measure from the southwest corner of each grid; 3 feet east from the southwestern corner and 4 feet north of the southern border of each grid (Figure 3). The soil borings installed around the perimeter of the pad were designated WMU29-SB1 through WMU29-SB14.

Additionally, ASTI installed two soil borings beneath the concrete pad (WMU29-SB15 and WMU29-SB16). The two locations were chosen based on previous samples with PCB concentrations which exceeded 25 ppm. The sample locations beneath the concrete pad are shown on Figure 3.

Prior to drilling, ASTI contacted the Michigan MISS DIG system to locate public utilities near the Subject Property. On December 17, 2019, an ASTI scientist supervised installation of 16 soil borings within the WMU-29 area of investigation. The soil borings were installed with the use of a track-mounted hydraulic direct push drill rig. Each soil boring location was marked

in the field prior to drilling using measurements calculated using the systematic random approach.

Soil was continuously logged and recorded in the project field notebook. Each boring was advanced to drilling refusal and depths ranged from 7 feet bgs to 12 feet bgs. ASTI collected one surface soil sample from the interval between zero and three inches bgs. For the soil borings installed beneath the concrete pad (WMU29-SB15 and WMU29-SB-16), shallow samples were collected from the soil interval located zero to three inches beneath the concrete. A second soil sample was collected from the interval directly above the depth of drilling refusal. The Work Plan also stated that a third sample would have been collected from each boring at an interval which displayed potential impacts based on visual observations (i.e. staining, odor, etc.). ASTI did not observe any intervals which displayed potential impacts requiring the need for a third sample; therefore, two soil samples were collected and analyzed from each boring. The soil boring logs are provided in Attachment B.

Soil was retrieved from the borings in a clean disposable acetate liner and scanned with a photoionization detector ("PID"). Prior to sample collection, the PID was calibrated to manufacturer specifications using 100 ppm isobutylene span gas. After logging the soil lithological descriptions, the ASTI field scientist collected soil samples from the intervals described above. Soil samples were collected by placing soil directly into clean jars provided by the laboratory. Each sample was labeled with a unique identification number including the Waste Management Unit identification, soil boring identification number, and the depth interval. For example, the soil sample collected from the zero to three-inch bgs interval from boring WMU29-SB1 was identified as WMU29-SB1-0-3". After collection, the samples were placed on ice and kept cold until delivery to Fibertech Laboratory (Fibertech) in Holt, Michigan under standard chain-of-custody procedures. For the purpose of quality control/quality assurance (QA/QC), ASTI collected a duplicate sample. Soil samples were analyzed for PCBs by United States Environmental Protection Agency (USEPA) Methods 3546 and 8082A.

#### **4.2. Laboratory Analytical Results**

The laboratory analytical results for the WMU-29 soil samples collected in December 2019 indicate that PCBs were not present at a concentration greater than 25 ppm with the exception of one sample. The sample collected from WMU29-SB15 from zero to three inches below the concrete pad contained a concentration of total PCBs of 2,200 ppm. PCBs were detected at a concentration of 0.15 ppm from the interval from six to seven feet bgs at the same location. No other samples contained a PCB concentration in exceedance of 25 ppm. Table 1 provides a summary of the laboratory analytical results for the December 2019 soil investigation (note that analytical results in the table are presented in parts per billion). The laboratory analytical report is provided in Attachment C.

#### **4.3. Concrete**

Concrete samples were not collected during this investigation. Investigations conducted previously included collection of concrete samples for PCB analysis and PCBs were detected at a maximum concentration of 1,400 ppm. A previous attempt to clean the concrete was unsuccessful at reducing PCB concentrations to acceptable levels. Removal and disposal of the concrete pad will take place for proper disposal prior to or during redevelopment of the Subject Property.

## **5.0 Measures to Prevent Unacceptable Human Exposure to PCBs**

Multiple soil investigations have taken place to characterize soil beneath and around the WMU-29 concrete pad. Soil samples collected around the concrete pad did not detect concentrations of PCBs in exceedance of 25 ppm. Soil sampling conducted in shallow soil below the concrete pad contained concentrations of PCBs which exceeded 100 ppm (the maximum concentration for leaving bulk remediation PCB waste in a low-occupancy area). Deeper soil samples collected beneath the concrete pad did not contain PCB concentrations greater than 25 ppm.

Options to prevent unacceptable human exposure to PCBs are dependent on future site use. Redevelopment plans are not complete at this time; however, it is assumed that the former WMU-29 area will meet the definition of low occupancy as defined in 40 CFR 761.3. A low occupancy area is defined as any area where PCB remediation has been disposed of on-site and where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is: less than 335 hours (an average of 6.7 hours per week) for bulk PCB remediation waste. Several potential options to remediate PCBs in order to prevent unacceptable human exposure to PCBs for low occupancy are summarized below:

- Clean and characterize the concrete pad and removal of soil with PCB concentrations greater than 100 ppm. This option would require collection and containment of wash wastewater for disposal. Concrete characterization would be required; however, concrete removal would be necessary to excavate soils with PCB concentrations greater than 100 ppm. A fence would be required for this option. Concrete cleaning was conducted in the past and PCB concentrations remain at unacceptable levels.
- Risk-based disposal: this option uses a risk-based approach to determine if PCBs pose an unacceptable risk to human health or ecological receptors. This option would likely require collection of additional samples. A risk-based approach may show that remediation is required; therefore, this approach will not be considered further.

The concrete pad will be removed to eliminate exposure to PCBs based on concentrations detected in previous investigations. The following provides a summary of the potential remedial options based on assumed low occupancy use of the area as defined in CFR 761.3:

- If future site use meets the definition for low occupancy site use (future occupancy is assumed to be low-occupancy), the soils containing PCB concentrations equal to or below 50 ppm could remain at the site if the area is secured by a fence and marked with a sign including the M<sub>L</sub> mark. A deed restriction would be required, in accordance with 40 CFR 761.61(a)(8), and maintenance of the fence would be required by the site owner in perpetuity.
- An additional option for low occupancy would allow for soils with PCB concentrations less than or equal to 100 ppm to remain at the site if the site is covered with a cap of concrete, asphalt, or similar material of minimum thickness spread over the area where remediation waste was removed or left in place as required by 40 CFR 761.61(a)(7). This option would also require a deed restriction in accordance with 40



CFR 761.61(a)(8) and maintenance of the cap. The existing concrete pad does not meet the criteria for a cap as defined in 40 CFR 761.61(a)(8); therefore, this option required removal of concrete pad for characterization and proper disposal.

## **6.0 Conclusions**

ASTI collected 32 soil samples (plus one duplicate soil sample) for analysis of PCBs. Each sample contained a PCB concentration below 25 ppm, with the exception of one sample collected from shallow soil below the existing concrete pad. The maximum detected PCB concentration was 2,200 ppm. These concentrations are consistent with PCB concentrations detected during previous investigations.

Based on PCB concentrations detected during ASTI's soil investigation under and adjacent to the concrete pad, and concentrations detected in concrete during previous investigations, ASTI recommends removal of the concrete pad and removal of soil as described in the options above.

## **7.0 RCRA Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



---

Greg S. Oslosky, P.G.  
Director – Grand Rapids

**Table 1**  
**Summary of WMU-29 Soil Analysis**  
**Waste Management Unit 29 Investigation**

**Table 1 Summary of WMU-29 Soil Analysis**  
**RTRR Property**  
**18251 West Jefferson Ave, Riverview, MI**  
**ASTI Project Number 10860**

Parameters	TSCA PCB Cleanup	WMU29-DUP					
	Level for Low	WMU29-SB1-0-3"	WMU29-SB1-10-11'	WMU29-SB2-0-3"	WMU29-SB2-0-3"	WMU29-SB2-10-11'	WMU29-SB3-0-3"
	Occupy Areas	0-3"	10-11'	0-3"	0-3"	10-11'	0-3"
	µg/kg	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019
<b>PCBs</b>							
PCB, Aroclor 1016		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<b>390</b>	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1254		<b>620</b>	<100	<b>160</b>	<100	<100	<b>1,200</b>
PCB, Aroclor 1260		<b>460</b>	<100	<b>200</b>	<100	<100	<b>820</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100	<100
Total PCBs	25,000	<b>1,080</b>	<b>390</b>	<b>360</b>	<100	<100	<b>2,020</b>

Parameters	TSCA PCB Cleanup	WMU29-SB9-0-3"	WMU29-SB9-9-10'	WMU29-SB10-0-3"	WMU29-SB10-10-11	WMU29-SB11-0-3"	WMU29-SB11-10-11
	Level for Low	0-3"	9-10'	0-3"	10-11'	0-3"	10-11'
	Occupy Areas	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>							
PCB, Aroclor 1016		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<100	<b>280</b>
PCB, Aroclor 1248		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1254		<b>420</b>	<100	<100	<100	<100	<b>370</b>
PCB, Aroclor 1260		<b>420</b>	<b>270</b>	<100	<b>190</b>	<b>290</b>	<b>290</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100	<100
Total PCBs	25,000	<b>840</b>	<b>270</b>	<100	<b>190</b>	<b>290</b>	<b>940</b>

**Notes:**

"µg/kg" - micrograms per kilogram or parts per billion

Bold indicates concentration greater than the reporting limit.

Shading indicates concentration exceeding cleanup criteria.

"<" indicates concentration below laboratory reporting limit.

**Table 1 Summary of WMU-29 Soil Analysis**  
**RTRR Property**  
**18251 West Jefferson Ave, Riverview, MI**  
**ASTI Project Number 10860**

	TSCA PCB Cleanup Level for Low Occupy Areas	WMU29-SB3-11-12' 11-12' 12/17/2019	WMU29-SB4-0-3" 0-3" 12/17/2019	WMU29-SB4-11-12' 11-12' 12/17/2019	WMU29-SB5-0-3" 0-3" 12/17/2019	WMU29-SB5-10-11' 10-11' 12/17/2019	WMU29-SB6-0-3" 0-3" 12/17/2019
Parameters	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>							
PCB, Aroclor 1016		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1242		<b>330</b>	<100	<100	<100	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1254		<b>480</b>	<100	<100	<b>1,700</b>	<100	<b>520</b>
PCB, Aroclor 1260		<b>350</b>	<b>120</b>	<100	<b>1,700</b>	<100	<b>400</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100	<100
Total PCBs	25,000	<b>1,160</b>	<b>120</b>	<100	<b>3,400</b>	<100	<b>920</b>

	TSCA PCB Cleanup Level for Low Occupy Areas	WMU29-SB12-0-3" 0-3" 12/17/2019	WMU29-SB12-11-12' 11-12' 12/17/2019	WMU29-SB13-0-3" 0-3" 12/17/2019	WMU29-SB13-6-7' 11-12' 12/17/2019	WMU29-SB14-0-3" 0-3" 12/17/2019	WMU29-SB14-10-11' 10-11' 12/17/2019
Parameters	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>							
PCB, Aroclor 1016		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<b>210</b>	<100	<100
PCB, Aroclor 1248		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1254		<b>540</b>	<b>1,700</b>	<b>1,400</b>	<b>240</b>	<b>580</b>	<b>870</b>
PCB, Aroclor 1260		<b>420</b>	<100	<b>1,200</b>	<100	<b>460</b>	<b>1,000</b>
PCB, Aroclor 1262		<100	<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100	<100
Total PCBs	25,000	<b>960</b>	<b>1,700</b>	<b>2,600</b>	<b>450</b>	<b>1,040</b>	<b>1,870</b>

**Notes:**

"µg/kg" - micrograms per kilogram or parts per billion

Bold indicates concentration greater than the reporting limit.

Shading indicates concentration exceeding cleanup criteria.

"<" indicates concentration below laboratory reporting limit.

**Table 1 Summary of WMU-29 Soil Analysis**  
**RTRR Property**  
**18251 West Jefferson Ave, Riverview, MI**  
**ASTI Project Number 10860**

	TSCA PCB Cleanup Level for Low Occupany Areas	WMU29-SB6-11-12' 11-12' 12/17/2019	WMU29-SB7-0-3" 0-3" 12/17/2019	WMU29-SB7-10-11' 10-11' 12/17/2019	WMU29-SB8-0-3" 0-3" 12/17/2019	WMU29-SB8-9-10' 9-10' 12/17/2019
Parameters	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>						
PCB, Aroclor 1016		<100	<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<100	<b>420</b>
PCB, Aroclor 1248		<100	<100	<100	<100	<100
PCB, Aroclor 1254		<100	<b>7,700</b>	<100	<b>1,300</b>	<b>410</b>
PCB, Aroclor 1260		<100	<b>5,000</b>	<100	<b>1,500</b>	230
PCB, Aroclor 1262		<100	<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100	<100
Total PCBs	25,000	<100	<b>12,700</b>	<100	<b>2,800</b>	<b>1,060</b>

	TSCA PCB Cleanup Level for Low Occupany Areas	WMU29-SB15-0-3" 0-3" 12/17/2019	WMU-29-SB15-6-7' 6-7' 12/17/2019	WMU29-SB16-0-3" 0-3" 12/17/2019	WMU29-SB16-6-7' 6-7' 12/17/2019
Parameters	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
<b>PCBs</b>					
PCB, Aroclor 1016		<100	<100	<100	<100
PCB, Aroclor 1221		<100	<100	<100	<100
PCB, Aroclor 1232		<100	<100	<100	<100
PCB, Aroclor 1242		<100	<100	<100	<b>190</b>
PCB, Aroclor 1248		<100	<100	<100	<100
PCB, Aroclor 1254		<b>1,800,000</b>	<b>150</b>	<b>270</b>	<b>240</b>
PCB, Aroclor 1260		<b>400,000</b>	<100	<b>210</b>	<100
PCB, Aroclor 1262		<100	<100	<100	<100
PCB, Aroclor 1268		<100	<100	<100	<100
Total PCBs	25,000	<b>2,200,000</b>	<b>150</b>	<b>480</b>	<b>430</b>

**Notes:**

"µg/kg" - micrograms per kilogram or parts per billion

Bold indicates concentration greater than the reporting limit.

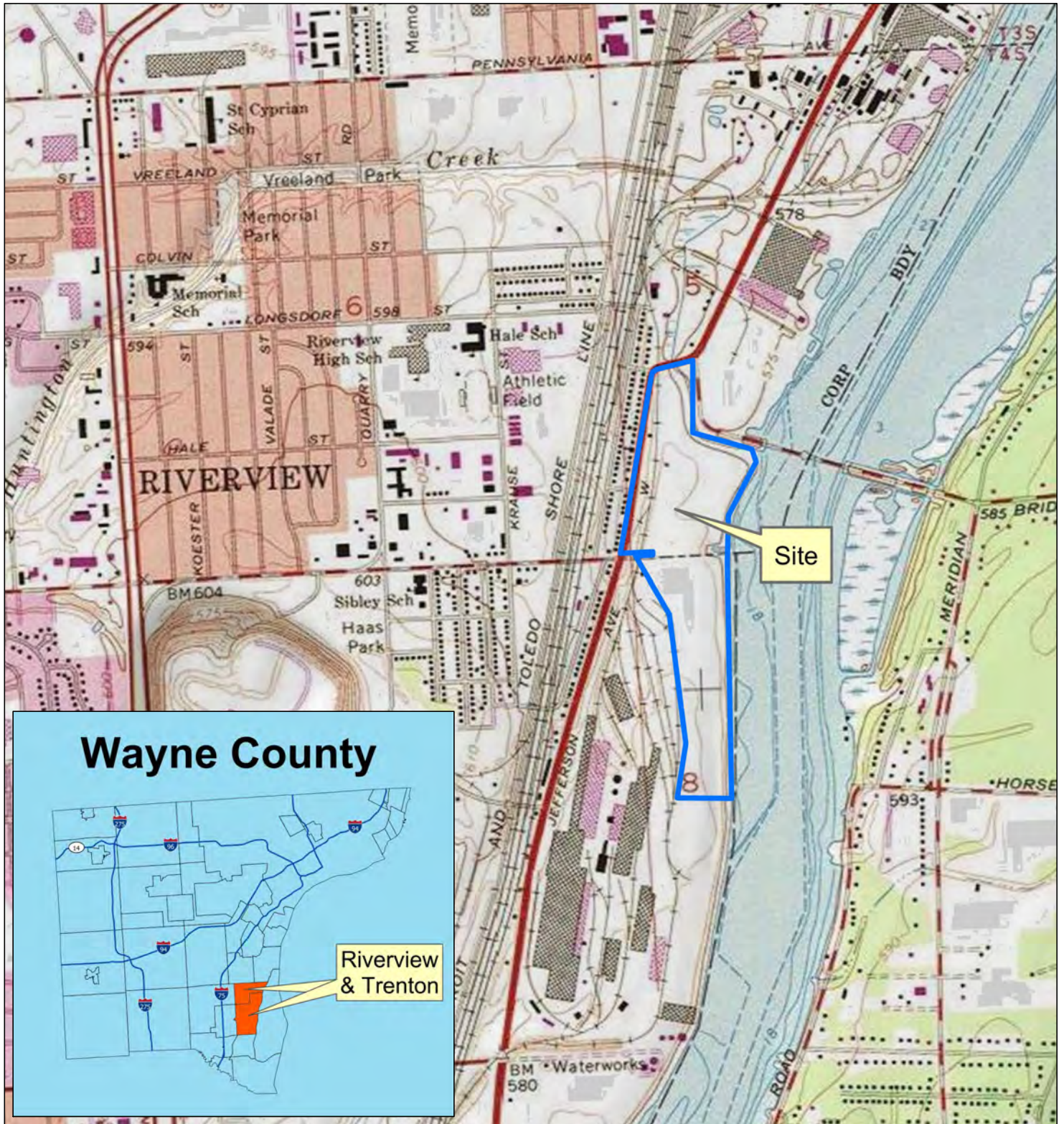
Shading indicates concentration exceeding cleanup criteria.

"<" indicates concentration below laboratory reporting limit.

**Attachment A**  
**Figures**

**Waste Management Unit 29 Investigation**





0 600 1200 1800  
Approximate Scale in Feet

LEGEND  
— Property Line

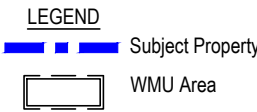
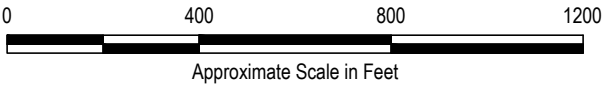


**ASTi**  
Environmental



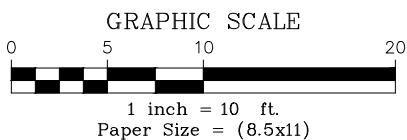
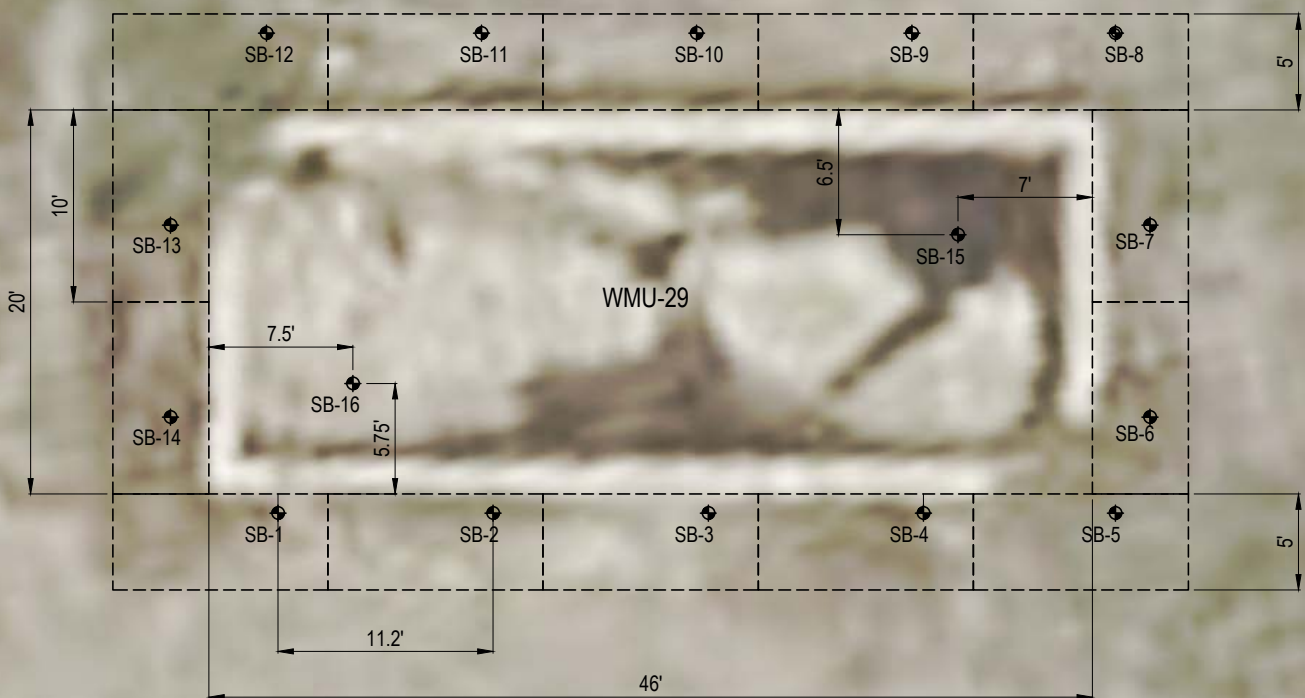


Image Credit: Google Earth





Y:\Project Files\Current and Closed\10000-10999\10860 McLouth RTRR Property\CAO\10860 RTRR.dwg: 4/8/2020 4:08 PM



LEGEND

- Soil Boring Location
- Stake Location



RTRR Property

18251 West Jefferson, Riverview, MI

Created for: Riverview-Trenton Railroad Company

Figure 3 - WMU-29 Sample Location Map

ASTI Project 10860, JRN, April 8, 2020

**Attachment B**  
**Soil Boring Logs**

**Waste Management Unit 29 Investigation**

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB1  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, silt, gravel, and slag, grey, moist, loose (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB2  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, grey, moist, loose (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)



ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB3  
Total Depth: 12'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB4  
Total Depth: 12'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB5  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB6  
Total Depth: 12'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 11-12'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB7  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	4'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, grey, moist, loose (fill)	0.0	
4'	10'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, asphalt, and slag, dark brown, moist, loose (fill)	0.0	
10'	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, asphalt, concrete, and slag, dark brown, moist, loose (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB8  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	3.5'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, grey, moist, loose (fill)	0.0	
3.5	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, asphalt, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 9-10'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)



ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB9  
Total Depth: 12'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, wood and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, asphalt, and slag, grey and brown, moist, loose (fill)	0.0	
8'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, asphalt, and slag, dark brown, moist, compact (fill)	0.0	Soil at 9-10'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB10  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, slag, and vegetation, dark brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	8'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	
8'	11'	SAND, fine to medium grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, compact (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

ASTI Environmental  
10448 Citation Dr., Suite 100  
Brighton, MI 48116

## SOIL BORING LOG

### Boring Data

Boring ID: **WMU29-SB11**  
Total Depth: **11'**

Date Completed: **12/17/2019**

Proj. Name: **RTRR**  
Proj. Number: **10860**

Site Address: **18251 West Jefferson**  
**Riverview, Michigan**

Drilled by: **ERG**  
Method: **Direct push probe**  
Geologist: **Mitchel Dykla**

### MW Data

Size: **NA**  
Type: **NA**  
Screen Length: **NA**  
Well Depth: **NA**

GW Depth (▼): **NA**

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	9'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	
9'	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, compact (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

### Boring Data

Boring ID: **WMU29-SB12**  
Total Depth: **12'**

Date Completed: **12/17/2019**

Proj. Name: **RTRR**  
Proj. Number: **10860**

Site Address: **18251 West Jefferson**  
**Riverview, Michigan**

Drilled by: **ERG**  
Method: **Direct push probe**  
Geologist: **Mitchel Dykla**

### MW Data

Size: **NA**  
Type: **NA**  
Screen Length: **NA**  
Well Depth: **NA**

GW Depth (▼): **NA**

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	9'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	
9'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, compact (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

### Boring Data

Boring ID: **WMU29-SB13**  
Total Depth: **7'**

Date Completed: **12/17/2019**

Proj. Name: **RTRR**  
Proj. Number: **10860**

Site Address: **18251 West Jefferson**  
**Riverview, Michigan**

Drilled by: **ERG**  
Method: **Direct push probe**  
Geologist: **Mitchel Dykla**

### MW Data

Size: **NA**  
Type: **NA**  
Screen Length: **NA**  
Well Depth: **NA**

GW Depth (▼): **NA**

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 6-7'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB14  
Total Depth: 11'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	4"	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, vegetation, and slag, brown, moist, loose (fill)	0.0	Soil at 0-3"
4"	9'	SAND, medium to coarse grained, trace very fine to fine grained sand, concrete, silt, and slag, dark brown, moist, loose (fill)	0.0	
9'	11'	SAND, medium to coarse grained, trace very fine to fine grained sand, concrete, silt, and slag, dark brown, moist, compact (fill)	0.0	Soil at 10-11'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)



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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB15  
Total Depth: 7'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	8"	Concrete	0.0	Soil at 0-3"
8"	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 6-7'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

Sample Depth indicates depth

below the bottom of the

concrete pad.

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## SOIL BORING LOG

Proj. Name: RTRR  
Proj. Number: 10860

Site Address: 18251 West Jefferson  
Riverview, Michigan

Drilled by: ERG  
Method: Direct push probe  
Geologist: Mitchel Dykla

Boring Data  
Boring ID: WMU29-SB16  
Total Depth: 7'

Date Completed: 12/17/2019

MW Data  
Size: NA  
Type: NA  
Screen Length: NA  
Well Depth: NA

GW Depth (▼): NA

Depth		Description	PID (ppm)	Sample Depth
From	To			
0	8"	Concrete	0.0	Soil at 0-3"
8"	7'	SAND, medium to coarse grained, trace very fine to fine grained sand, gravel, silt, and slag, dark brown, moist, loose (fill)	0.0	Soil at 6-7'
		End of Boring		

ppm = parts per million

MW = monitoring well

TW = temporary monitoring well

bgs = below ground surface

(USDA soil texture)

Sample Depth indicates depth

below the bottom of the

concrete pad.

**Attachment C**  
**Laboratory Analytical Report**  
**Waste Management Unit 29 Investigation**



Monday, January 06, 2020

Fibertec Project Number: 94300  
Project Identification: 5-10860 /5-10860  
Submittal Date: 12/19/2019

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink, appearing to read "Sharon L. Rakow".

By Sharon Rakow at 5:40 PM, Jan 06, 2020

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-001

Order: 94300  
Page: 2 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB1-0-3"	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10  
Aliquot ID: 94300-001 Matrix: Soil/Solid  
Description: WMU29-SB1-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A  
Aliquot ID: 94300-001 Matrix: Soil/Solid  
Description: WMU29-SB1-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
6. Aroclor-1254	620	J+	µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
7. Aroclor-1260	460	J+	µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-002

Order: 94300  
Page: 3 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB1-10-11"	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:45
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**  
**Aliquot ID: 94300-002**  
**Description: WMU29-SB1-10-11"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**  
**Aliquot ID: 94300-002**  
**Description: WMU29-SB1-10-11"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
4. Aroclor-1242	390		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SC19L27C	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-003

Order: 94300  
Page: 4 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB2-0-3"	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:52
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-003**  
**Description: WMU29-SB2-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-003**  
**Description: WMU29-SB2-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
6. Aroclor-1254	160	J+	µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
7. Aroclor-1260	200	J+	µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/30/19	SF19L30A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-004

Order: 94300  
Page: 5 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB2-10-11'	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:57
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-004 Matrix: Soil/Solid  
Description: WMU29-SB2-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-004 Matrix: Soil/Solid  
Description: WMU29-SB2-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-005

Order: 94300  
Page: 6 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB3-0-3"	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:01
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-005**  
**Description: WMU29-SB3-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-005**  
**Description: WMU29-SB3-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
6. Aroclor-1254	1200	J+	µg/kg	370	25	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
7. Aroclor-1260	820	J+	µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-006

Order: 94300  
Page: 7 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB3-11-12'	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:08
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-006 Matrix: Soil/Solid  
Description: WMU29-SB3-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-006 Matrix: Soil/Solid  
Description: WMU29-SB3-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK
4. Aroclor-1242	330		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK
6. Aroclor-1254	480	J+	µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
7. Aroclor-1260	350	J+	µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A02D	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-007

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB4-0-3"	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:13
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**  
**Aliquot ID: 94300-007**  
**Description: WMU29-SB4-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**  
**Aliquot ID: 94300-007**  
**Description: WMU29-SB4-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
7. Aroclor-1260	120		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26C	01/03/20	SF20A03A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-008

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB4-11-12'	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:19
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-008 Matrix: Soil/Solid  
Description: WMU29-SB4-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-008 Matrix: Soil/Solid  
Description: WMU29-SB4-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-009

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB5-0-3"	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:23
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-009 Matrix: Soil/Solid  
Description: WMU29-SB5-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	13		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-009 Matrix: Soil/Solid  
Description: WMU29-SB5-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
6. Aroclor-1254	1700	J+	µg/kg	380	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
7. Aroclor-1260	1700	J+	µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	380	25	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-010

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB5-10-11'	Chain of Custody:	181442
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:29
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-010**  
**Description: WMU29-SB5-10-11'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-010**  
**Description: WMU29-SB5-10-11'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-011

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB6-0-3"	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:35
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10  
Aliquot ID: 94300-011 Matrix: Soil/Solid  
Description: WMU29-SB6-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A  
Aliquot ID: 94300-011 Matrix: Soil/Solid  
Description: WMU29-SB6-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
6. Aroclor-1254	520	J+	µg/kg	100	5.0	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
7. Aroclor-1260	400	J+	µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-012

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB6-11-12'	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-012 Matrix: Soil/Solid  
Description: WMU29-SB6-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-012 Matrix: Soil/Solid  
Description: WMU29-SB6-11-12'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-013

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB7-0-3"	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:03
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-013 Matrix: Soil/Solid  
Description: WMU29-SB7-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-013 Matrix: Soil/Solid  
Description: WMU29-SB7-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
2. Aroclor-1221	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
3. Aroclor-1232	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
4. Aroclor-1242	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
5. Aroclor-1248	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
6. Aroclor-1254	7700	J+	µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
7. Aroclor-1260	5000	J+	µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
‡ 9. Aroclor-1268	U		µg/kg	1500	100	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-014

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB7-10-11'	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:12
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-014 Matrix: Soil/Solid  
Description: WMU29-SB7-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-014 Matrix: Soil/Solid  
Description: WMU29-SB7-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-015

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Page: 16 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB8-0-3"	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:17
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-015**  
**Description: WMU29-SB8-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-015**  
**Description: WMU29-SB8-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
2. Aroclor-1221	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
3. Aroclor-1232	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
4. Aroclor-1242	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
5. Aroclor-1248	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
6. Aroclor-1254	1300	J+	µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
7. Aroclor-1260	1500	J+	µg/kg	370	25	12/26/19	PS19L26D	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
‡ 9. Aroclor-1268	U		µg/kg	370	25	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-016

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB8-9-10'	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-016**  
**Description: WMU29-SB8-9-10'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-016**  
**Description: WMU29-SB8-9-10'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
4. Aroclor-1242	420		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
6. Aroclor-1254	410	J+	µg/kg	100	5.0	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
7. Aroclor-1260	230	J+	µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-017

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB9-0-3"	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:29
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**  
**Aliquot ID: 94300-017**  
**Description: WMU29-SB9-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**  
**Aliquot ID: 94300-017**  
**Description: WMU29-SB9-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
6. Aroclor-1254	420	J+	µg/kg	100	5.0	12/26/19	PS19L26D	12/30/19	SF19L30A	RDK
7. Aroclor-1260	420	J+	µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/28/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-018

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB9-9-10'	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-018**  
**Description: WMU29-SB9-9-10'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-018**  
**Description: WMU29-SB9-9-10'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
7. Aroclor-1260	270		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/29/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-019

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB10-0-3"	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:44
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-019**  
**Description: WMU29-SB10-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-019**  
**Description: WMU29-SB10-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26D	12/27/19	SF19L26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-020

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB10-10-11'	Chain of Custody:	181443
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:51
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-020 Matrix: Soil/Solid  
Description: WMU29-SB10-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-020 Matrix: Soil/Solid  
Description: WMU29-SB10-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
7. Aroclor-1260	190		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-021

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB11-0-3"	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	09:56
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-021 Matrix: Soil/Solid  
Description: WMU29-SB11-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-021 Matrix: Soil/Solid  
Description: WMU29-SB11-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
7. Aroclor-1260	290		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-022

Order: 94300  
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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB11-10-11'	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:02
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10  
Aliquot ID: 94300-022 Matrix: Soil/Solid  
Description: WMU29-SB11-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A  
Aliquot ID: 94300-022 Matrix: Soil/Solid  
Description: WMU29-SB11-10-11'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK
4. Aroclor-1242	280		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK
6. Aroclor-1254	370	J+	µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
7. Aroclor-1260	290	J+	µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A02D	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-023

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB12-0-3'	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:06
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-023 Matrix: Soil/Solid  
Description: WMU29-SB12-0-3'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	15		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-023 Matrix: Soil/Solid  
Description: WMU29-SB12-0-3'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
6. Aroclor-1254	540	J+	µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
7. Aroclor-1260	420	J+	µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-024

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Date: 01/06/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **WMU29-SB12-11-12'** Chain of Custody: **181444**  
Client Project Name: **5-10860** Sample No: Collect Date: **12/17/19**  
Client Project No: **5-10860** Sample Matrix: **Soil/Solid** Collect Time: **10:12**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-024 Matrix: Soil/Solid**  
**Description: WMU29-SB12-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	<b>18</b>		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-024 Matrix: Soil/Solid**  
**Description: WMU29-SB12-11-12'**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
2. Aroclor-1221	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
3. Aroclor-1232	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
4. Aroclor-1242	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
5. Aroclor-1248	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
6. Aroclor-1254	<b>1700</b>		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
7. Aroclor-1260	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK
‡ 9. Aroclor-1268	U		µg/kg	410	25	12/26/19	PS19L26F	01/03/20	SF20A03A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-025

Order: 94300  
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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB13-0-3"	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:18
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**  
**Aliquot ID: 94300-025**  
**Description: WMU29-SB13-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	20		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**  
**Aliquot ID: 94300-025**  
**Description: WMU29-SB13-0-3"**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
2. Aroclor-1221	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
3. Aroclor-1232	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
4. Aroclor-1242	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
5. Aroclor-1248	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
6. Aroclor-1254	1400	J+	µg/kg	410	25	12/26/19	PS19L26F	12/30/19	SF19L30A	RDK
7. Aroclor-1260	1200	J+	µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
‡ 8. Aroclor-1262	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK
‡ 9. Aroclor-1268	U		µg/kg	410	25	12/26/19	PS19L26F	12/29/19	SF19L28B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-026

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB13-6-7'	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:21
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-026 Matrix: Soil/Solid  
Description: WMU29-SB13-6-7'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-026 Matrix: Soil/Solid  
Description: WMU29-SB13-6-7'

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
4. Aroclor-1242	210		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
6. Aroclor-1254	240		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
7. Aroclor-1260	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-027

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB14-0-3"	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:28
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-027**  
**Description: WMU29-SB14-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	14		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-027**  
**Description: WMU29-SB14-0-3"**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
6. Aroclor-1254	580	J+	µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
7. Aroclor-1260	460	J+	µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-028

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Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB14-10-11'	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	10:34
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-028**  
**Description: WMU29-SB14-10-11'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	16		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-028**  
**Description: WMU29-SB14-10-11'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
6. Aroclor-1254	870	J+	µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
7. Aroclor-1260	1000	J+	µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-029

Order: 94300  
Page: 30 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB15-0-3"	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:49
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-029 Matrix: Soil/Solid  
Description: WMU29-SB15-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-029 Matrix: Soil/Solid  
Description: WMU29-SB15-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
2. Aroclor-1221	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
3. Aroclor-1232	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
4. Aroclor-1242	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
5. Aroclor-1248	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
6. Aroclor-1254	1800000	J+	µg/kg	360000	25000	12/27/19	PS19L27D	01/06/20	SF20A06A	TKT
7. Aroclor-1260	400000	J+	µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
‡ 8. Aroclor-1262	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK
‡ 9. Aroclor-1268	U		µg/kg	72000	5000	12/27/19	PS19L27D	01/03/20	SF20A03A	RDK

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F: (231) 775-8584



Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-030

Order: 94300  
Page: 31 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB15-6-7	Chain of Custody:	181444
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	11:54
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-030**  
**Description: WMU29-SB15-6-7**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	6		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-030**  
**Description: WMU29-SB15-6-7**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
6. Aroclor-1254	150		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
7. Aroclor-1260	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-031

Order: 94300  
Page: 32 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB16-0-3"	Chain of Custody:	181445
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:07

Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C  
Method: ASTM D2216-10

Aliquot ID: 94300-031 Matrix: Soil/Solid  
Description: WMU29-SB16-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3546/EPA 8082A

Aliquot ID: 94300-031 Matrix: Soil/Solid  
Description: WMU29-SB16-0-3"

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
6. Aroclor-1254	270	J+	µg/kg	100	5.0	12/27/19	PS19L27D	01/06/20	SF20A06A	TKT
7. Aroclor-1260	210	J+	µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	01/04/20	SF20A04B	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-032

Order: 94300  
Page: 33 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-SB16-6-7'	Chain of Custody:	181445
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	12:13
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**

**Aliquot ID: 94300-032**  
**Description: WMU29-SB16-6-7'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**

**Aliquot ID: 94300-032**  
**Description: WMU29-SB16-6-7'**

**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
4. Aroclor-1242	190		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
6. Aroclor-1254	240	J+	µg/kg	100	5.0	12/27/19	PS19L27D	12/30/19	SF19L30A	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94300  
Laboratory Sample Number: 94300-033

Order: 94300  
Page: 34 of 35  
Date: 01/06/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	WMU29-Dup 1	Chain of Custody:	181445
Client Project Name:	5-10860	Sample No:		Collect Date:	12/17/19
Client Project No:	5-10860	Sample Matrix:	Soil/Solid	Collect Time:	NA
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

**Water (Moisture) Content Dried at 105 ± 5°C**  
**Method: ASTM D2216-10**  
**Aliquot ID: 94300-033**  
**Description: WMU29-Dup 1**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/26/19	MC191226	12/27/19	MC191226	DB

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3546/EPA 8082A**  
**Aliquot ID: 94300-033**  
**Description: WMU29-Dup 1**  
**Matrix: Soil/Solid**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
2. Aroclor-1221	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
3. Aroclor-1232	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
4. Aroclor-1242	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
5. Aroclor-1248	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
6. Aroclor-1254	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
7. Aroclor-1260	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/27/19	PS19L27D	12/28/19	SC19L27C	RDK

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

**J+** : The result is an estimated quantity, but the result may be biased high.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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<b>Fax: 517 699 0388</b>	<b>Fax: 231 775 8584</b>
<b>email: <a href="mailto:lab@fiberfec.us">lab@fiberfec.us</a></b>	

**Industrial Hygiene Services, Inc.**  
**1914 Holloway Drive**  
**Holt, MI 48842**  
**Phone: 517 699 0345**  
**Fax: 517 699 0382**  
**email: [asbestos@fibertechhs.com](mailto:asbestos@fibertechhs.com)**

**Geoprobe**  
11766 E. Grand River Rd.  
Brighton, MI 48116  
Phone: 810 220 3300  
Fax: 810 220 3311

Chain of Custody #  
**181442**  
PAGE 1 of 4

Client Name: <b>ASTI Environmental</b>				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS												Matrix Code			Deliverables																
Contact Person: <b>Greg Oslasky</b>																		S	Soil	GW	Ground Water		Level 2														
Project Name/ Number: <b>5-10860</b>																																					
Email distribution list: <b>goslosky@asti-env.com mdykla@asti-env.com</b>																																					
Quote#																																					
Purchase Order#				HOLD SAMPLE													A	Air	SW	Surface Water		Level 3															
																							O	Oil	WW	Waste Water		Level 4									
																													P	Wipe	X	Other; Specify		EDD			
Date																	Time	Sample #	Client Sample Descriptor	Remarks:																	
12-17-19																	1040		WMVZ9-SB1-0-3"	5	1	X															
																	1045		WMVZ9-SB1-10-11'																		
																	1052		WMVZ9-SB2-0-3"																		
				1057		WMVZ9-SB2-10-11'																															
				1101		WMVZ9-SB3-0-3"																															
				1108		WMVZ9-SB3-11-12'																															
				1113		WMVZ9-SB4-0-3"																															
				1119		WMVZ9-SB4-11-12'																															
				1123		WMVZ9-SB5-0-3"																															
				1129		WMVZ9-SB5-10-11'																															
Comments:																																					
Sampled/Relinquished By: <b>Mitchel Dykha</b>								Date/ Time: <b>12-17-19 14:00</b>				Received By: <b>ASTI Cold Storage</b>																									
Relinquished By: <b>ASTI Cold Storage</b>								Date/ Time:				Received By: <b>Rel. of. Shad 12/19/19 2:30</b>																									
Relinquished By: <b>Rel. of. Shad</b>								Date/ Time: <b>12/19/19 4:02</b>				Received By Laboratory:																									
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																																					
LAB USE ONLY																																					
Fibertec project number: <b>94300</b>																																					
Temperature upon receipt at Lab: <b>2.8°C</b>																																					
Received On Ice																																					
Please see back for terms and conditions																																					

Client Name: <u>ASTI Environmental</u>				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PCBs	PARAMETERS												Matrix Code		Deliverables	
Contact Person: <u>Greg Oslosky</u>							HOLD SAMPLE	S	Soil	GW	Ground Water									Level 2		
Project Name/ Number: <u>5-10860</u>								A	Air	SW	Surface Water									Level 3		
Email distribution list: <u>goslosky@asti-env.com</u> <u>mdyklac@asti-env.com</u>								O	Oil	WW	Waste Water									Level 4		
Quote#								P	Wipe	X	Other: Specify									EDD		
Purchase Order#								Remarks:														
Date	Time	Sample #	Client Sample Descriptor																			
<u>12-17-19</u>	<u>1135</u>		<u>WMU29-SB6-0-3"</u>	<u>5</u>	<u>1</u>	<u>X</u>																
	<u>1140</u>		<u>WMU29-SB6-11-12'</u>																			
	<u>9:03</u>		<u>WMU29-SB7-0-3"</u>																			
	<u>9:12</u>		<u>WMU29-SB7-10-11'</u>																			
	<u>9:17</u>		<u>WMU29-SB8-0-3"</u>																			
	<u>9:25</u>		<u>WMU29-SB8-9-10'</u>																			
	<u>9:29</u>		<u>WMU29-SB9-0-3"</u>																			
	<u>9:40</u>		<u>WMU29-SB9-9-10'</u>																			
	<u>9:44</u>		<u>WMU29-SB10-0-3"</u>																			
	<u>9:51</u>		<u>WMU29-SB10-10-11'</u>																			
Comments:																						
Sampled/Relinquished By: <u>Mitchel Dykka</u>				Date/ Time: <u>12-17-19 14:00</u>				Received By: <u>ASTI Cold Storage</u>														
Relinquished By: <u>ASTI Cold Storage</u>				Date/ Time:				Received By: <u>Debra St. Made 12/19/19 2:30</u>														
Relinquished By: <u>Debra St. Made</u>				Date/ Time: <u>12/19/19 4:02</u>				Received By Laboratory: <u>[Signature]</u>														
<p style="text-align: center;"><b>Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY</b></p> <p> <input type="checkbox"/> 1 bus. day                <input type="checkbox"/> 2 bus. days                <input type="checkbox"/> 3 bus. days                <input type="checkbox"/> 4 bus. days  <input checked="" type="checkbox"/> 5-7 bus. days (standard)                Other (specify time/date requirement): _____           </p>																						
<p style="text-align: right;">Fibertec project number: <u>94300</u></p> <p style="text-align: right;">Temperature upon receipt at Lab: <u>2.8°C</u></p> <p style="text-align: right; border: 1px solid red; padding: 5px; display: inline-block;"><b>Received On Ice</b></p>																						
Please see back for terms and conditions																						





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181444  
PAGE 3 of 4

Client Name: <b>ASTI Environmental</b>															PARAMETERS						Matrix Code				Deliverables			
Contact Person: <b>Greg Oslosky</b>																					S Soil A Air O Oil P Wipe				GW Ground Water SW Surface Water WW Waste Water X Other: Specify		Level 2 Level 3 Level 4 EDD	
Project Name/ Number: <b>5-10860</b>																												
Email distribution list:																												
<b>gosloskye@asti-env.com mdykla@asti-env.com</b>																												
Quote#																												
Purchase Order#																												
Date	Time	Sample #	Client Sample Descriptor				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	HOLD SAMPLE										Remarks:									
12-17-19	956		WMU29-SB11-0-3"				S	1	X																			
	1002		WMU29-SB11-10-11'																									
	1006		WMU29-SB12-0-3"																									
	1012		WMU29-SB12-11-12'																									
	1018		WMU29-SB13-0-3"																									
	1021		WMU29-SB13-6-7'																									
	1028		WMU29-SB14-0-3"																									
	1034		WMU29-SB14-10-11'																									
	1149		WMU29-SB15-0-3"																									
✓	1154		WMU29-SB15-11-7'				↓	↓	↓																			
Comments:																												
Sampled/Relinquished By: <b>Michael Dyble</b>							Date/ Time <b>12-17-19 1400</b>							Received By: <b>ASTI Cold Storage</b>														
Relinquished By: <b>ASTI Cold Storage</b>							Date/ Time							Received By: <b>Dan Stashak 12/19/19 2:30</b>														
Relinquished By: <b>Dan Stashak</b>							Date/ Time <b>12/19/19 4:02</b>							Received By Laboratory: <b>[Signature]</b>														
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																												
LAB USE ONLY																												
Fibertec project number: <b>94300</b>											Temperature upon receipt at Lab: <b>2.8°C</b>																	
Received On Ice																												
Please see back for terms and conditions																												



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181445  
PAGE 4 of 4

[illegible]

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**RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.**

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- **SOIL AND GROUNDWATER REMEDIATION**
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## **Attachment F**

### **WMU-3-Surface Soil Lead Investigation – Revision 1**



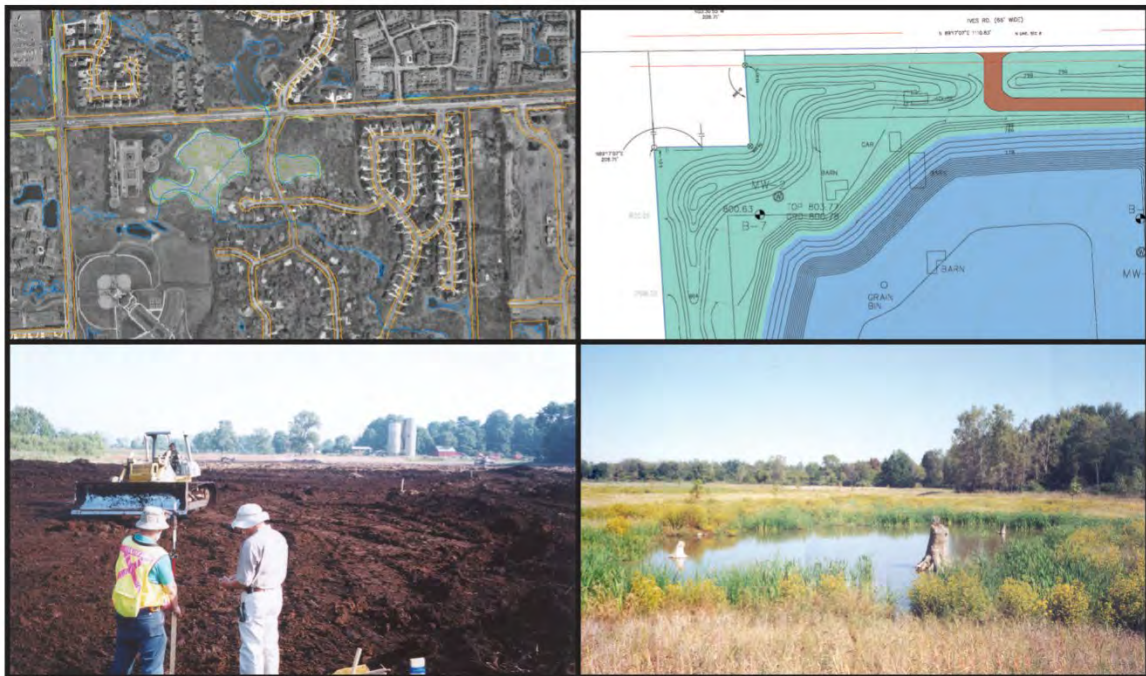
Waste Management Unit 30 Surface Soil Lead  
Investigation  
Revision 1

18251 West Jefferson Avenue  
Riverview, Michigan

Riverview-Trenton Railroad Company

March 29, 2021

ASTI ENVIRONMENTAL





Waste Management Unit 30 Surface Soil Lead  
Investigation  
Revision 1

18251 West Jefferson Avenue  
Riverview, Michigan

March 29, 2021

**Prepared For:**

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

**Report Prepared By:**

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**ASTI Project No. 10860**

Report Prepared by:



Greg S. Oslosky, P.G.  
Director – Grand Rapids Office

Report Reviewed by:



Allison J. Rogowski, EP  
Staff Scientist

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5.0	Measures to Prevent Unacceptable Human Exposure to Lead.....	5
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## Attachments

Tables-	Table 1 – Summary of Soil Analytical Results for Lead, November 1996
	Table 2 – Summary of Soil Analytical Results for Lead, February 1997
	Table 3 – Summary of Soil Analytical Results for Lead, Background Soil Samples
Attachment A -	Figures
	Figure 1 - Site Location Map
	Figure 2 - RTRR Site Features Map
	Figure 3 - WMU-30 Soil Sample Location Map
Attachment B -	Final Closure Report and Certification – Interim Status Hazardous Waste Storage Unit, Techna Corporation, March 31, 1998

**Waste Management Unit 30 Surface Soil Lead Investigation**  
**Revision 1**  
**Riverview-Trenton Railroad Company**  
**Former McLouth Steel Site**  
**18251 West Jefferson Avenue**  
**Riverview, Michigan**

## **1.0 Introduction**

In accordance with the Corrective Action Consent Order (“CACO”) dated November 1, 2018 between the Riverview-Trenton Rail Road Company (“RTRR”) and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), ASTI Environmental (“ASTI”) is providing this lead investigation summary for a portion of the property located at 18251 West Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The Subject Property lies east of West Jefferson Avenue, south of West Jefferson Avenue, and Monguagon Creek, west of the Trenton Channel of the Detroit River and, north of the former McLouth Steel Facility. The portion of the Subject Property which lies south of Sibley Road, is located in the City of Trenton. A Site Location Map is provided as Figure 1 included in Attachment A. ASTI completed this report in accordance with item number seven within the Statement of Work included as Attachment A of the CACO for the Subject Property and with the Work Plan – Waste Management Unit Investigations prepared by ASTI dated June 28, 2019 (“Work Plan”).

This report summarizes investigations, completed by others for the former Electronic Arc Furnace (“EAF”) Dust Pile, also known as Waste Management Unit 30 (“WMU-30”). Attachment A of this report includes Figure 1 – Site Location Map and Figure 2 – Site Features Map. ASTI reviewed investigations completed by others to determine the extent of lead impacts in surface soil at concentrations exceeding the current Generic Nonresidential Cleanup Criteria (“GNRCC”) for Direct Contact (“DC”) of 900 milligrams per kilogram (“mg/kg” or parts per million). ASTI did not collect additional data for the purpose of this investigation.

## **2.0 Subject Property Background**

The McLouth Steel Company (“McLouth”) acquired the Subject Property between 1956 and 1961, and used portions of it for storage of raw materials, waste, and product to support the integrated production of steel and iron in the production facility located to the south (“McLouth Facility”). A large slag processing operation, operated by E. C. Levy Company, was also located on the Subject Property. Historically, the Subject Property included the Monguagon Creek channel, which flowed from the north to south and bisected the Subject Property, an oil storage terminal, and a large building with docking facilities. By 1961, the large building and oil terminal had been demolished and the Monguagon Creek channel had been rerouted along River Road where it currently empties into the Trenton Channel northeast of the Subject Property (Figure 2). By 1967, the original channel and mouth area of Monguagon Creek had been filled completely and this area was used for storage of equipment and materials (ore, debris, and scrap)<sup>1</sup>.

---

<sup>1</sup> North Area Characterization Plan, Revised, ESC, November 2, 2000.

After about 1975, steel production decreased until McLouth ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection on September 29, 1995. At that time, only one blast furnace was operational and most other production units were operating at significantly reduced capacities.

Hamlin Holdings, Inc. acquired the Subject Property in July of 1996, although it is unclear what was conducted on the Subject Property during that time. Detroit Steel Company ("DSC") obtained title for the Subject Property in August of 1996 and used it for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998. In support of the pickling operations, DSC started the scrubber, Central Wastewater Treatment Plant, and the pH adjustment station at the McLouth Facility. Those operations closed in 2005. Crown Enterprises purchased the Subject Property on June 2, 2000 and conveyed the property to RTRR in November of 2000.

### **3.0 Waste Management Unit 30 Background**

McLouth Steel used both basic oxygen furnaces ("BOF") and EAF for production. The waste emission control dust generated from the EAF air pollution control systems was designated as a listed hazardous waste (K061) under the Resource Conservation and Recovery Act ("RCRA"). Sludge was accumulated in a concrete sump and transferred to the interim status EAF Dust Pile storage area. McLouth filed a notification of waste activity and a RCRA Part A permit on November 17, 1980 for storage of EAF dust prior to treatment or disposal. The unit was classified as an Interim Status Hazardous Waste Storage Unit in McLouth's 1980 Part A permit application. WMU-30 was a roughly 25,000 square feet area with an earthen berm built on top of the fill that covers most of the Subject Property. Figure 3 - WMU-30 Soil Sample Location Map, depicts the WMU-30 area.

Part B of McLouth's RCRA storage permit application was called in by the United States Environmental Protection Agency ("USEPA") in 1984. McLouth made various submissions, resulting in a final RCRA/Act 64 permit application dated February 27, 1988. After rejection of that permit, McLouth decided to close the EAF Dust Pile and accumulate EAF dust for no longer than 90 days<sup>2</sup>.

McLouth operated the waste management unit continuously until early 1989, when new concrete accumulation tanks (WMU-31) were constructed and placed into use. Final removal of waste took place in 1991. Approximately 980 tons of EAF dust were transported to Horsehead Resource Development Company in Palmerton, Pennsylvania.

### **4.0 WMU-30 Closure Activities**

McLouth prepared the EAF Dust Pile Closure Plan ("Closure Plan") in August 1988 and revised the Closure Plan in response to comments by EGLE (then known as the Michigan Department of Natural Resources). The revised Closure Plan was approved on October 31, 1988 with a stipulation which required a hydrogeological investigation. The hydrogeological investigation plan was approved by EGLE (then known as the Michigan Department of Environmental Quality) on October 17, 1995.

---

<sup>2</sup> Final Closure Report and Certification – Interim Status Hazardous Waste Storage Unit, Techna Corporation, March 31, 1998.

In 1991, McLouth initiated closure activities in accordance with the revised Closure Plan through removal of residual waste material from the EAF Dust Storage pile area. McLouth did not complete any other closure activities prior to termination of operations in 1996. DSC resumed closure activities in the fall of 1996 and completed those activities in late 1997.

Closure activities were conducted in accordance with the revised Closure Plan and the Hydrogeological Investigation Plan. The closure activities consisted of the following:

- Final removal of waste,
- Soil assessment,
- Groundwater assessment, and
- Final Closure Report and Certification.

Final waste removal activities were completed by McLouth between September 23, 1991 and November 13, 1991. Clayton Environmental Consultants, Inc. ("Clayton") completed the initial soil sampling, supplemental soil sampling, and Soil Assessment Report and Certification between February 1997 and August 1997.

The hydrogeological investigation began on October 30, 1996 with the installation of five groundwater monitoring wells: three upgradient of WMU-30 and two downgradient of WMU-30. Four consecutive quarters of groundwater sampling and analysis began in November 1996 and were completed in August 1997. Groundwater analytical results from downgradient wells were compared to results from upgradient wells to determine if the EAF Dust Storage Pile impacted groundwater. Laboratory analytical results for the downgradient wells showed that the EAF Dust Storage Pile did not impact groundwater. The Final Closure Report provides details of the geology and hydrogeology of the WMU-30 area.

The Final Closure Report and Certification – Interim Status Hazardous Waste Storage Unit ("Final Closure Report") prepared by Techna Corporation ("Techna") in March 1998 provides detail about the assessment and closure activities. The Final Closure Report is included as Attachment B. The following sections provide a summary of the surface soil investigation activities and analytical results.

#### **4.1 Surface Soil Lead Investigation**

In November 1996, Clayton collected soil samples in accordance with the approved Closure Plan. The sample collection grid was developed in the 1988 closure plan based on a waste pile with dimensions differing from the bermed area depicted in Figure 3. The original grid and pile are shown in the Closure Plan, which is included in Appendix B. The Final Closure Report and Certification developed by Techna provided an overlay of the original grid area on the bermed waste storage pile. The soil samples were analyzed for barium, cadmium, chromium, lead, and pH. Clayton collected soil samples within and adjacent to WMU-30 to assess soil and outside of the WMU-30 area to determine soil background concentrations.

In accordance with the CACO, this report describes the previous soil assessment activities to determine if surface soil lead impacts resulting from the WMU-30 storage pile have been delineated with respect to the current GNRCC for DC (900 mg/kg). Soil samples were collected from the 50-foot grid system presented in the Closure Plan. Details of the sample

collection process are included in the Final Closure Report and Certification included as Attachment B. Figure 3 – WMU-30 Soil Sample Location Map (Attachment A) depicts the locations of the samples collected in November 1996 and February 1997. Figure 3 shows the WMU-30 area including sample collection locations.

The impacted area was not fully delineated based on the November 1996 sampling event. Therefore, Clayton collected additional soil samples in February 1997 to define the extent of impacts. Details of the sampling process are included in the Final Closure Report (Attachment B) and the sample locations are included in Figure 3 (Attachment A).

#### **4.2 Lead Analytical Results in Surface Soil**

The laboratory analytical results from the November 1996 and February 1997 soil investigations conducted by Clayton are summarized in Table 1 and Table 2, respectively. Table 3 provides a summary the lead analytical results for the background soil samples collected during closure activities. Figure 3 depicts the locations of the soil samples and the locations with lead concentrations in exceedance of the current GNRCC for DC (900 mg/kg). As shown on Figure 3, surface soil from sample locations A2, B2, C2, D1, D2, D6, E1, and F4, collected in November 1996, contained lead concentrations exceeding the current GNRCC for DC. Based on the November 1996 surface soil results, lead was not delineated south of A2, east of D1 and E1, west of D6, or north of E1 and F4. Lead impacts were delineated to the west of A2, B2, C2, D2, and E1 based on samples collected from the west-neighboring grids during the same sampling event. Sample E2 provided delineation north of the impacts detected at D2.

The locations of the surface soil samples collected in February 1997 were chosen to delineate the area of impact as defined by the November 1996 sampling event. The surface soil sample designated as A2-South did not contain a lead concentration exceeding the current GNRCC for DC and therefore provided delineation of surface soil lead impacts at the southern extent of WMU-30. Surface soil samples D1-East and E1-East did not contain lead at concentrations exceeding the current GNRCC for DC and therefore provided delineation of surface soil lead impacts at the eastern extent of WMU-30. The surface soil sample collected within the F1 grid did not contain lead at a concentration exceeding the current GNRCC for DC and therefore provided delineation to the north of E1. The surface soil sample collected at the D7 location did not contain lead at a concentration exceeding the current GNRCC for DC and therefore provided the western delineation of surface soil lead impacts in the WMU-30 area. The concrete pad for WMU-31 provides a barrier to direct contact of surface soil north of D6 and west of F4.

Sample G2 (Figure 3) was collected during the February 1997 sampling event at the northern extent of the proposed grid area. Surface soil in the sample collected from the G2 location (G2 Surface) contained a lead concentration below the current GNRCC for DC. However, the duplicate sample from this location (G2 Surface Duplicate) contained a lead concentration of 990 mg/kg, which exceeds the current GNRCC for DC. Table 2 provides a summary of the lead analytical data for the February 1997 sampling event.

Techna collected additional background in July 1997. Sample TBG-A was collected approximately 50 feet north of G2 and contained a surface soil lead concentration of 41.3 mg/kg. Sample TBG-A provided delineation of the northern extent of the surface soil lead impact defined by the G2 location (Figure 3).



The purpose of this investigation is to evaluate lead concentrations in surface soil; however, the background sample collected from the location TBG-E in the interval between three feet to four feet below ground surface (bgs) contained a lead concentration of 1,100 mg/kg which exceeds the GNRCC for DC. The sample collected from the same location in the interval between one foot and two feet bgs contained a lead concentration of 612 mg/kg which is below the GNRCC for DC. Table 3 provides a summary of the lead analytical data for the background samples.

Based on surface soil samples collected in November 1996, February 1997, and July 1997, lead impacts in exceedance of the current GNRCC for DC were delineated for the WMU-30 waste storage area, as defined by the waste pile and bermed area. Three additional surface soil lead impacts were also discovered outside of the bermed waste area (D6, F4, and G2) and sampling conducted in February 1997, July 1997, and the background samples provided delineation of those areas.

## **5.0 Measures to Prevent Unacceptable Human Exposure to Lead**

Historical soil investigations have delineated lead in surface soil at the former EAF Dust Storage Pile location. These samples also exceed the GNRCC for Drinking Water; however, groundwater at the Subject Property is not currently used for drinking water and will not be used in the future for consumption. Therefore, the Non-residential Drinking Water pathway is not complete. Each of the surface soil samples collected during the WMU-30 investigation contained lead concentrations below the GNRCC for Particulate Soil Inhalation of 44,000 mg/kg.

The lead concentrations in surface soil in the WMU-30 area present an unacceptable risk to human health via direct contact with surface soils. Options to prevent unacceptable human exposure to lead in surface soils include placement of a low-permeability soil cap or paving over the impacted area depicted in Figure 3. A soil cap would consist of clay soil, graded to induce surface runoff and prevent surface water leaching into the subsurface. Paving would include covering the impacted surface soil with concrete or asphalt to restrict direct contact with the soil and prevent surface water from infiltrating through the impacted surface soil. Routine inspections would be required for a soil or pavement cap to ensure that the cap is functioning properly. The cap would be inspected for cracking, vegetation growth (soil cap), and/or other signs that the cap is not functioning as intended. Reports detailing the results of each inspection would also be required.

A restrictive covenant would be required after placement of a cap (soil or pavement) to maintain and prevent removal of the cap. The covenant would also restrict installation of wells for consumptive use of groundwater.

## **6.0 Summary**

WMU-30 was formerly used for storage of EAF Dust created from the steel-making process at the former McLouth Steel Facility located in Trenton, Michigan. EAF dust was stored in the WMU-30 area between 1980 until final removal of waste in 1991. Approximately 980 tons of EAF dust waste (K061) was transported offsite for proper disposal.



In accordance with the CACO dated November 1, 2018, ASTI reviewed data collected during previous investigations conducted by others. ASTI did not collect additional data for the purpose of delineating lead in surface soil in the WMU-30 area. Clayton investigated surface soil in November 1996 and delineation soil sampling in February 1997. The samples collected in February 1997 provided delineation of lead in surface soil in the WMW-30 area with one exception (G2). Additional background samples were collected in July 1997 and provided delineation of the GNRCC DC exceedance in G2. Exceedances of the GNRCC for DC are depicted in the shaded area of Figure 3.

Due to the presence of lead in surface soil in exceedance of the GNRCC for DC, measures are required to restrict direct contact to surface soil with lead concentrations exceeding 900 mg/kg. Likely measures include placement of a low-permeability cap (soil or pavement).

## **7.0 RCRA Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



---

Greg S. Oslosky, P.G.  
Director – Grand Rapids

## **Tables**

### **Waste Management Unit 30 Surface Soil Investigation**

Table 1

## Summary of Soil Laboratory Analytical Results - Lead

Clayton, November 6 and 7, 1996

WMU-30, RTRR - Riverview

18251 West Jefferson Ave., Riverview, MI

ASTI Project Number: 10860

Sample Identification and Depth	Units	Lead
A1 (Surface)	mg/kg <sup>(1)</sup>	884
A1 (2')	mg/kg	739
A2 (Surface)	mg/kg	<b>7,400</b>
A2 (2')	mg/kg	<20
A3 (Surface)	mg/kg	<50
A3 (1')	mg/kg	<50
A4 (Surface)	mg/kg	620
A4(2')	mg/kg	110
B1 (Surface)	mg/kg	860
B1 (2')	mg/kg	<50
B1 (2') Duplicate	mg/kg	<50
B2 (Surface)	mg/kg	<b>7,200</b>
B2 (2')	mg/kg	<b>7,200</b>
B3 (Surface)	mg/kg	330
B3 (2')	mg/kg	<50
B4 (Surface)	mg/kg	880
B4 (2')	mg/kg	150
B5 (Surface)	mg/kg	<50
B5 (2')	mg/kg	<50
C1 (Surface)	mg/kg	120
C1 (Surface) Duplicate	mg/kg	180
C1 (2')	mg/kg	110
C2 (Surface)	mg/kg	<b>1,300</b>
C2 (2')	mg/kg	<b>130</b>
C3 (Surface)	mg/kg	220
C3 (2')	mg/kg	<20
C4 (Surface)	mg/kg	320
C4 (2')	mg/kg	<50
C5 (Surface)	mg/kg	<b>430</b>
C5 (2')	mg/kg	<20
D1 (Surface)	mg/kg	<b>1,100</b>
D1 (2')	mg/kg	<50
D1 (2') Duplicate	mg/kg	<50
D2 (Surface)	mg/kg	<b>1,400</b>
D2 (1')	mg/kg	230
D3 (Surface)	mg/kg	510
D3 (2')	mg/kg	<50
D4 (Surface)	mg/kg	560
D4 (2')	mg/kg	<50
D5 (Surface)	mg/kg	620
D5 (2')	mg/kg	<50
D6 (Surface)	mg/kg	<b>1,700</b>
D6 (Surface) Duplicate	mg/kg	<b>1,800</b>
D6 (2')	mg/kg	<50

**Table 1**

**Summary of Soil Laboratory Analytical Results - Lead**

**Clayton, November 6 and 7, 1996**

**WMU-30, RTRR - Riverview**

**18251 West Jefferson Ave., Riverview, MI**

**ASTI Project Number: 10860**

E1 (Surface)	mg/kg	<b>2,900</b>
E1 (2')	mg/kg	<20
E2 (Surface)	mg/kg	440
E2 (2')	mg/kg	95
E3 (Surface)	mg/kg	630
E3 (2')	mg/kg	94
E4 (Surface)	mg/kg	690
E4(2')	mg/kg	<20
F2 (Surface)	mg/kg	780
F2 (2')	mg/kg	210
F2 (2') Duplicate	mg/kg	430
F3 (Surface)	mg/kg	380
F3 (2')	mg/kg	<20
F4 (Surface)	mg/kg	<b>1,100</b>
F4 (2')	mg/kg	<50
<b>GNRCC - Direct Contact<sup>(3)</sup></b>	mg/kg	900
<b>GNRCC - Particulate Soil Inhalation<sup>(3)</sup></b>	mg/kg	44,000

Notes:

1 - mg/kg = milligrams per kilogram or parts per million (ppm)

2 - "<" indicates concentration below laboratory reporting limit

3 - Per R299.46, June 25, 2018

**BOLD and shading indicates a concentration above criteria**

Soil samples were collected by Clayton and originally reported in the Final Closure Report and Certification, Interim Status Hazardous Waste Storage Unit, Techna, March 31, 1998

**Table 2****Summary of Soil Laboratory Analytical Results - Lead****Clayton, February 5 and 6, 1997****WMU-30, RTRR - Riverview****18251 West Jefferson Ave., Riverview, MI****ASTI Project Number: 10860**

Sample Identification and Depth	Units	Lead
A1 South Surface	mg/kg <sup>(1)</sup>	740
A1 South (2')	mg/kg	270
A1 East Surface	mg/kg	190
A1 East (2')	mg/kg	99
A2 South Surface	mg/kg	19
A2 South Surface Dup.	mg/kg	270
A2 South (2')	mg/kg	NA <sup>(2)</sup>
A4 South Surface	mg/kg	270
A4 South (2')	mg/kg	NA
A5 Surface	mg/kg	220
A5 (2')	mg/kg	NA
B1 East Surface	mg/kg	550
B2 (4')	mg/kg	5
B5 (4')	mg/kg	NA
B6 (2')	mg/kg	NA
C5 (4')	mg/kg	NA
C6 Surface	mg/kg	NA
C6 (2')	mg/kg	NA
D1 East Surface	mg/kg	520
D2 (4')	mg/kg	15
D7 Surface	mg/kg	460
E1 East Surface	mg/kg	90
E2 (4')	mg/kg	NA
F1 Surface	mg/kg	440
F1 (2')	mg/kg	160
G2 Surface	mg/kg	640
G2 Surface Duplicate	mg/kg	<b>990</b>
G2 (2')	mg/kg	270
G4 (Surface)	mg/kg	490
<b>GNRCC - Direct Contact<sup>(3)</sup></b>	mg/kg	900
<b>GNRCC - Particulate Soil Inhalation<sup>(3)</sup></b>	mg/kg	44,000

Notes:

1 - mg/kg = milligrams per kilogram or parts per million (ppm)

2 - "NA" not analyzed

3 - Per R299.46, June 25, 2018

**BOLD** and shading indicates a concentration above criteria

Soil samples were collected by Clayton and originally reported in the Final Closure Report and Certification, Interim Status Hazardous Waste Storage Unit, Techna, March 31, 1998

**Table 3**  
**Summary of Soil Laboratory Analytical Results - Lead**  
**Background Soil Samples**  
**WMU-30, RTRR - Riverview**  
**18251 West Jefferson Ave., Riverview, MI**  
**ASTI Project Number: 10860**

Sample Identification	Depth (ft. bgs) <sup>(1)</sup>	Units	Lead
BGDA	0-1	mg/kg <sup>(2)</sup>	450
BGDA	2-3	mg/kg	<20
BGDB	0-1	mg/kg	130
BGDB (Duplicate)	0-1	mg/kg	170
BGDB	2-3	mg/kg	55
BGDC	0-1	mg/kg	260
BGDC	2-3	mg/kg	110
BGDD	0-1	mg/kg	240
BGDD	2-3	mg/kg	<20
BGD1	0-1	mg/kg	120
BGD1	2-3	mg/kg	13
BGD2	0-1	mg/kg	270
BGD2	2-3	mg/kg	43
TBG-A	0-1	mg/kg	41.3
TBG-B	0-1	mg/kg	191
TBG-B	2-3	mg/kg	96.6
TBG-C	0-1	mg/kg	406
TBG-D	1-2	mg/kg	273
TBG-D	3-4	mg/kg	73
TBG-E	1-2	mg/kg	612
TBG-E	3-4	mg/kg	<b>1,110</b>
TBG-F	0-1	mg/kg	399
TBG-G	0-1	mg/kg	185
<b>GNRCC - Direct Contact<sup>(3)</sup></b>		mg/kg	900
<b>GNRCC - Particulate Soil Inhalation<sup>(3)</sup></b>		mg/kg	44,000

Notes:

1 - Feet below ground surface

2 - mg/kg = milligrams per kilogram or parts per million (ppm)

3 - Per R299.46, June 25, 2018

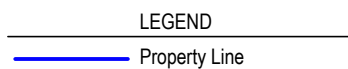
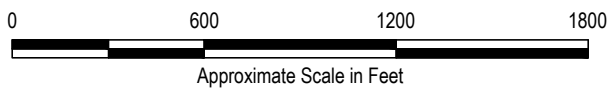
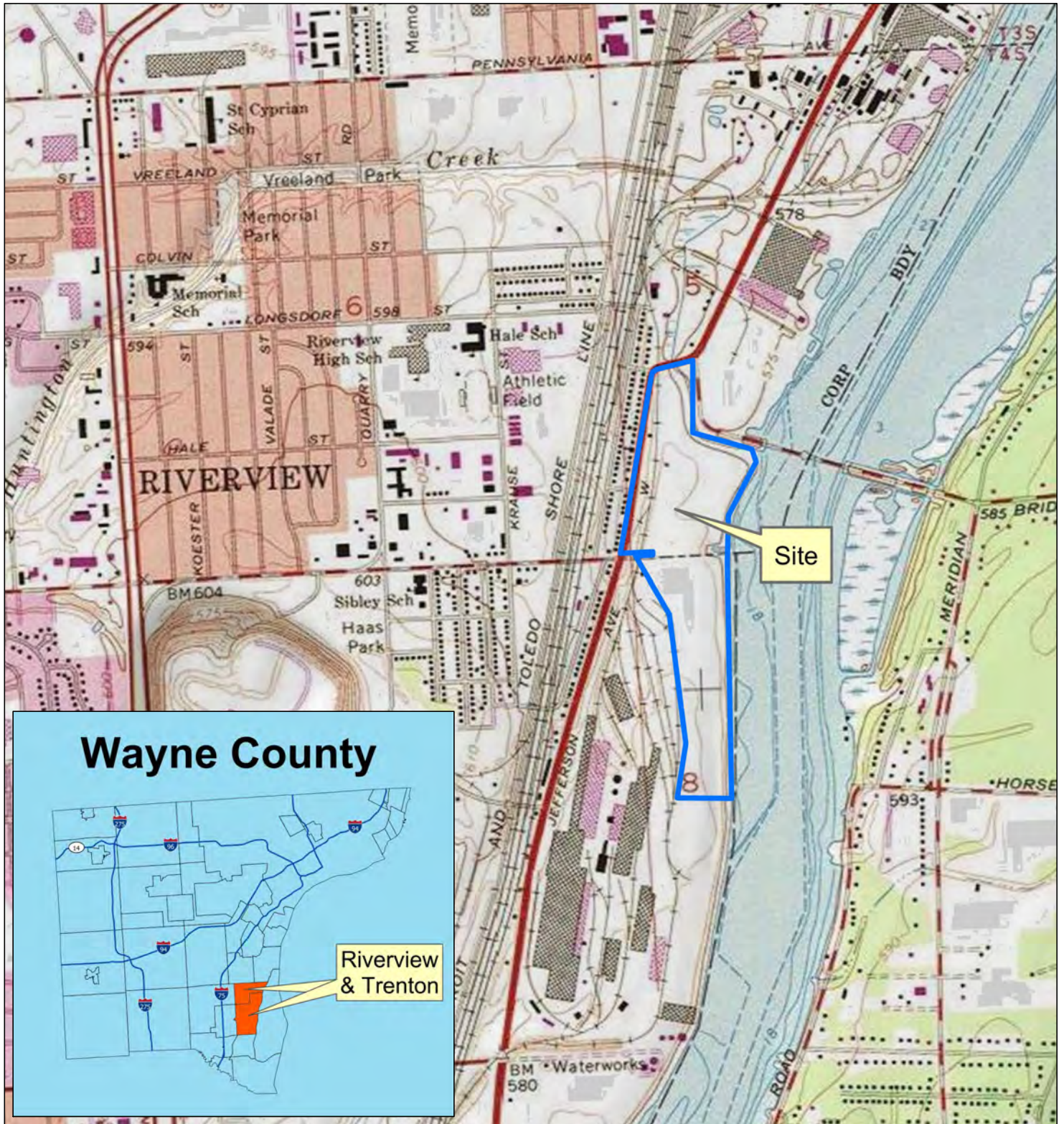
**BOLD** and shading indicates a concentration above criteria

Soil samples were collected by Techna and originally reported in the Final Closure Report and Certification, Interim Status Hazardous Waste Storage Unit, Techna, March 31, 1998

**Attachment A**  
**Figures**

**Waste Management Unit 30 Surface Soil Investigation**





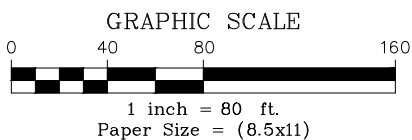
**ASTi**  
Environmental







Y:\Project Files\Current and Closed\10000-10999\10860 McLouth RTRR Property\CAO\10860 RTRR.dwg: 3/14/2021 9:36 PM



#### LEGEND

- Soil Sample Location
- Area of Lead Concentrations exceeding GNRCC for Direct Contact
- Sampling Grid system developed by Clayton Environmental Consultants



**ASTi**  
Environmental

RTRR Property

18251 West Jefferson, Riverview, MI

Created for: Riverview-Trenton Railroad Company

Figure 3 - WMU-30 Sample Location Map

ASTI Project 10860, JRN, March 14, 2021

**Attachment B**  
**Techna Final Closure Report and Certification**  
**Waste Management Unit 30 Surface Soil Investigation**



*Knowledge, and the Creativity to Use It*

44808 Helm St. Plymouth, MI 48170 (313) 454-1100 Fax. 454-1233

**FINAL CLOSURE REPORT  
AND CERTIFICATION**

**INTERIM STATUS HAZARDOUS WASTE  
STORAGE UNIT**

**DSC Ltd.  
TRENTON PLANT**

MID 017 422 304

Prepared by:

Techna Corporation  
44808 Helm Street  
Plymouth, Michigan 48170

TPN: 00738-12A-001

March 31, 1998

WASTE MANAGEMENT DIVISION  
APR 06 1998  
RECEIVED

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## APPENDICES

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**FINAL CLOSURE REPORT AND CERTIFICATION  
INTERIM STATUS HAZARDOUS WASTE STORAGE UNIT  
DSC Ltd.  
TRENTON PLANT  
MID 017 422 304**

**1.0 HAZARDOUS WASTE STORAGE AREA CLOSURE CERTIFICATIONS**

This closure report is composed of three separate reports (final closure report and reports attached in Appendix B and Appendix C), each containing an engineer's certification of the respective report and work described therein. The following certification by DSC Ltd. references the entire closure project, encompassing all the activities and reports to date.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

DSC Ltd.

Signature: Matthew G. Wilkinson

Name: Matthew G. Wilkinson

Title: Vice President

Date: April 1, 1998

The following engineer's certification references the final closure report and all closure data collection and evaluation activities described therein performed by Techna Corporation.

I certify under penalty of law that this document and all Techna Corporation attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

TECHNA CORPORATION

Signature: \_\_\_\_\_

Name: John F. McInnis, P.E.

Date: April 1, 1998

Professional Engineer Registration No.: 37207

## 2.0 INTRODUCTION

This Closure Report and Certification for the DSC Ltd. (DSC) Interim Status EAF Pollution Control Dust Storage Pile (EAF Dust Pile) was prepared in accordance with the requirements of 40 CFR 265.115 and the approved *Closure Plan for Emission Control Dust Storage Area*, as amended and with stipulations (Appendix A), prepared by McLouth Steel Products Corporation (McLouth). The closure assessment activities were conducted in the following five phases: 1) removal of final wastes, 2) initial closure and background assessment, 3) hydrogeological assessment, 4) supplemental background assessment, and 5) data evaluations and closure reporting.

The EAF Dust Pile closure plan was prepared by McLouth between 1988 and 1995. The Michigan Department of Environmental Quality (MDEQ; fka Michigan Department of Natural Resources) approved the initial closure plan in October 1988 with stipulations. A modified hydrogeological assessment plan was approved by MDEQ as part of the closure plan in 1995. McLouth stopped using the storage pile for EAF dust in 1990± and began accumulating (<90 days) the dust in specially designed concrete tanks. The approved plans had been only partially implemented (removal of EAF wastes in 1991) by the time McLouth terminated operations and entered bankruptcy in 1996. After DSC acquired the assets of McLouth in August 1996, they began activities to complete implementation of the closure plan.

Closure assessment activities were conducted by contractors for DSC between November 1996 and August 1997. Data review, evaluation and reporting activities have been conducted since September 1997. The closure activities and assessment findings are documented in three reports. This final closure report and certification includes discussions of site description and history (Section 3), overall technical approaches to closure (Section 4), technical approaches for collection of supplemental background data (Section 4), and summaries of assessment findings, statistical data evaluations, and conclusion (Section 5). Detailed descriptions and findings of the closure assessment soil sampling and analysis program is presented in a separate report and certification (Appendix B) prepared by Clayton Environmental Consultants, Inc. (Clayton).

Detailed descriptions and findings of the hydrogeological assessment conducted by Clayton also are presented in a separate report and certification attached in Appendix C.

### **3.0 SITE DESCRIPTION AND HISTORY**

#### **3.1 Location**

The DSC Trenton Plant is located at 1491 West Jefferson Avenue, Trenton, Wayne County, Michigan. The EAF dust storage pile was located on the north portion of the property, northeast of the intersection of West Jefferson Avenue and Sibley Road (Figures 1 and 2).

The interim status storage area was constructed on bare soil/fill (see also Section 3.3) in the vicinity of other piles of iron and steel making debris. The storage pile area was identified by McLouth prior to DSC's acquisition of the property, and the area was delineated by an earthen berm for closure activities (Figure 2).

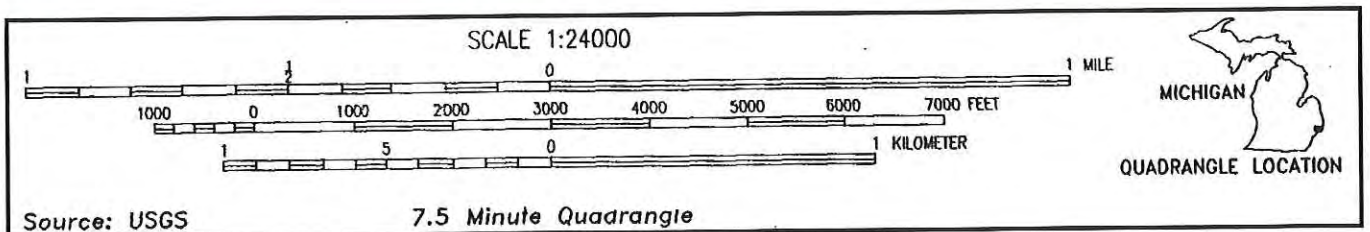
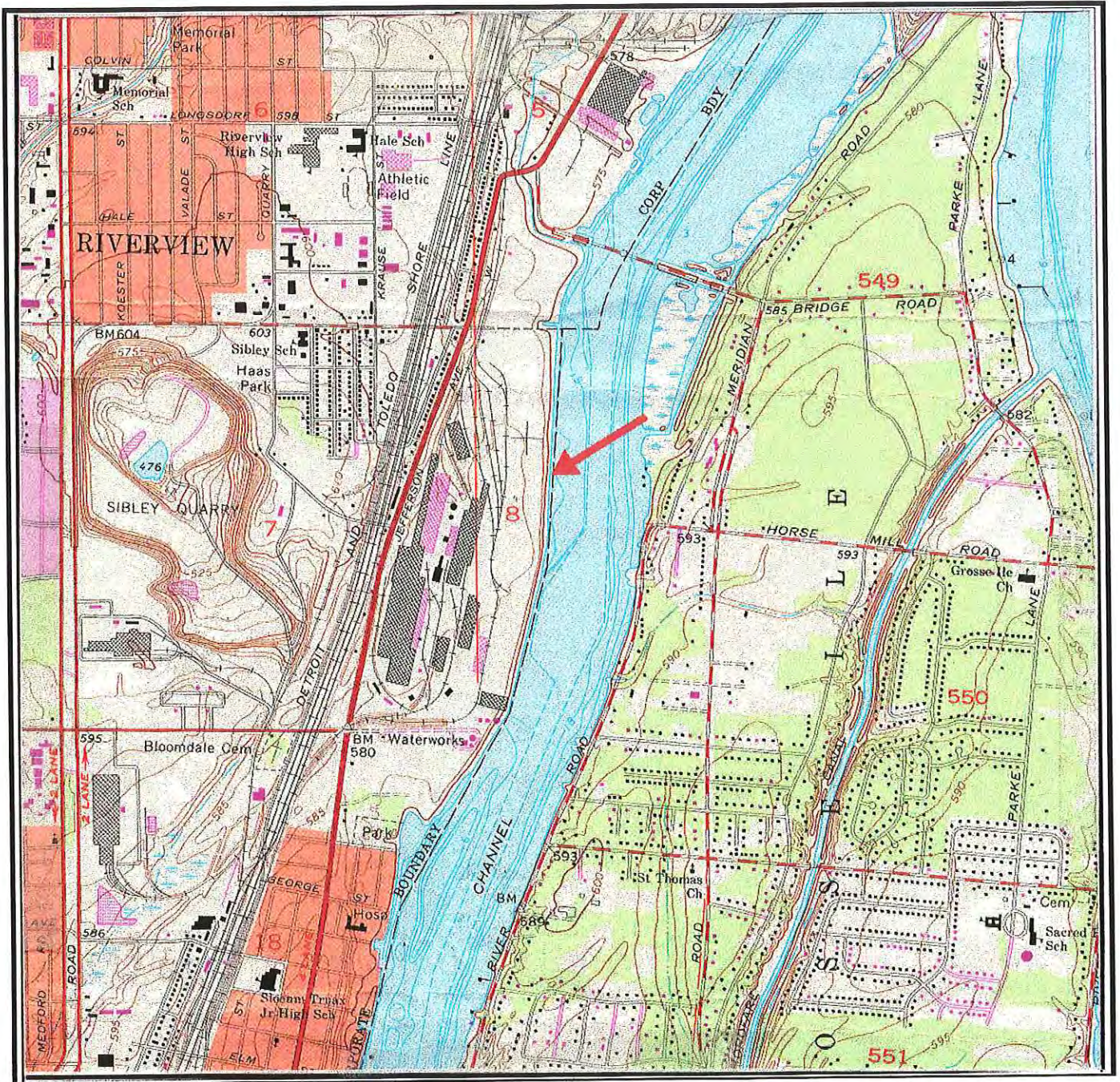
The storage pile area was irregularly shaped and occupied approximately 25,000 square feet of ground surface. It was constructed in an area that is composed of fill to a depth of 15'-20'. This fill consists of iron and steel making wastes (e.g. scales, slag, air pollution control dusts, coke and graphite fines, refractory, and dried process and wastewater treatment sludges) and plant debris (e.g. brick, refractory, and scrap metal). The portion of the site containing the EAF debris pile was acquired between 1956 and 1961 by McLouth based on reviews of aerial photographs. Significant fill was deposited in the area to raise the ground elevation between 1961 and 1967. By 1967 the general area of the EAF pile was in use for storage of raw materials and/or process waste and plant debris in piles. Between 1967 and 1997 the area was in continuous use for storage of these materials, as well as scrap, surplus equipment, and construction materials.

#### **3.2 History and Operation of Waste Management Unit**

The McLouth Steel Products Corporation was an integrated iron and steel producing facility that used both basic oxygen furnaces (BOF) and electric arc furnaces (EAF) to produce steel. The waste emission control dust generated from EAF air pollution control systems was designated as a listed hazardous waste (K061) by USEPA rules promulgated in 1980 pursuant to the Resource



# Site Diagram



DSC Ltd.  
 1491 West Jefferson Avenue  
 Trenton, Wayne County, Michigan



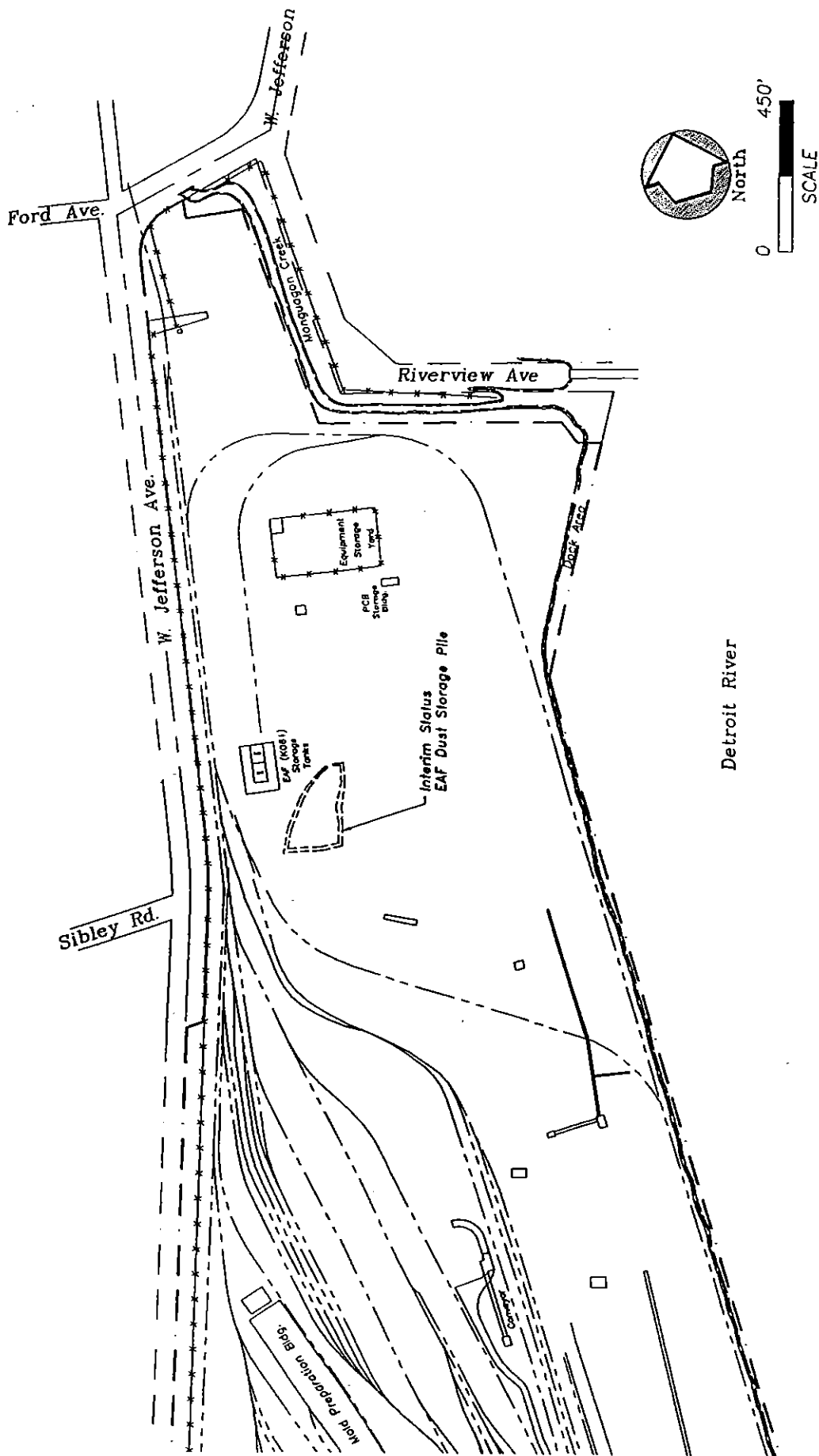


Figure 2  
EAF Dust Pile Location  
DSC Ltd.  
Trenton, MI

TPN: 00738-124  
Date: 3-18-98  
Rev: 080  
Orn:  
Ref: 7380T39A.DWG  
File:

**TECHNA CORPORATION**  
44808 Helm Street  
Plymouth, MI 48170  
(313) 454-1100

Conservation and Recovery Act (RCRA). McLouth filed a notification of waste activity and a RCRA Part A permit on November 17, 1980 for storage of EAF dust prior to treatment or disposal.

The EAF Dust Pile was established on the north portion of the McLouth property as described in Section 3.1 and operated continuously until final removal of waste in 1991. The final waste removal occurred during the period September - November 1991. Approximately 980 tons of EAF dust wastes were transported to Horsehead Resource Development Co. in Palmerton, Pennsylvania.

EAF dust was generated at a rate of approximately 1,500 tons per year from the EAF wet collector air pollution control system located outside the northeast part of the Melt Shop building. Sludge was accumulated in a concrete sump and transferred by truck, wholly within the site boundaries, to the interim status EAF Dust Pile storage area. Stored waste was then periodically transported for off-site disposal or resource recovery.

Part B of McLouth's RCRA storage permit application was called in by the USEPA in 1984. McLouth made various submissions in response to the call in, culminating in a final RCRA/Act 64 Permit Application dated February 27, 1988. After that application was rejected by the Michigan Department of Natural Resources (MDNR), McLouth decided to close the EAF Dust Pile and accumulate EAF dust for no longer than 90 days.

A closure plan was submitted to the MDNR in August 1988 and was subsequently revised in response to MDNR comments. The revised closure plan was approved with stipulations on October 31, 1988. A groundwater monitoring plan, required by the October 1988 stipulations, was approved by the MDEQ on October 17, 1995. Copies of the approved closure plan and groundwater monitoring plan are attached in Appendix A.

Closure activities were initiated by McLouth in 1991 with the removal of residual waste materials from the EAF Dust Pile storage area. No further closure actions were taken by McLouth prior to termination of operations in the spring of 1996. Closure activities were restarted by DSC after acquisition of the property. Closure assessment tasks began in the fall of 1996 and were completed in late 1997. Data evaluation and reporting tasks were completed with the submission of this report.

### 3.3 Site Setting and Geology

The former EAF Dust Pile storage area was located on an upland portion of the northern part of an approximately 260-acre property (Figure 1) now owned and managed by DSC. The property is bounded on the west by West Jefferson Avenue; on the south by industrial property, then park land and residences; on the east by the Detroit River, and on the north by Monguagon Creek, then other industrial properties. The site is generally flat, with a gradual slope toward the Detroit River, that is more pronounced on the southern portion of the property.

The general site stratigraphy consists of fill overlying a lacustrine clay stratum, which in turn overlies limestone bedrock (Figure 3; from *Summary of Initial Assessment Results, DSC Ltd. - Trenton Plant*, October 20, 1997, previously submitted to the MDEQ). The underlying native clay layer typically varies in thickness from 10' to 20', except along the Detroit River in the central portion of the site. Only fill is observed over the bedrock in this area, probably representing historical reclamation of low lying river edges. Fill on the remainder of the site varies in thickness from 4' to 25', generally increasing in thickness from west to east, toward the river. The uppermost zone of saturation was perched in the base of the upper fill stratum, generally bounded by the underlying confining clay unit.

The stratigraphy in the area of the former EAF Dust Pile is consistent with the general site geology. Boring logs from the hydrogeological assessment for closure (Appendix C) indicate that the uppermost stratum typically is composed of approximately ten feet to 15 feet of industrial fill. The fill layer is underlain by the clay stratum observed on the remainder of the

upland portions of the property. Fill was observed to an atypical depth of at least 30 feet in MW-4, southeast of the EAF pile. It was reported by Clayton that this boring was advanced through an area of mounded fill above grade.

The groundwater table in the vicinity of the former EAF dust pile was observed at a depth of approximately eight to 16 feet below typical grade. Groundwater flow direction in the area generally was to the south-southeast. The flow direction appeared to trend in a more southerly direction, with a shallower gradient, east of the former storage pile.

## 4.0 CLOSURE ACTIVITIES

Closure activities were performed as described in the approved closure plan and hydrogeological investigation plan. Final waste removal was accomplished in 1991. Initial site assessment activities included collection of background samples and assessment (foreground) samples from 0' to 2' BGL (below ground level) at 27 locations. After review of analysis results from those samples, additional samples from stepout locations and greater depths at original locations were collected and analyzed to complete delineation of the suspected potential impact from waste management activities. Background samples from seven additional locations nearer the EAF storage pile were subsequently collected to improve the representativeness of data collected to characterize the chemistry of fill not impacted by waste management activities.

The hydrogeological investigation was conducted using five groundwater observation wells located upgradient and downgradient of the former storage pile. Four quarterly sampling episodes were employed to collect sufficient data for a groundwater impact evaluation.

### 4.1 Closure Schedule

Closure activities pursuant to the approved plans were performed according to the following schedule:

**Final Removal of Waste.....9/23/91 - 11/13/91**

#### **Closure Assessment (Soil)**

Clayton Initial Sampling and Analysis.....11/6/96 - 11/7/96

Clayton Supplemental Sampling and Analysis.....2/5/97 - 2/6/97

Clayton Initial Soil Assessment Report and Certification ..... 8/19/97

Techna Supplemental Background Sampling and Analysis ..... 7/28/97

#### **Closure Assessment (Groundwater)**

Observation Well Installation .....10/30/96 - 11/20/96

Initial Sampling and Analysis .....11/8/96 - 11/20/96

Second Quarterly Sampling and Analysis.....	2/5/97
Third Quarterly Sampling and Analysis.....	5/23/97
Fourth Quarterly Sampling and Analysis.....	8/27/97
Hydrogeological Investigation Report and Certification .....	12/9/97
<b>Final Closure Report and Certification .....</b>	<b>4/3/98</b>

## 4.2 Final Waste Removal

Removal and disposal of the last wastes stored in the EAF dust pile commenced on September 23, 1991 and continued until November 13, 1991. Wastes were transported by Autumn Industries, Inc. to Horsehead Resource Development Co. in Palmerton, Pennsylvania. Approximately 980 tons of EAF dust were removed from the storage pile. Copies of transportation manifests for the shipments of waste material are attached in Appendix D.

## 4.3 Closure Assessment - Soil

Soil samples were collected in November 1996 from background and assessment sampling points selected as described in the approved closure plan (Figure 4, Figure 5 and Appendix B). The initial samples were analyzed for the following species (totals basis): barium, cadmium, chromium, lead and pH. Approximately 20% of the initial samples, and all background samples, also were analyzed for hexavalent chromium. Comparison of initial assessment sample results to calculations of background values for target analytes (mean + 3 $\sigma$  as in the approved work plan) indicated limited areas of impact from barium (Ba), cadmium (Cd), chromium (Cr) and lead (Pb). Hexavalent chromium (Cr VI) was not detected in any sample.

Additional assessment samples were collected in February 1997 to further define the extent of suspected impact. Individual samples were analyzed for only the metals specie(s) measured at levels above background in proximate sample(s) in the previous assessment episode. Method reporting/detection limits for the target analytes are summarized below:



Barium	1.0-10 mg/kg (higher limits due to high analyte concentrations)
Cadmium	0.05-10 mg/kg (higher limits due to high analyte concentrations)
Chromium	2.5-130 mg/kg (higher limits due to high analyte concentrations)
Chromium VI	0.1 mg/kg
Lead	1-50 mg/kg (higher limits due to high analyte concentrations)

Complete descriptions of soil assessment activities, procedures and findings are presented in the Clayton closure assessment report and certification attached in Appendix B.

#### **4.4 Supplemental Background Assessment - Soil**

Evaluations of the results presented in the Clayton soil assessment report (Appendix B) indicated that a clean closure determination based on the background sampling locations and statistical approach in the approved closure plan would not be appropriate for site conditions for the following reasons:

- the EAF pile was constructed on top of fill with chemical characteristics very similar to the EAF dust;
- the initial background samples were in a fill area and did not represent native soil;
- the target metals concentrations in assessment and background samples exhibited a high degree of variability; and
- the initial background sample locations were too far removed from the EAF pile area to confidently assume that they were representative of the fill upon which the pile was built.

Results of these evaluations further indicated that a clean closure determination would have to be based on a "contribution" standard, particularly for species (cadmium, chromium and lead) with more variable concentrations. To that end, Techna collected additional representative samples of the fill which underlies the area of the EAF pile. The analysis results from assessment samples were then compared to the background data set to determine if waste management activities contributed to the levels of metals in the underlying fill or if those levels were typical of the fill, unimpacted by waste management activities, in the area.

Techna collected ten additional soil samples from seven background locations within approximately 100 feet of the former EAF dust storage pile (Figures 4 and 5) on July 28, 1997. Sample locations were selected at random, but roadways and debris piles were avoided. Samples were collected randomly from depths of 0'-1' BGL, 1'-2' BGL, 2'-3' BGL and 3'-4' BGL. A summary of sampling locations and depths is presented in Table 1 (Section 5). An eleventh sample (TBG-H) was collected from a location approximately 250'-300' south of the EAF pile. This sample was rejected from subsequent background evaluations because of its distance from the EAF pile.

Soil samples were collected with a split barrel sampler. Samples were collected from the soil column at the specified sampling depths. Sampling equipment was decontaminated prior to the collection of each discrete sample using a 1) phosphate free surfactant wash, 2) deionized water rinse, 3) isopropyl alcohol rinse, and 4) final deionized water rinse. Samples were placed directly into 120-ml, pre-cleaned, glass sample jars fitted with Teflon lined covers and stored at approximately 4° C until analyzed.

Samples were managed and transferred to the analysis laboratory, Fire and Environmental Consulting Laboratories, Inc., under strict chain-of-custody protocols. The samples were chemically analyzed for Cd, Cr, and Pb using USEPA Method 6020 (SW-846). Method reporting/detection limits for the target analytes are summarized below:

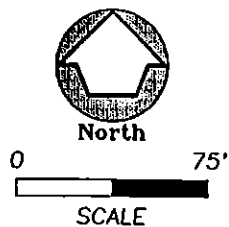
+BGD1 +BGD2

+BGDD

+BGDC

+BGDB

+BGDA



Legend	
✦	Soil Sample
+	Background Soil Sample
✦	Techna Background Soil Sample
⊕	Monitoring Well

⊕ MW-1

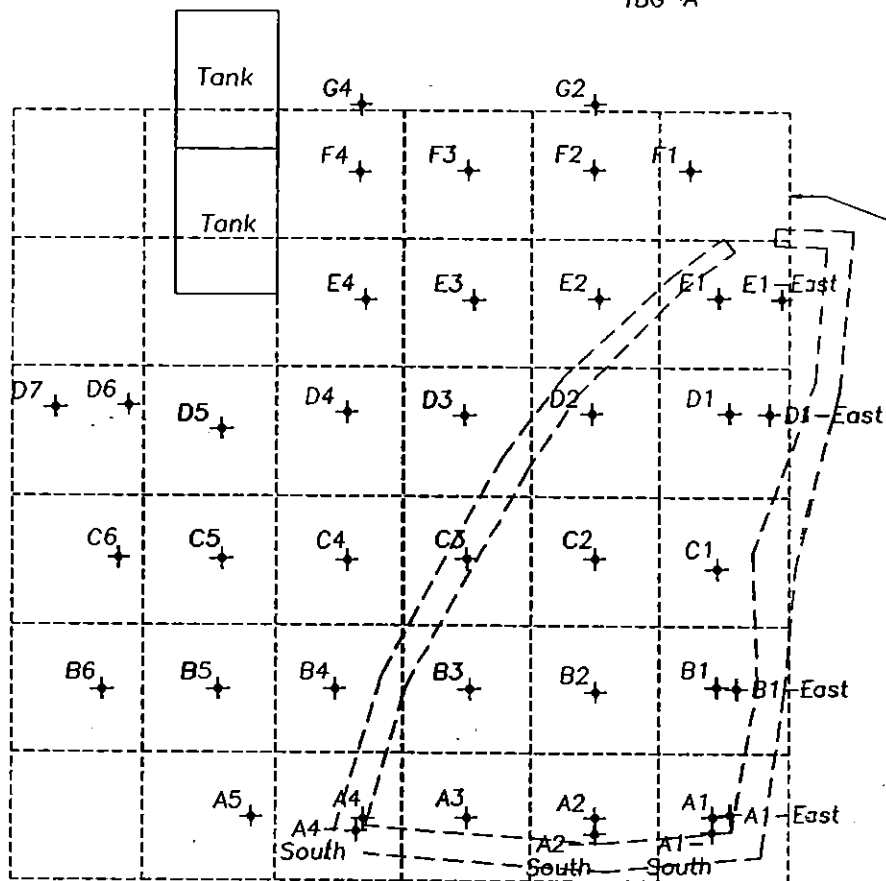
✦ TBG-E

✦ TBG-A

✦ TBG-D

✦ TBG-C

50' Grid



✦ TBG-G

✦ TBG-F

✦ TBG-E

Figure 4  
Sampling Locations

DSC LTD.  
Trenton, MI

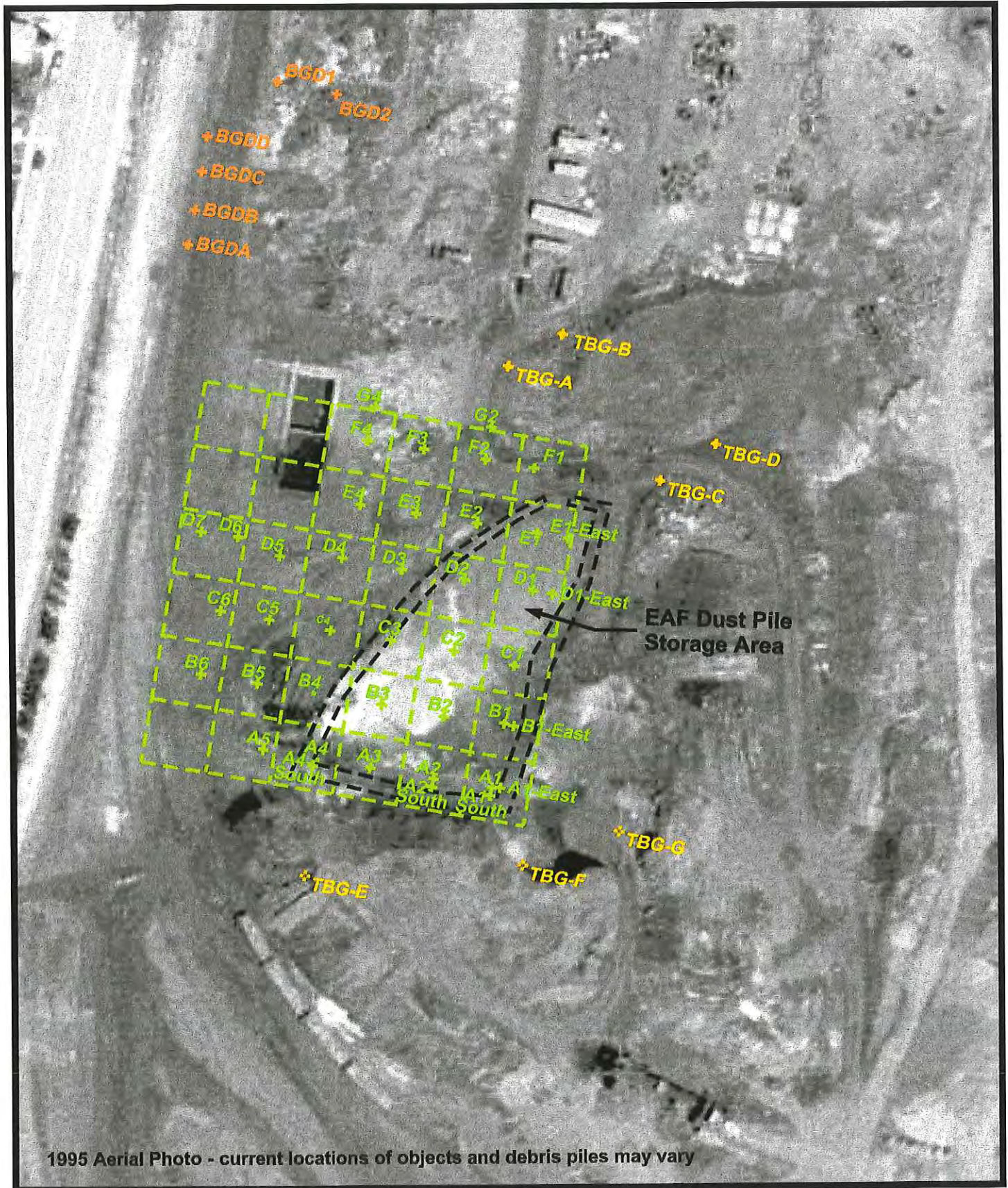
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CORPORATION

44808 Helm Street  
Plymouth, MI 48170-6026  
(313) 454-1100

TPN: 00738-12A  
Date: 3-18-98  
Rev.  
Drn: 060  
Ref:  
File: 7380TR38.DWG



**FIGURE 5**  
**Closure Sampling Overlay**





Cadmium	0.05 mg/kg
Chromium	1.0 mg/kg
Lead	1.0 mg/kg

#### 4.5 Closure Assessment - Groundwater

Groundwater samples were collected from five observation wells installed in October and November 1996 as specified in the approved closure plan. Samples were collected during four quarterly sampling events and analyzed for the following species: barium, cadmium, chromium, hexavalent chromium, lead and pH. Method reporting/detection limits for the target analytes are summarized below:

Barium	0.2 mg/L
Cadmium	0.0005 mg/L
Chromium	0.05 mg/L
Chromium VI	0.005-0.05 mg/L (higher limits due to matrix interferences)
Lead	0.003 mg/L

Complete descriptions of observation well installation activities, groundwater sampling and analysis procedures, and findings are presented in the Clayton closure assessment report and certification attached in Appendix C.

## 5.0 CLOSURE ASSESSMENT RESULTS AND CONCLUSIONS

Data collection activities during the closure assessment included 1) background and foreground soil sampling for chemical analyses and visual characterization, 2) groundwater measurements for hydrogeological characterizations, and 3) upgradient and downgradient groundwater sampling for chemical analyses. Results of these activities are presented and discussed in the following subsections.

### 5.1 Soil Stratigraphy and Hydrogeology

Evaluations of boring logs and groundwater elevation measurements from the hydrogeological investigation (Appendix C), results of previous subsurface investigations (Figure 3), and visual observations during soil sampling were compiled to characterize the subsurface stratigraphy and hydrogeology in the area of the former EAF Dust Pile. The uppermost stratum is composed of approximately 15 feet to 18 feet of industrial fill. The fill layer is composed of brown to black sand and clayey sand containing pebbles, brick, slag, rock and metal debris. Based on historical data for the site, this fill is generally composed of iron and steel making wastes such as slag, scale, air pollution control dusts, wastewater treatment sludges and filter cake, coke fines, refractory, and other debris generated at the site. Fill was observed to an atypical depth of at least 30 feet in MW-4, southeast of the EAF pile. This resulted from the placement of MW-4 on a mounded area of debris (Appendix C).

The fill was underlain by a stratum of native clay. The thickness of this clay was not measured in the area of the EAF dust pile, but was found to be 10 feet to 20 feet thick over most of the property (see below). Groundwater was observed in a perched saturated zone in the fill immediately above the underlying native clay layer. The groundwater table typically was measured at approximately 8 feet to 15 feet below ground level, at elevations between 580 feet and 575 feet NVGD. The elevation of the Detroit River was approximately 573 feet NGVD during the assessment period (*Summary of Initial Assessment Results, DSC Ltd. - Trenton Plant*, October 20, 1997, previously submitted to the MDEQ). Groundwater flow direction in the



area of the former EAF Dust Pile generally is to the south-southeast. The flow direction appears to trend in a more southerly direction, with a shallower gradient, east of the former storage pile. These results were consistent for the four quarterly monitoring periods. Additional groundwater monitoring results are presented in Section 5.3.1 and Appendix C.

## **5.2 Soil Assessment**

### **5.2.1 Background Soil Samples**

Background samples were collected during two sampling episodes. The combined analysis results for detected species in all representative samples are presented in Table 1. Hexavalent chromium was not detected in any background sample. Laboratory analysis reports for these samples are attached in Appendix B and Appendix E.

The upper limit of the mean background concentrations (mean +  $3\sigma$ ; hereafter, background mean) of the target metals also are presented in Table 1. Upper limits were calculated for both the complete data set and for the Techna samples (TBG) only. The Techna data set was evaluated separately because it is composed of representative samples collected from fill in the immediate vicinity of the former EAF Dust Pile, but in areas not impacted by the waste management activities. The Clayton background samples (Appendix B) were collected in a limited area northwest of the storage area. This sampling area was along a railroad spur near West Jefferson Avenue. The characteristics of this area are different from the storage area, and the fill may not be representative of the material on which the former EAF Dust Pile was operated.

The data sets for all four target metals showed a high degree of variability. This was consistent with the types of industrial fill known to compose the subsurface soil stratum in this area. The fills are comprised of scales, slags, air pollution control dusts and other metals-containing materials generated at high temperature. These materials typically contain microscopic to

TABLE 1

## Summary of Target Background Metals Concentrations and Upper Limit Values

Sample Location	Depth (Ft. BGL)	Barium	Cadmium	Chromium	Lead
BGDA	0-1	270	3.60	480	450
BGDA	2-3	110	0.33	690	<20
BGDB	0-1	82	1.30	650	130
BGDB (Dup.)	0-1	92	1.70	420	170
BGDB	2-3	36	0.77	430	55
BGDC	0-1	50	0.78	330	260
BGDC	2-3	110	0.40	690	110
BGDD	0-1	68	1.00	360	240
BGDD	2-3	61	0.38	930	<20
BGD1	0-1	100	<0.05	250	120
BGD1	2-3	17	<0.05	530	13
BGD2	0-1	140	<0.05	290	270
BGD2	2-3	34	<0.05	540	43
TBG-A	0-1	NA	0.82	561	41.3
TBG-B	0-1	NA	1.83	200	191
TBG-B	2-3	NA	1.38	197	96.6
TBG-C	0-1	NA	5.00	429	406
TBG-D	1-2	NA	1.42	488	273
TBG-D	3-4	NA	1.58	39	73.1
TBG-E	1-2	NA	7.19	3,770	612
TBG-E	3-4	NA	9.18	208	1,110
TBG-F	0-1	NA	2.05	302	399
TBG-G	0-1	NA	2.38	145	185
<b>BACKGROUND UPPER LIMIT - ALL DATA</b>					
Mean		90	1.9	560	229
Std. Dev. (S)		65	2.3	730	249
Mean+3S		280	8.9	2,800	976
<b>BACKGROUND UPPER LIMIT - PROXIMATE (TECHNA "TBG-") DATA</b>					
Mean		NA	3.3	634	339
Std. Dev. (S)		NA	2.9	1,114	324
Mean+3S		NA	12	3,980	1,310

NOTES: Measurements <MDL were replaced with 0.5 x MDL for statistical calculations;

"TBG-H"  
due to distance from EAF pile

TBG-H?  
CR 5.05  
PB 906  
PS 2.2  
Ba - NR

OPS ✓

12 3996 1311

granular sized inclusions of condensed metallic components. This often causes highly variable distributions of metals species in both collected samples and the aliquots removed from those samples for analyses. Background data sets of  $\geq 10$  samples were used to help compensate for this inherent variability.

The upper limit of background concentrations for the Techna data set were similar to, but somewhat higher than, those for the full data set. This is probably indicative of differences in fill between the more atypical sampling locations specified in the approved closure plan (Clayton data) and the sampling locations more directly associated with the material under the former EAF dust pile (Techna data).

### **5.2.2 Assessment (Foreground) Soil Samples**

The results of chemical analyses performed on foreground samples collected in November 1996 and February 1997 are presented in Tables 1 and 2 in Appendix B. The results for Cd, Cr, and Pb were highly variable, as observed in the background samples. Results for Ba also were quite variable, but generally not as much as the other three analytes. Hexavalent chromium was not detected in any assessment sample.

Soil pH values typically were measured in one of two general ranges: 8.5 - 9.5 S.U. and 11.5 - 12.5 S.U. Samples in the lower range generally were collected from near surface (0'-1') soil, and samples in the higher range generally were collected from the subsurface ( $\geq 1' - 2'$ ).

### **5.2.3 Comparison of Foreground and Background Data**

Since the former EAF Dust Pile was managed on top of fill containing elevated levels of the same target metal contaminants as in the EAF dust, a clean closure demonstration would rely on verification that waste management activities did not result in an increase in (contribution to) the inherent levels of metals in the fill. After reviewing the high variability of the assessment results, it was determined that the appropriate demonstration would be a comparison of 1) the background mean (mean +  $3\sigma$ ) of the concentrations of each metal in the local site background fill with 2) the true average concentration of each metal in the assessed (foreground) fill,

represented by the 95% upper confidence limit (UCL) of the mean of the measured concentrations.

The foreground data set for each metal was comprised of the analysis results presented in Tables 1 and 2 of Appendix B. The number of data points for the four target metals ranged from 62 to 79. The data set for each metal was divided into ranges of values, and the number of results in each range was plotted to determine if the data distributions were normal or lognormal. These plots are presented in Figure 6.

None of the four data sets demonstrated a normal distribution and were subsequently treated as lognormally distributed. The 95% UCL for the arithmetic mean of the lognormally distributed data was calculated as described in *Supplemental Guidance to RAGS: Calculating the Concentration Term*, USEPA Publication 9285.7-081, May 1992 (Appendix F). The data was first transformed using the natural logarithm function, and the arithmetic mean and standard deviation of the transformed data was determined. The 95% UCL was then calculated using the H-statistic as described in the USEPA reference document. A summary of the results of the 95% UCL calculations is presented in Table 2.

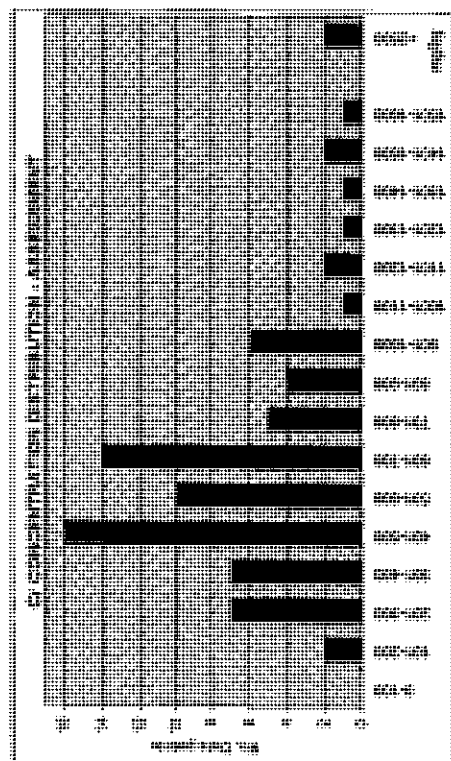
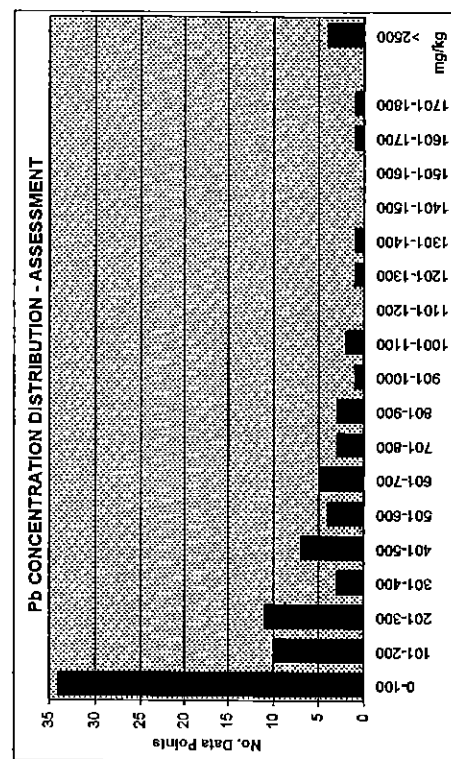
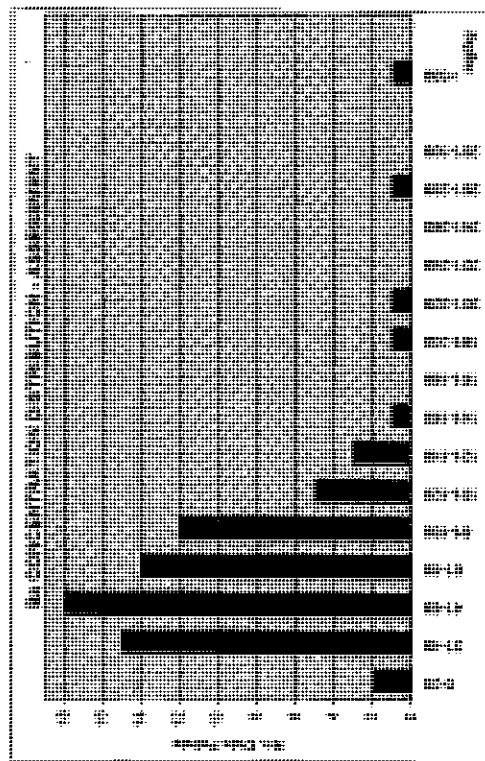
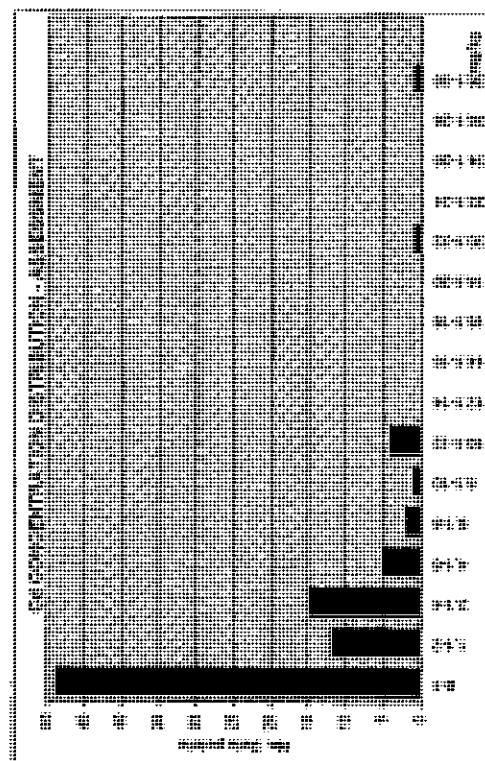
The 95% UCL for the foreground mean concentration of each detected target metal was compared to the background mean for that metal. Comparisons were made to the background mean for all data and for the more proximate Techna data set (see Section 5.2.1). A summary of the comparison data is presented in Table 2.

The foreground 95% UCL for Ba and Cr were well below the respective background reference values. This demonstrates that waste EAF dust management activities did not contribute to the levels of these metals present in the soil under or near the former EAF dust storage pile.

The average foreground concentrations of Cd and Pb were below the respective background reference values calculated from results of analyses of the proximate (Techna) data. However, they were slightly above the reference values calculated from the complete data set. Based on the

FIGURE 6

Concentration Distribution Plots  
EAF Dust Pile Assessment Results



### Summary of Lognormal Statistical Determination of 95% UCL for EAF Dust Pile Assessment Results

\* Data from Table 1

↑  
 OFS  
 calculations

$1250$   
 $\times 10^{-3}$   
 $1250$   
 $\times 10^{-3}$

- TBC and BCO  
 samples  
 $n = 23$   
 - did not use TBC-H  
 - is an arithmetic  
 mean  $\times 3(50)$  calculation  
 → (check data using  
 logarithmic expansion...)



following evaluations of the assessment data comparisons, the foreground-background comparisons do not indicate that waste management activities contributed to the levels of Cd and Pb measured in the assessment samples:

- the biased (non-representative) nature of the original (Clayton) data set indicates that comparison to the Techna background data set is more reliable than comparison to the complete data set;
- the high variability of the data support a general conclusion that all of calculated background and foreground values for each metal are comparable.

Therefore, statistical evaluations of the soil assessment results demonstrate that waste EAF dust management and storage activities did not result in a contribution of contamination in the interim status unit or surrounding soil. The data indicate that the final waste removal activities were sufficient to remediate the unit.

### **5.3 Groundwater Assessment**

#### **5.3.1 Results of Quarterly Monitoring**

Samples were collected quarterly from upgradient and downgradient groundwater monitoring wells installed around the former EAF Dust Pile during the period November 1996 through August 1997. Samples were analyzed for the assessment target metals (Ba, Cd, Cr, Cr VI, and Pb) and pH. Groundwater elevations were measured five times during this period. Results of these analyses and measurements are presented in Table 1 through Table 5 in Appendix C.

The groundwater flow direction was determined to be consistent throughout the assessment period. It generally flows south-southeast in the vicinity of the former EAF pile, then trends to a more southerly flow direction east of the storage area. A representative groundwater flow diagram is shown in Figure 2 of Appendix C.

These results reveal that observation wells MW-1 and MW-2 are in monitoring locations that would not be impacted by EAF dust storage activities, and MW-3, MW-4 and MW-5 represent downgradient monitoring locations.

### 5.3.2 Comparison of Downgradient and Upgradient Monitoring Results

Evaluation of groundwater flow direction and observation well placement indicated that wells MW-1 and MW-2 were located in areas that would be unimpacted by EAF dust management activities. Samples from these wells were designated as "background" for purposes of evaluating the potential impact of the EAF pile activities. Observation wells MW-3, MW-4 and MW-5 were designated as downgradient monitoring points. A summary of the chemical analysis results for the hydrogeological assessment is presented in Table 3. The mean and variance for each analyte/well data set (derived from Table 2 through Table 5 in Appendix C) and the t-statistics for the Cochran's t-test are also presented in Table 3.

MW3 + MW4  
are the  
Best.

The groundwater monitoring results were first compared to the health based drinking water criteria applicable to closures under Part 111 of the Michigan Natural Resources and Environmental Protection Act (NREPA). These criteria were referenced in *MERA Operational Memorandum #8, Revision 3 – Type B Criteria*, February 4, 1994. The concentrations of Ba and Cr were below their respective drinking water criteria in ALL samples from ALL wells. Concentrations of Cd and Pb were greater than their respective health based criteria in at least one sample from each well. The mean concentrations of Cd in all wells, except upgradient well MW-2, exceeded the criterion. The mean concentrations of Pb were greater than its health based criterion in all wells.

Based on requirements of the approved closure plan, the groundwater monitoring data for Cd and Pb were statistically evaluated using Cochran's approximation of the Student's t-test. The combined data from MW-1 and MW-2 were used as the upgradient ("background") data set for each metal. A value of one-half MDL was substituted for analysis results reported as "not detected" or less than MDL/MRL.

**TABLE 3**  
**Summary and Evaluations**  
**of Groundwater Assessment Results**

	Ba (mg/L) <sup>2</sup>	Cd (mg/L) <sup>1</sup>	Cr (mg/L) <sup>2</sup>	Pb (mg/L) <sup>1</sup>
<b>Upgradient Wells</b>				
<b>MW-1</b>	0.1	0.015	0.1	0.013
	0.1	0.00025	0.025	0.0015
	0.1	0.0078	0.025	0.004
	0.1	0.00025	0.025	0.0015
Mean	<0.1	0.00583	0.04375	0.00500
S <sup>2</sup>	NA	0.00005	NA	2.98E-05
<b>MW-2</b>	0.1	0.00025	0.08	0.0015
	0.2	0.00025	0.025	0.0015
	0.1	0.011	0.025	0.021
	0.2	0.00025	0.025	0.023
Mean	0.12500	0.00294	0.03875	0.01175
S <sup>2</sup>	NA	0.00003	NA	0.00014
<b>MW-1+MW-2</b>				
Mean	NA	0.00438125	NA	0.00638
S <sup>2</sup>	NA	0.00004	NA	0.00009
<b>Downgradient Wells</b>				
<b>MW-3</b>	0.5	0.013	0.12	0.012
	0.6	0.00025	0.025	0.0015
	0.5	0.0083	0.025	0.079
	0.5	0.00025	0.025	0.007
Mean	0.52500	0.00545	0.04875	0.02488
S <sup>2</sup>	NA	0.00004	NA	0.00132
t*	NA	0.28103	NA	0.89370
t <sub>c</sub>	NA	2.20959	NA	2.33653
<b>MW-4</b>	0.4	0.017	0.025	0.026
	0.46	0.016	0.025	0.022
	0.4	0.00025	0.025	0.0015
	0.4	0.0068	0.025	0.073
	0.4	0.00025	0.025	0.004
Mean	0.41200	0.00806	<0.025	0.02530
S <sup>2</sup>	NA	0.00007	NA	0.00083
t*	NA	0.87059	NA	1.27539
t <sub>c</sub>	NA	1.98457	NA	2.00766
<b>MW-5</b>	0.1	0.017	0.11	0.011
	0.2	0.00025	0.025	0.0015
	0.1	0.0074	0.025	0.085
	0.5	0.00025	0.15	0.19
Mean	0.22500	0.00623	0.07750	0.07188
S <sup>2</sup>	NA	0.00006	NA	0.00759
t*	NA	0.40953	NA	1.45318
t <sub>c</sub>	NA	2.25067	NA	2.35042
MDEQ Default Type B Drinking Water Criteria <sup>3</sup>	2.4	0.0035	37	0.004

<sup>1</sup> Evaluated using Cochran's Approximation to the Student's t-Test, 40 CFR 264, Appendix IV (0.5 MDL substituted for ND entries)

<sup>2</sup> Evaluated against default Type B criterion

<sup>3</sup> MERA Operational Memorandum #8, Revision 3 -- Type B Criteria, February 4, 1994

Reported results < MDL

Results of the t-tests for the two metals, Cd and Pb, detected in both upgradient and downgradient wells at levels above health based criteria were examined. The t-test results ( $t^* < t_c$ ) demonstrate that there is not a significant difference between the upgradient and downgradient mean concentrations of either Cd or Pb in groundwater samples collected and analyzed.

The above results from evaluations of the concentrations of target metals in the upgradient and downgradient wells confirm that EAF dust waste management activities did not impact site groundwater and no groundwater response activities are required for closure of the EAF dust storage pile.

#### **5.4 Summary and Conclusions**

Results of comparisons of soil closure assessment results to typical fill chemistries demonstrated that management of EAF dust wastes (K061) at the interim status storage pile did not contribute to the levels of target metals measured in area fill during the closure assessment. This demonstrates that the final waste removal activities successfully remediated the former dust pile sufficient to achieve closure to site specific background.

Results of comparisons of downgradient groundwater assessment results with upgradient groundwater results demonstrated that contaminants from the EAF dust storage pile were not released to groundwater.

The combined closure assessment results established that no residual soil contamination resulted from the former waste management activities at the EAF Dust Pile and that no contaminants were released to the local environment at levels above health based criteria and/or site specific background levels during operation of the pile. Therefore, the EAF Dust Pile has been successfully closed, requiring no further closure response activities.

**APPENDIX A**  
**APPROVED CLOSURE PLAN**



JOHN ENGLER, Governor

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48906-7973

RUSSELL J. HARDING, Director

October 17, 1995

Mr. Donald S. Windeler  
McLouth Steel Corporation  
1650 W. Jefferson Avenue  
Trenton, Michigan 48183

Dear Mr. Windeler:

SUBJECT: Groundwater Monitoring Plan approval  
McLouth Steel Trenton Plant (McLouth)  
MID 017 423 304

Waste Management Division (WMD) staff have reviewed Section 2.2 "Task 2-Groundwater Monitoring Program," and the material related to groundwater testing in Sections 2.3 "Task 3-Chemical Testing," and 2.3.1 "Quality Assurance/Quality Control" submitted to the WMD on September 12, 1995. This information was submitted on behalf of McLouth Steel Corporation by Walter W. Tomy. Stipulation 2.B of the WMD stipulations for approval attached to the October 31, 1988 closure plan approval letter required McLouth to submit a groundwater monitoring plan to the WMD. The sections mentioned above were reviewed in accordance with Stipulation 2.B.

The WMD approves the material WMD staff reviewed in the attachment to the September 12, 1995 with a modification. The attached "Modification for Groundwater Monitoring Plan Approval" describes the modification. The modified groundwater monitoring plan is the approved groundwater monitoring plan, and an enforceable part of the approved closure plan.

This approval does not constitute an approval of any part of the September 5, 1995 attachment to the September 12, 1995 letter related to soil sampling or any section not specifically listed as reviewed by WMD staff. For soil sampling McLouth must follow the approved closure plan. Once sampling and analysis have been completed, McLouth may determine that a closure plan amendment is necessary based upon the sampling results. That will be the first legitimate time McLouth can amend the approved closure plan.



Mr. Donald Windeler

-2-

October 17, 1995

If you have any questions, please call Ms. Angela Hahn of the WMD at 517-373-7738.

Sincerely,



Kenneth Burda, Chief  
Hazardous Waste Program Section  
Waste Management Division  
517-373-0530

cc: Mr. Ben Okwumabua/Mr. Tim Sonnenberg, DEQ-Livonia  
Ms. JoAnn Merrick/Mr. Rick Rusz, DEQ  
Mr. Steve Buda, DEQ  
Ms. Angela Hahn, DEQ

October 17, 1995

McLouth Steel Corporation  
MID 017 423 304

Modification for Groundwater Monitoring Plan Approval

1. The appropriate number of background and foreground samples must be taken to properly apply the statistical method proposed in the McLouth submittal dated 12/20/89 (Cochran's t-test). If the t-test is not going to be applied, the appropriate number of samples must be taken for the statistical method used.

This modification is necessary to assure proper statistical procedures are used.

**NTH Consultants, Ltd.**

Professional Engineering and  
Environmental Services



38955 Hills Tech Drive  
P.O. Box 9173  
Farmington Hills, MI 48333-9173  
(810) 553-6300  
(810) 489-0727 Fax

**McLouth Steel Corporation**  
c/o Walter W. Tomy, P.E.  
3742 Elder Road South  
West Bloomfield, Michigan 48324

**September 5, 1995**  
**Project No. 13-4562-01**

**RE: Modified Work Plan for Remedial Investigation**  
**Former Furnace Dust Stockpile**  
**McLouth Steel**  
**1650 West Jefferson**  
**Trenton, Michigan**

**Dear Mr. Tomy:**

In response to discussions with representatives of the MDNR on August 24, 1995, and as agreed by all parties present, we are pleased to submit a modified work plan for conducting a remedial investigation at the former furnace dust stockpile formerly located at the McLouth Steel facility in Trenton, Michigan. The modified workplan incorporates the basic sampling plan as proposed in the 1988 work plan prepared by others and previously approved by the MDNR. However, the modified work plan retains our previous monitoring well scheme as presented in our August 1, 1994 work plan, but introduces a monitoring program pursuant to MDNR requests. Furthermore, the modified work plan limits the total number of soil samples required for chemical analysis to near surface samples for the initial analysis. Lastly, 6 borings are added to provide background information. The modified work plan and associated cost estimates are presented below.

(Partial pages 1, 3, 4, 5 only.)

**Mr. Walter W. Tomy  
September 5, 1995**

## **2.2 TASK 2 - GROUNDWATER MONITORING PROGRAM**

- Groundwater monitoring wells will be installed in at least four of the test borings as follows: one interior boring, one upgradient background boring, and the two downgradient exterior borings. However, the downgradient wells will be placed no more than 50 feet from the perimeter of the former stockpile. The wells will be used to determine both groundwater quality and local groundwater flow direction. Final well locations and depths will be made based on groundwater conditions encountered during on-site drilling activities. Due to the close proximity of the Detroit River, river staging data will be requested from the U.S. Army Corp of Engineers concurrently with groundwater elevation measurements in the wells.
- In general, the well screens will be set at a depth intended to straddle the uppermost groundwater surface. The wells will be constructed using 2" outside diameter PVC screens and riser pipe. The well screens will be 5 feet long. Unless otherwise directed, the riser pipe will be left above grade and protective, above-ground locking covers will be installed over them and cemented in place. After installation, the wells will be developed and sampled either with disposal polyethylene bailers or a peristaltic pump. Prior to placement in sample jars, the groundwater samples will be filtered using 0.45 micron disposable filters. Development water will be containerized on site until disposal requirements are determined. In addition, where accessible, existing on-site wells that are in service will be sampled in a similar manner.
- The ground surface elevation at each boring location and the top of casing elevation at each monitoring well will be surveyed by a licensed subcontracted surveyor. Top of casing elevations will be surveyed to the nearest 0.01 feet. Ground surface elevations will be surveyed to the nearest 0.1 feet. Elevations will be referenced to a USGS datum or equivalent.

Mr. Walter W. Tomy  
September 5, 1995

- Qualified NTH personnel will monitor and record the drilling, sampling, and well installation operations, develop and collect groundwater samples from the monitoring wells, and obtain static water level measurements. Soil conditions encountered will be recorded on individual test boring logs.
- Samples of groundwater and static water level measurements will be obtained on an approximate quarterly basis for a period of one year for a total of four (4) rounds of sample analysis. Water samples will be field filtered and analyzed for dissolved concentrations of cadmium, total chromium, and lead. Following analysis of the year's data the groundwater monitoring program will be evaluated to determine additional needs, if any.
- Upon receipt of analytical results for each sampling period, an interim report summarizing current groundwater conditions will be prepared. Results of the groundwater monitoring program will be summarized in a final report distinct from the final report on the soil conditions encountered during field investigation. summarizing current groundwater conditions.

### 2.3 TASK 3 - CHEMICAL TESTING

The soil and groundwater samples will be delivered to Eagle Laboratories Inc. of Wixom, Michigan within 24 hours of collection for chemical analysis. Sample analyses will be performed in accordance with MDNR recommended analytical methods and target method detection limits pursuant to MERA Operational Memorandum #6, Revision #3 (MDNR, February 4, 1994). Results of soil sample analyses will be reported on a dry-weight basis.

Based on review of available information, and specifically the constituents of potential concern as identified for K061 waste, selected soil and groundwater samples will be analyzed for the following parameters:

<u>Parameter</u>	<u>Soil</u>	<u>Method</u> <u>Water</u>
Cadmium (Cd)	7131	213.2
Chromium *	7195	218.6
Lead (Pb)	7420	239.2
Barium **	7081	208.2

- \* Approximately 25% of soil samples selected for analysis will be tested for the presence of Cr(VI).
- \*\* The basis for including barium in the original plan is not clear, as barium is not an indicator for the McLouth Electric Furnace Dust.

**Mr. Walter W. Tomy  
September 5, 1995**

The groundwater analyses will be conducted on field-filtered samples to determine the dissolved concentrations of the parameters of interest.

### **2.3.1 Quality Assurance/Quality Control**

To provide a measure of quality assurance/quality control (QA/QC) for sampling activities, duplicate soil samples (1 sample for each set of 10 soil samples) and daily equipment blanks (one per day) will be submitted to the analytical laboratory for testing. In addition, a duplicate water sample will be submitted for analysis along with each set of water samples.

As an additional quality control procedure, the analytical laboratory will provide QA/QC data with the chemical testing reports. The data supplied by the laboratory will include information on laboratory blanks, laboratory duplicates, spike recoveries, and parameter control limits.



**MCLOUTH STEEL PRODUCTS CORPORATION**

1491 West Jefferson \* Trenton, Michigan 48183  
Telephone (313) 285-1200

September 16, 1988

Mr. Steven Sliver  
Waste Management Division  
Michigan Department of Natural Resources  
Stevens T. Mason Building  
Box 30028  
Lansing, Michigan 48909

Subject: Emission Control Dust Storage Area Closure Plan

Reference: McLouth Steel Products Corporation  
Trenton, Michigan Plant  
EPA ID No. MID 017 422 304

Dear Mr. Sliver:

Enclosed please find our revised closure plan, which has been modified in response to your letter dated August 23, 1988 and our subsequent discussions.

Please contact the undersigned at 285-1200, if there are questions or comments on this information.

Very truly yours,  
MCLOUTH STEEL PRODUCTS CORPORATION



D. S. Windeler  
Manager of Environmental Affairs

cc: J. R. Turek  
P. F. Coles - SEG  
S-862

CLOSURE PLAN FOR  
EMISSION CONTROL DUST STORAGE AREA

PREPARED FOR:  
McLOUTH STEEL PRODUCTS CORPORATION  
TRENTON, MICHIGAN

PREPARED BY:  
SEG ENGINEERS & CONSULTANTS, INC.  
1120 MAY STREET  
LANSING, MICHIGAN 48906

SEPTEMBER 16, 1988

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1.	Statistical Procedures
----	------------------------

## CLOSURE PLAN FOR EMISSION CONTROL DUST (ECD) STORAGE AREA

This closure plan has been prepared in accordance with 40 CFR 265 Subpart G. This plan identifies all steps that will be necessary to close the ECD storage facility at the McLouth Corporation's Trenton, Michigan plant (MID 017423304).

The ECD storage area is located on the northern portion of the Trenton property as shown in Figure 1. The ECD is contained in this area by berms of on-site fill material approximately ten (10) feet high. An approach ramp has been constructed to allow the transport vehicles to end dump over the top of the berms into the storage area.

McLouth will maintain an on-site copy of the approved closure plan and all revisions to the plan until the certification of closure completeness has been submitted and accepted by MDNR Waste Management Division.

Additionally, SEG will prepare a site safety plan to cover the conduct of all persons associated with the sampling and subsequent closure activities.

McLouth will implement this plan immediately following approval of this plan by MDNR.

Upon completion of closure, McLouth will submit a certification that the facility has been closed in accordance with the specifications in the approved closure plan. This certification will be submitted to the MDNR and completed by a registered professional engineer and by McLouth.

### I-1a Closure Performance Standard (40 CFR Section 265.111)

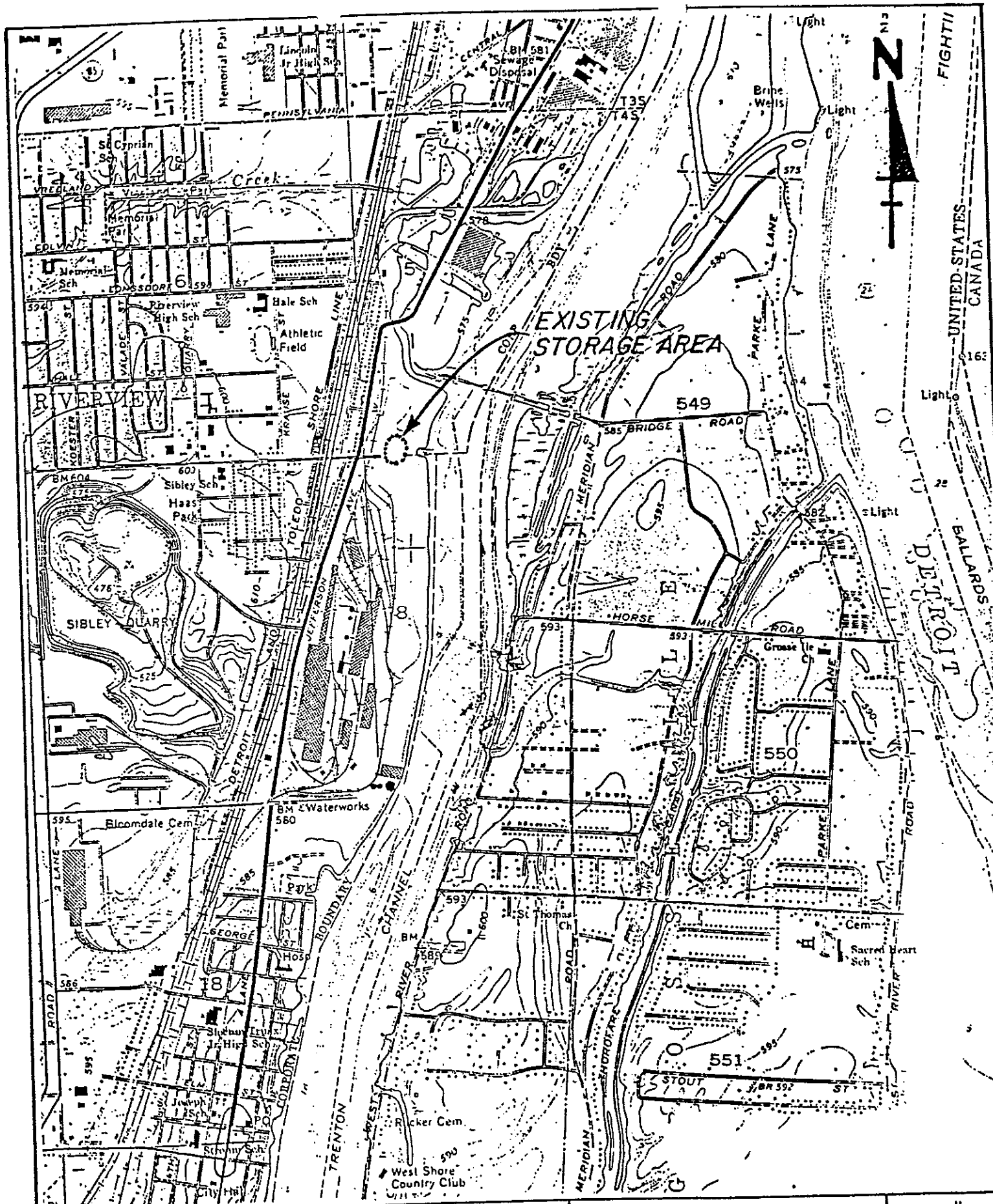
This facility will be closed in a manner that will minimize the need for further maintenance and controls; will minimize or eliminate threats to human health and the environment; and will avoid post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere. All contaminated materials will be removed to a licensed hazardous waste management facility. This plan will describe how this will be accomplished.

### I-1b Final Closure of Facility

McLouth Steel plans to close the storage area at its Trenton, Michigan facility as soon as regulatory approval has been received.

### I-1c Maximum Waste Inventory

The maximum inventory of wastes in storage at any time based on



UNITED STATES - CANADA  
FIGHT II

**OSEC**  
Engineers & Consultants, Inc.  
1120 May St., Lansing, Michigan 48906 (313) 374-8500

**McLOUTH STEEL PRODUCTS CORPORATION**  
**TRENTON PLANT**

**EMISSION CONTROL**  
**DUST STORAGE AREA**

SCALE: 1"=200'  
FIG. NO. 1

TEXT OF FIRST PARAGRAPH ON PAGE 3 OF APPROVED CLOSURE PLAN

The complete inventory of material will be removed starting thirty days after regulatory approval of both the closure plan and disposal arrangements. It is currently estimated that complete removal and disposal at an approved hazardous waste management facility will take about one month. Removal of this material will be in compliance with the procedures in I-1d(4).

inventory records and inspection reports is estimated to be 6,000 cubic yards of dust.

#### I-1d(1) Inventory Removal (Revised 9/28/89)

Pilot testing to meet stabilization requirements will begin within thirty days of receipt of MDNR approval of both the closure plan and disposal arrangements. It is currently estimated that the period required for testing, disposal site acceptance, stabilization, and complete removal will take about three months. Pilot testing and stabilization will follow the procedure outlined in APPENDIX E. Handling and removal will follow the procedures in I-1d(4).

#### I-1d(2) Closure of Storage Area

Following removal of the ECD, a soil sampling program will be initiated to determine if a clean closure has been attained. As shown on Figure 2, a surveyed grid will be superimposed over the storage area. The grid spacing, 50 feet, was suggested by the Michigan Department of Natural Resources. Soil samples will be acquired at selected grid points as shown on Figure 2 at the surface and at a depth of two (2) feet. Background soil samples will be taken as shown on Figure 2 and will be of the same horizons as the remaining samples.

All soil samples will be collected using stainless steel spoons which have been rinsed and cleaned with deionized water prior to use and wrapped to reduce the possibility of contamination. A separate clean spoon will be used for each sample. Samples will be collected in 850 ml glass jars with tops having a teflon liner.

Soil samples will be subjected to analytical testing for those parameters in Table 1. Table 1 also indicates the appropriate protocols and detection limits.

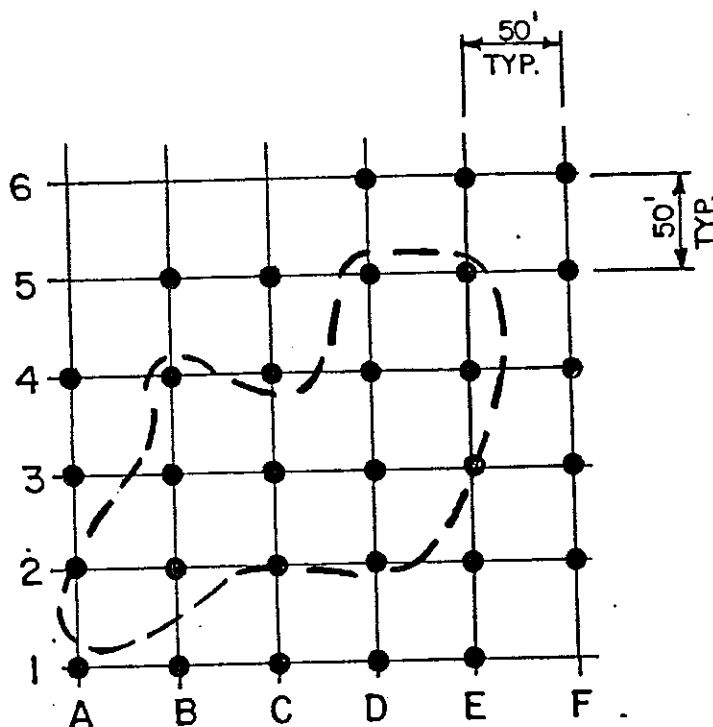
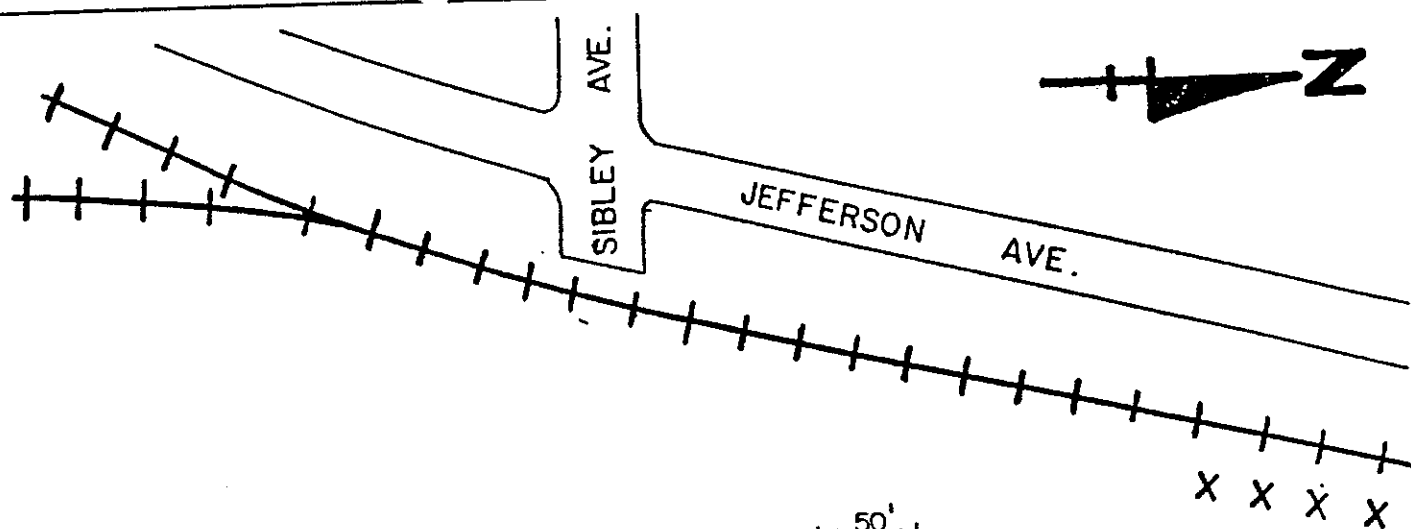
TABLE 1 - TEST METHODS

<u>Parameter</u>	<u>Test Method</u>	<u>Reference</u>	<u>Anticipated Detection Limit</u>	
			<u>Soil (mg/kg)</u>	<u>Liquid (mg/L)</u>
pH	Electrometric-meter	SW846 Section 9040	.01 std. units	.01 std. units
Barium	Atomic absorption	7080	1.0	.025
Cadmium	Atomic absorption	7130	0.2	.005
Lead	Atomic absorption	7420	0.4	.010
Chromium (Hexavalent)	Atomic absorption	7197 solid, 7196 liquid	.05	.005

SM - Standard Methods for the Examination of Water & Wastewater, 16th ed.

SW846-EPA - Test Methods for Evaluating Solid Wastes,  
Physical/Chemical Methods, 3rd. ed.





#### LEGEND

- X BACKGROUND SOIL SAMPLE SITES
- SOIL SAMPLE SITE

Utilizing the statistical procedures outlined in Attachment 1, the analytical results from the storage area samples will be compared to background levels. If the study area results are within the range of plus or minus three (3) standard deviations, it will be concluded that no significant impact has occurred as a result of the storage operation. If the results are outside this range, contamination will be assumed. If the evaluation shows that contamination is present, a contingency plan will be implemented to carry out additional investigation. This contingency plan is described later in this closure plan.

#### I-1d(3) Contingency Plan for Additional Soil Sampling

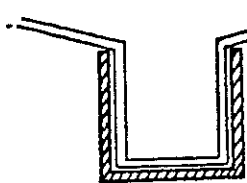
If the results of the initial testing show that contamination is present, additional soil testing will be required. If contamination is present at the two (2) foot depth, at a particular sample site, samples will then be acquired at the four, eight and ten foot depths. If contamination is present at the site perimeter, samples will be taken from one additional grid point. The depths at which samples will be acquired will depend upon the results of the preliminary testing. If preliminary test results show contamination at the surface only, then the new sample site will be sampled at the surface only. If contamination is at the two (2) foot depth, then the samples will be acquired at the surface, two, four, eight and ten foot depths.

All sampling and analytical protocols will be as previously described.

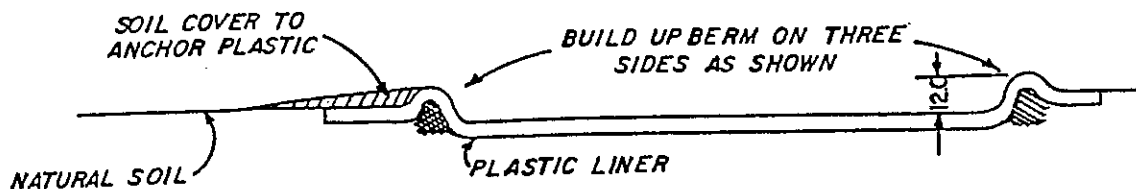
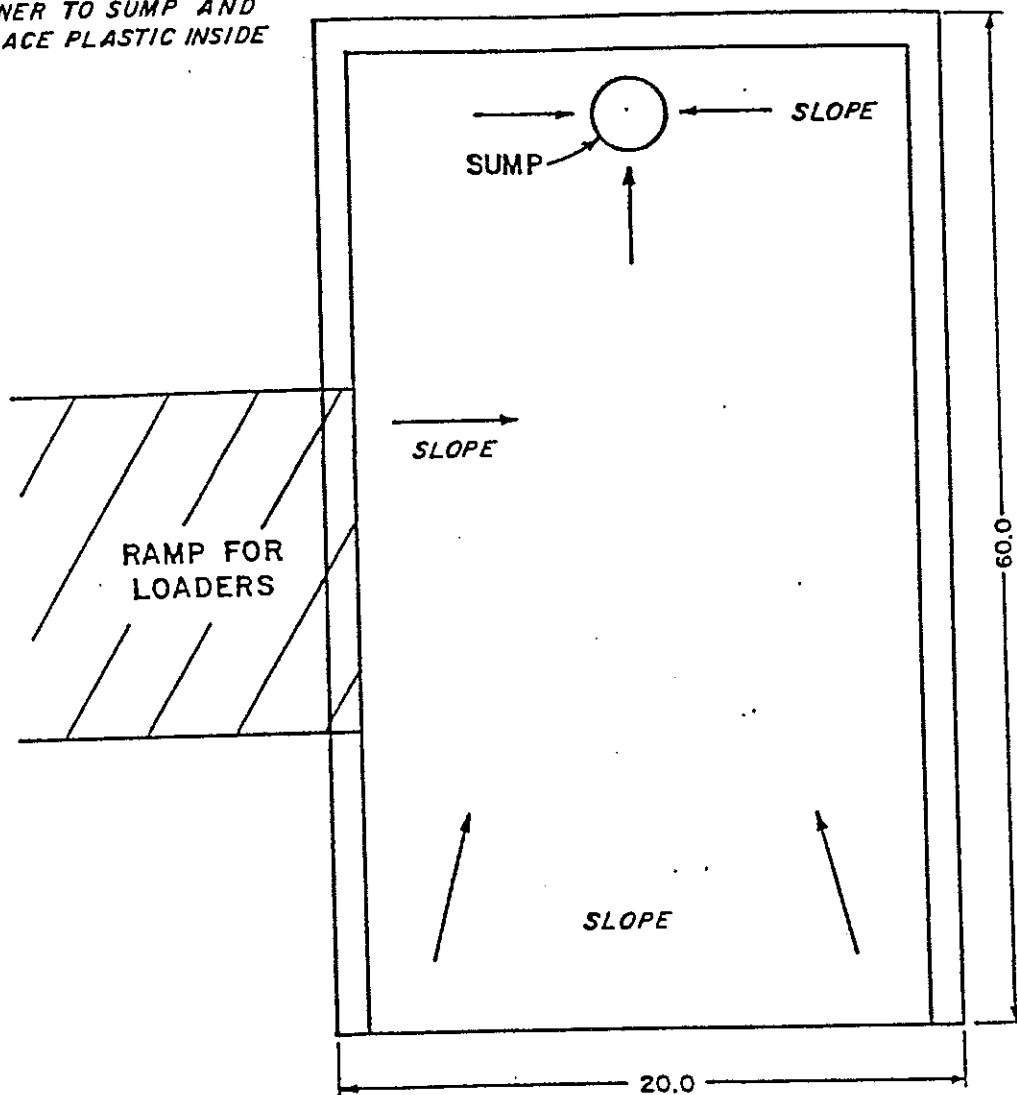
#### I-1d(4) Soil Removal

Once the horizontal and vertical extent of soil contamination has been determined, an excavation program will be initiated to remove the contamination. Excavation will be accomplished using a backhoe or other type of excavating equipment. A decontamination and loading pad (as shown in Figure 3) will be constructed immediately adjacent to the storage area. All loading will take place within this area. If the hazardous waste management facility does not offer truck decontamination facilities, the interior of the transporting trucks will be lined with plastic and the plastic will be draped over the side of the truck to prevent spills from contacting the truck tires. When the truck is loaded the plastic will be folded over the top of the load and the truck will be tarped in a conventional manner. Any spills on the plastic containment will be cleaned prior to moving the truck. If the proposed short term storage tank is complete at the time of soil removal, the concrete pad associated with the tank will be used in lieu of the plastic covered loading pad previously discussed.

Following removal of the contaminated soil, soil samples, over



SUMP -  
55 GALLON DRUM TO BE  
USED AS SUMP - SLOPE  
LINER TO SUMP AND  
PLACE PLASTIC INSIDE



the grid used previously, will be acquired to demonstrate a clean closure. Samples will be acquired and tested using the protocols as previously discussed. Samples will be tested for the same parameters as during the investigation.

Once the excavation is complete and all transporting trucks have left the site, the excavating equipment will be decontaminated on the decon pad. Four samples of raw water will be taken prior to the cleaning. Following the cleaning, three rinse water samples will be taken from the sump to demonstrate that the decon procedures were effective. Both raw water and rinse water samples will be acquired in 60 ml glass jars with teflon lid liners. Samples from the sump will be taken when the rinse waters appear clean of turbidity and the sump has been rinsed three times. To demonstrate that the rinse waters are clean, the three rinse sample results must be equal to or less than the raw water results. However, all rinse waters will be used as make-up water in the electric arc furnace emission control system. This rinsate would help control the dissolved solids in the scrubber recycle water. The treatment of the scrubber blowdown is managed under NPDES Permit Number MI0002399.

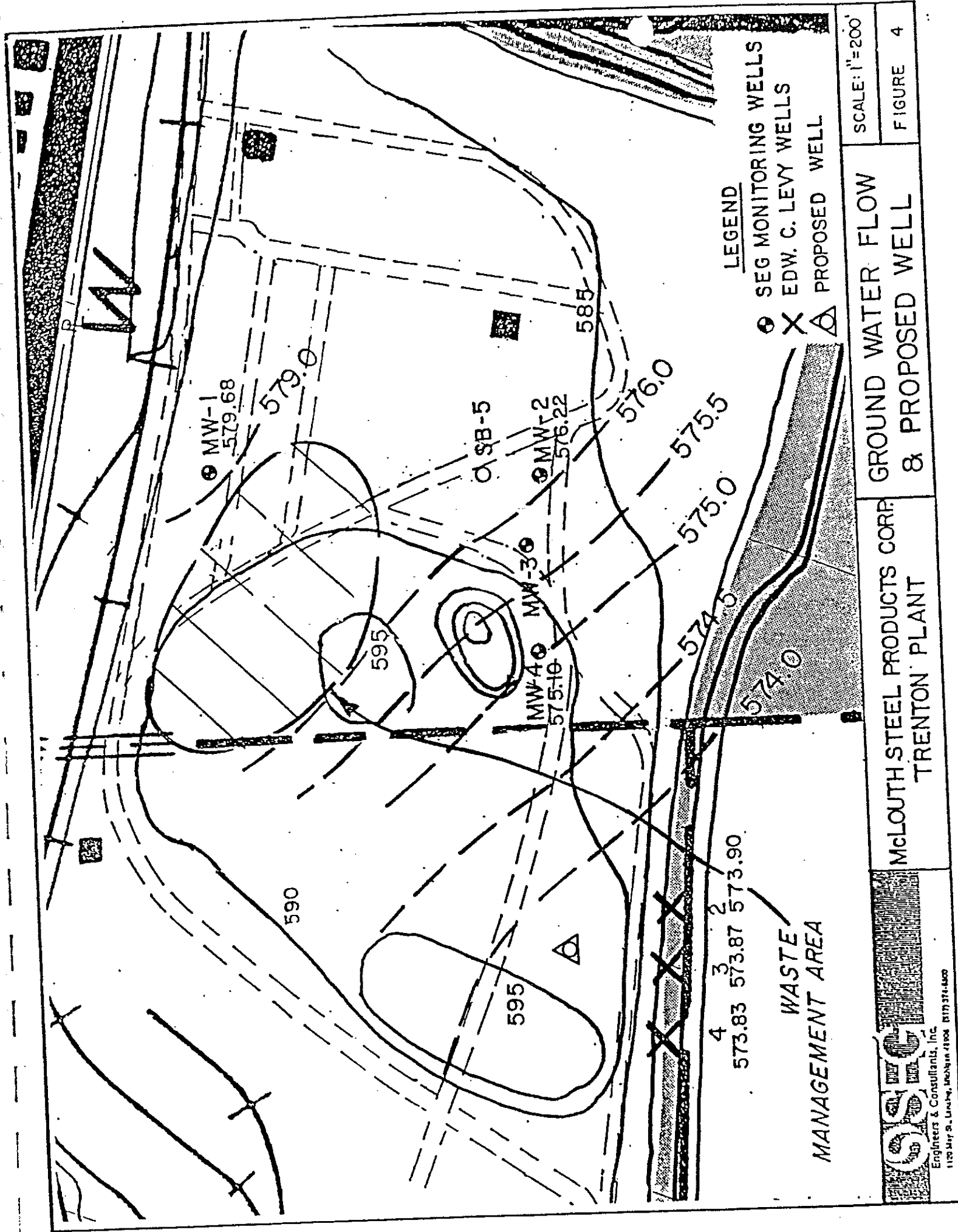
All plastic containment materials will be folded into the sump drum for disposal at a licensed hazardous waste management facility.

#### I-1e Ground Water Investigation

Four monitoring wells presently exist on the site. These were installed as part of a ground water study to define the hydrogeologic environment in connection with the proposed construction of a new emission control dust storage area. MW 1 is located such that it could be utilized as an upgradient well for the existing storage area. Of the three remaining wells, MW 3 and MW 4 could be utilized as downgradient monitoring locations for the existing storage area.

Based upon the preliminary evaluation of ground water characteristics, an additional downgradient monitoring well will be located approximately 500 feet due south of MW 4 as shown on Figure 4. The well will be constructed of two (2) inch I.D. flush joint Schedule 40 PVC with a five (5) foot PVC well screen. The screen will be sand packed to one foot above the top of the screen and the remaining annular space sealed with bentonite. A protective locking casing cemented into the ground will be provided.

Following installation of the well, all wells (#1, 3, 4 and 5 (new)) will be sampled and tested for dissolved barium, cadmium, lead, hexavalent chromium. All sampling techniques shall be in conformance with USEPA SW 846. Analyses shall be in conformance with Table 1. The analytical data will then be used in better



defining the need for additional studies.

#### I-1f Certification of Closure

Following the completion of the closure steps outlined previously, McLouth will provide a certification that the storage area has been closed in accordance with the approved closure plan. This certification will include the following items:

- certification statement by the owner/operator
- certification statement by an independent registered engineer
- site safety plan
- manifests (or manifest summary) for the shipment of all wastes generated by closure activities
- summary of decontamination procedures and wastewater disposal
- summary analysis of closure activities including time table, weather conditions, runoff controls, equipment decontamination, soil and ground water results, etc.
- results of all tests used to determine clean closure
- statistical comparison of soil samples and background results
- sampling and analysis procedures
- final depths and elevations of waste and soil excavations
- properly labeled and easily identified sampling station map including background sampling stations
- summary of final restoration of excavated areas including type of fill material used and future land use outline, post-closure program and corrective action, if applicable
- a copy of the approved closure plan and letter of closure approval

#### I-1f Closure Cost Estimate

A closure cost estimate is included in Table 2.

#### I-1g Closure Schedule

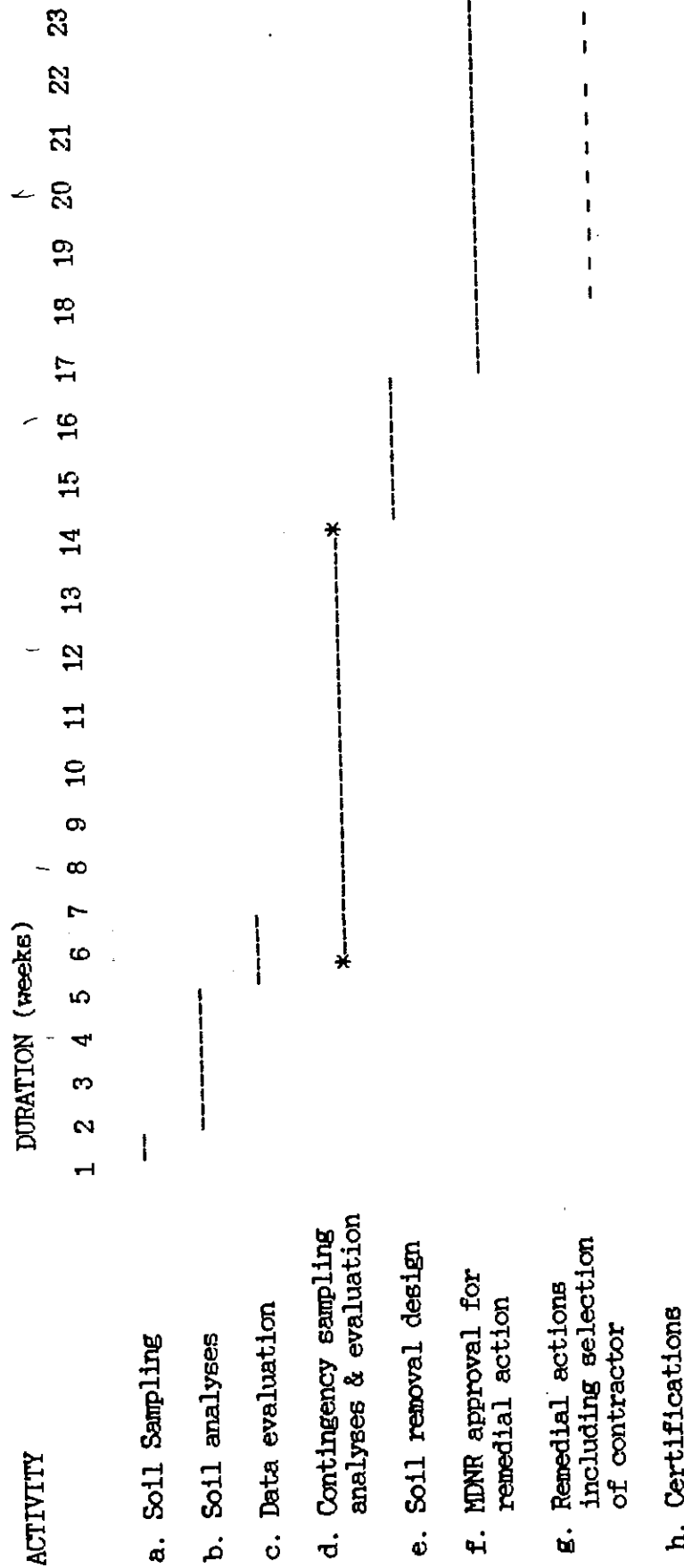
A schedule for the activities associated with the closure of the storage area is attached as Figure 5.

SEG COST ESTIMATES

(BLANK)



FIGURE 5 - CLOSURE SCHEDULE



\*-----\* = If this task is not required, move up remaining tasks

- - - - - = Indicates activities on-going prior to DNR approval, such as preparation of bidding documents, disposal approvals, etc.

Note: Closure schedule is contingent upon availability of licensed disposal sites.

ATTACHMENT 1  
STATISTICAL PROCEDURES

- Act 64/RCRA Clean Closure
- Real Estate Transactions
- Non-Act 64/RCRA Facilities
- Clean Declaration

### HOW CLEAN IS CLEAN?

The State of Michigan has a straight forward position on the question of restoration of groundwater contaminated by an illegal discharge, how much clean-up is required when closing a hazardous waste facility (clean closure), or cleanup of a spill of hazardous materials. State Law, Act 245 and the associated "Groundwater Regulations" require restoration of a contaminated aquifer to its original condition (see paper by J. Bails entitled Aquifer Restoration, March 8, 1984).

Although some proposals will be made to leave some level of contaminants in the soils or groundwater, our position must be that contaminants be removed to non-detectable or, in the case of materials which naturally occur in soils, background levels. Soils and/or groundwater sampling must be included in any cleanup or closure to demonstrate that the site has been effectively restored to its original condition. Cleanups to any other level must be carefully worked out with Enforcement staff input and approval, taking into account applicable regulations and legal responsibilities. Waste and/or soil removed should be classified for disposal as hazardous or nonhazardous to determine disposal options and handling requirements (i.e. solid waste under Act 641 versus a hazardous waste under Act 64).

The following are recommended procedures for evaluating a proposed cleanup and site restoration. These procedures are not "absolutes". Other approaches may be developed and submitted for approval. This system, if used, however is acceptable.

#### A. ESTABLISHING SOIL BACKGROUND

1. Background should be established for site specific waste constituents or specific chemicals used in various processes or facility operations. These should fall into three general categories: a) the EP toxic METALS (arsenic, barium, cadmium, chromium, copper, lead, mercury, silver, selenium and zinc) using a total metals (dry-weight mg/kg) test procedure for the soil analysis, b) ORGANIC CONSTITUENTS, and c) other SITE SPECIFIC WASTE CONSTITUENTS (example Cyanide) as totals.
2. A bare minimum of 4 samples should be used to establish "background" in soils to account for natural occurrences and variability within each distinctive soil horizon. Background samples must be collected in an "uncontaminated" area. Based on waste type, contaminant mobility, operation practices and soil type (sand, silty sand, clay) an estimate of contamination depth should be made and background samples taken at comparable depths. Multiple soil horizons should have "background"

"Large size" sites  
(over 10 acres)

Use equation #1

2. Sampling format should include either a) all grid point stations as determined by B.1., or b) using the Systematic Random Sampling Method as referenced in SW-846, Section 9.1.1.3.3, or c) using an approved "phased" method of the grid coverage as determined in B.1.
3. Depth increments would be dependent on type of subsurface soils. For soil testing within the contaminated area we would generally recommend using 0.25-0.5 foot depth intervals for clays and 1.0 to 5.0 foot depth intervals for silts-sands. The selection of depth increments would also depend on initial soil contamination concentrations (i.e. at ground surface), mobility of contaminant, or height of liquid head on ground surface. Samples collected from specified depth(s) could be either single or in multiple replicates.

#### C. ORGANIC CONSTITUENT EVALUATION

1. Usually, non-detectable levels would be used to delineate clean versus contaminated soils. The following analytical methods are to be used on soil samples:
  - a. For volatile organics, sample preparation should follow EPA SW-846 techniques (8.24, 8.82 or 8.83). Sample collection, preservation and handling is to be referenced to appropriate Method 8010, 8015, 8020, or 8030 for pertinent information. Analysis should be done following EPA Methods 5020 (head space) or 5030 (purge & trap) using EPA validated methods 601, 602, and/or 624 accordingly.
  - b. For extractable compounds, sample preparation should follow EPA techniques (8.85 or 8.86). Procedures should be completed following EPA Methods 3540 (Soxhlet) or 3550 (Sonication). The resulting extract should be analyzed following the conditions described in EPA Method 625.
2. The quantitative limit of detection is defined as:  $st/sb = 3.0$ , where st is the gross analyte response and sb is the average instrument background single response (noise). The instrument background signal response (sb) is based on the height of peak to peak response of the baseline in an area close to the actual or expected analytic peak. The detection limit is defined as the quantity of the analyte which produces a signal response greater than or equal to three (3.0) times the background instrument noise.
3. An alternative method which uses background levels in native soils may be used as a baseline for measuring contamination. Such an alternative method must be approved by the Waste Management Division in writing.

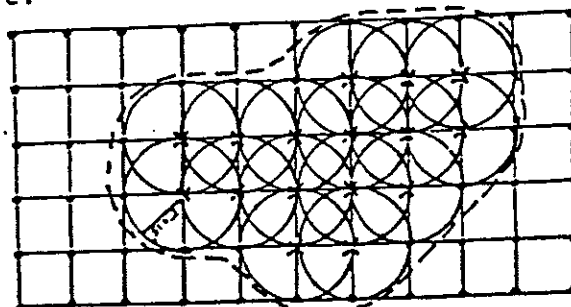
require sample data at each station to be two or more samples.  
No composite samples. (n = 2)

3. Average Replicate T-test (TEGD Sept. 1986)
4. Using mean and variance of background values to establish an upper limit for delineating significant concentrations such as:
  - a)  $\bar{x} + 3S$  of "background" data as the maximum allowable limit, where  $3S$  equals three times the standard deviation, and  $\bar{x}$  equals the mean. Note this statistical method only requires one sample per station.
5. For non-detect values, it is recommended to use either of the following procedures for any of the preceding statistical methods:
  - a) alternate "0" and detection value (dv) for a net value of half the detection value with a variance, or
  - b) the Continuity Correction procedure with the t-test, where if background data is non-detect then use  $S = \frac{1}{2} dv$ . Attachment 2 is a summary explanation for performing the t-test with Continuity Correction.

#### G. EXCAVATION

Excavation of contaminated areas should be based on the established grid system interval (as recommended in B.1). The radius of excavation around the contaminated sample point(s) is equal to the grid interval ( $GI = r$ ). Excavation depth would be to the deepest point of contamination. After excavation, the grid must be resampled to verify that the area is free of contamination. If continued contamination is detected, the excavation format is repeated until a satisfactory result is obtained.

Example:



GL = 150  
A = 11,250  
GI = 15.3

° Sample Station  
x Contaminated Station  
r = GI = 15 feet

Contaminated soil removal in granular non-cohesive soils may stop at the water table, if encountered, except all waste material must be removed even if it is below the water table. If contaminated soils remain, groundwater monitoring must be done to check for contamination. If contamination is found, groundwater purging or some other method of plume management must be developed, approved and implemented.

- Inert designation - If soil concentrations are above background but can be demonstrated to meet the inert designation (12-14-87 Draft Document from Waste Evaluation and Manifests Unit - see Attachment 3) then soils can remain in place.

#### REAL ESTATE TRANSACTIONS/NON-REGULATED (RCRA-ACT 64) FACILITIES

##### Waste Material

- Characteristic - If ignitable reactive, corrosive, or EP Toxic, then waste must go to a licensed hazardous waste facility. If not characteristic, then waste may go Act 64/RCRA facility, or an Act 641 landfill if approved.

##### Soils

- Metals - If not EP Toxic, but above background, soil may go to an Act 641 landfill.
- Reactive - If not reactive or pretreated so no longer reactive, soil may go to an Act 641 landfill.
- Organics - Soils may go to a licensed Act 64/RCRA facility, or to an Act 641 landfill if the landfill will accept it.
- Inert designation - if soil concentrations are above background but meet criteria of inert designation (see Attachment 3) then the soils can remain in place.

#### I. CLEAN CLOSURE CERTIFICATION CHECKLIST

This checklist was developed to review RCRA clean closures. Due to direct reference to 40 CFR 264 Subpart G by Act 64, Rule 613; Act 64 closures should also be evaluated by this checklist.

Documentation supporting the independent registered professional engineer's certification can be requested under 40 CFR 264.115 and 265.115 (as of October 29, 1986). The owner/operator must submit at least two copies of certification documentation, one for MDNR, and one for the EPA files.

The checklist identifies items recommended to properly evaluate a closure certification. These items are not "absolutes". Other information or substitutions may be provided with technically justify and certify a "clean closure" or "clean declaration".

This checklist can be used for land disposal facilities and storage facilities. Several of the items would not be required for a storage facility where testing was minimal. Items 1 thru 5 would be required for all closures. Items 6 thru 11 would be optional for storage facilities, dependent on extent of testing required. Land disposal facilities would require all items listed.

## MICHIGAN BACKGROUND SOIL SURVEY

## TOPSOIL - Results in mg/kg

TOPSOIL	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Hg	Li	Mn	Ni	Pb	Se	Zn	Cd
INDIVIDUAL																	
GLACIAL LOBES																	
n-Erie			1	1	1		1	1		1			1	1		1	1
mean			11.0	73.7	1.0		13.0	17.0		0.10			16.0	6.0		61.5	0.71
st. dev.			ERR	ERR	ERR		ERR	ERR		ERR			ERR	ERR		ERR	ERR
n-Saginaw	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
mean	4481	3.8	41.3	1.0		12.4	11.6	8063	0.11		237.5	7.8	16.0	0.28	39.1	0.16	
st. dev.	869	0.8	8.7	0.0		4.1	3.4	1747	0.16		61.4	2.0	17.2	0.09	18.5	0.10	
n-Michigan		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
mean		2.3	45.8	1.0	2.5	12.0	10.4	4850	0.05	2.1	561.3	6.8	12.5	0.25	21.5		
st. dev.		1.2	10.3	0.0	0.0	1.2	4.3	451	0.00	0.8	290.7	1.2	1.3	0.00	2.9		
n-West U. P.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
mean	1610	0.8	48.7	1.0	2.5	6.9	42.1	2475	0.05	1.0	177.5	3.3	24.0	0.25	61.0		
st. dev.	74	0.5	8.2	0.0	0.0	0.9	27.5	168	0.00	0.0	22.2	1.5	7.8	0.00	6.6		

COMBINED  
SUMMARY:

	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Hg	Li	Mn	Ni	Pb	Se	Zn	Cd
n	12	17	17	17	17	8	17	17	16	17	8	16	17	17	16	17	
minimum	1540	0.1	30.7	1.0	2.5	5.5	4.5	2320	0.05	1.0	110.0	2.5	6.0	0.25	18.0	0.1	
maximum	6160	11.0	73.7	1.0	2.5	21.0	82.5	10500	0.50	2.5	835.0	16.0	56.0	0.50	79.0	0.7	
mean	3524	3.2	46.0	1.0	2.5	11.0	18.8	5863	0.08	1.6	303.4	7.0	16.5	0.27	41.4	0.1	
st. dev.	1575	2.5	11.2	0.0	0.0	3.7	18.2	2718	0.11	0.8	207.4	3.4	12.9	0.06	19.6	0.1	
mean + 2 SD	6674	8.1	68.5	1.0	2.5	18.4	55.2	11298	0.30	3.1	718.3	13.7	42.2	0.39	80.6	0.1	
mean + 3 SD	8249	10.6	79.7	1.0	2.5	22.1	73.3	14015	0.41	3.9	925.7	17.1	55.1	0.45	100.2	0.1	

n - number of samples for that parameter  
 minimum - lowest value in data set  
 maximum - highest value in data set  
 mean - average concentration of data  
 st. dev. - sample standard deviation  
 mean + 2 SD - mean value plus 2 standard deviations. If the data is normally distributed, then 95% of the values should be less than this number.  
 mean + 3 SD - mean value plus 3 standard deviations. If the data is normally distributed, then 99% of the values should be less than this number.

THIS BACKGROUND SOIL DATA IS FOR INFORMATION AND COMPARISON PURPOSES ONLY. IT IS NOT INTENDED TO REPLACE SAMPLES TAKEN AT THE SPECIFIC SITE IN QUESTION.



# MICHIGAN BACKGROUND SOIL SURVEY

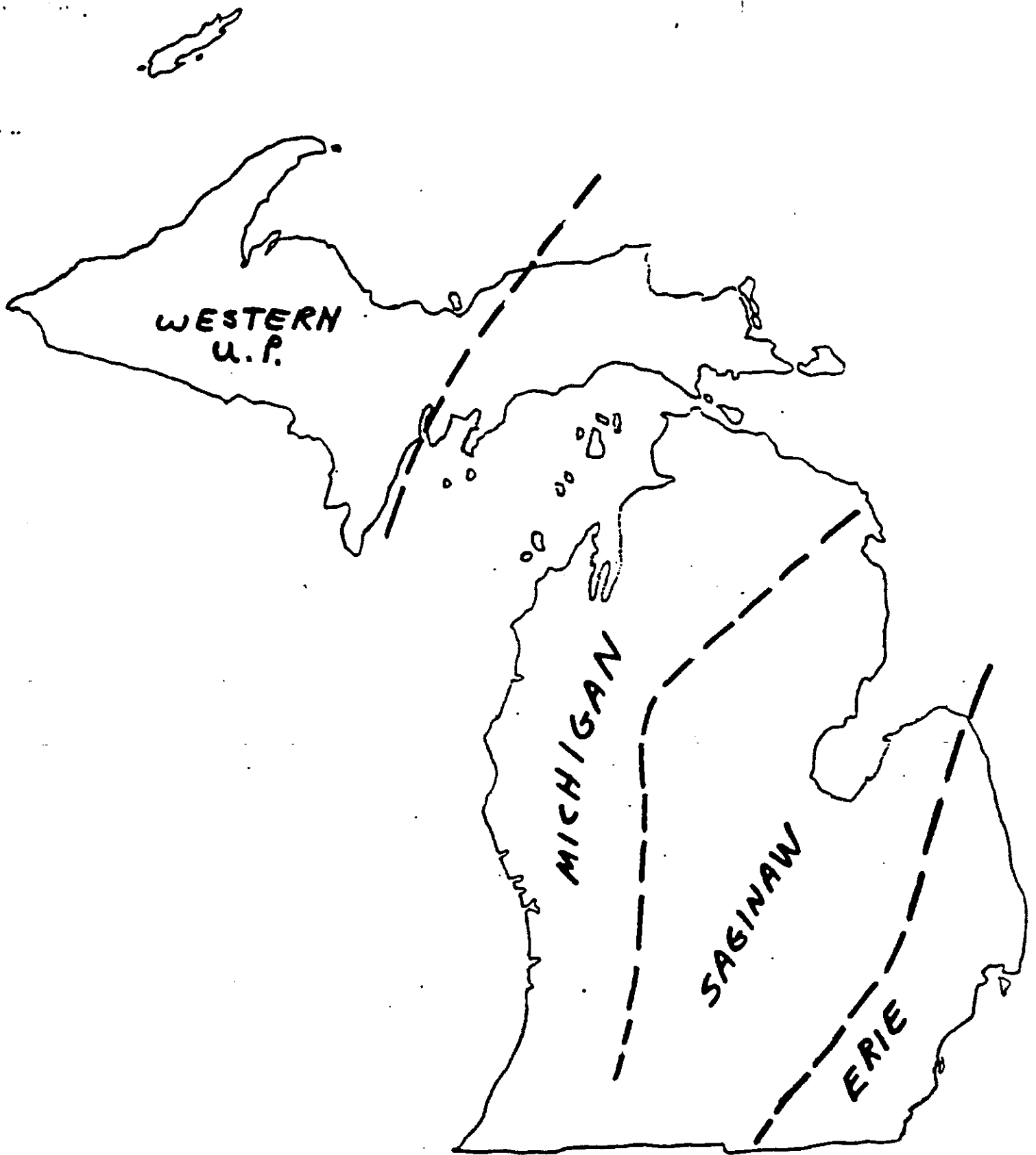
## SANDY CLAY - Results in mg/kg

SANDY CLAY	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Mg	Li	Mn	Ni	Pb	Se	Zn	CN
INDIVIDUAL GLACIAL LOBES																	
n-Erie																	
mean																	
st. dev.																	
n-Saginaw	3	15	3	15	3	15	15	3	3	3	3	15	15	3	3	12	
mean	8063	8.1	40.1	1.0	7.2	14.8	15.5	15633	0.05	11.0	336.7	21.7	20.3	0.25	33.3	0.01	
st. dev.	59	8.4	1.5	0.2	0.3	8.1	4.9	115	0.00	0.0	20.8	8.4	8.9	0.00	2.1	0.00	
n-Michigan																	
mean																	
st. dev.																	
n-West U. P.																	
mean																	
st. dev.																	
=====																	
COMBINED SUMMARY:	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Mg	Li	Mn	Ni	Pb	Se	Zn	CN
n	3	15	3	15	3	15	15	3	3	3	3	15	15	3	3	12	
minimum	8020	1.1	38.7	0.6	7.0	8.0	10.0	15500	0.05	11.0	320.0	15.0	5.0	0.25	31.0	0.01	
maximum	8130	22.4	41.7	1.4	7.5	31.0	24.0	15700	0.05	11.0	360.0	36.0	31.0	0.25	35.0	0.01	
mean	8063	8.1	40.1	1.0	7.2	14.8	15.5	15633	0.05	11.0	336.7	21.7	20.3	0.25	33.3	0.01	
st. dev.	59	8.4	1.5	0.2	0.3	8.1	4.9	115	0.00	0.0	20.8	8.4	8.9	0.00	2.1	0.00	
mean + 2 SD	8181	24.8	43.1	1.4	7.7	30.9	25.3	15864	0.05	11.0	378.3	38.5	38.1	0.25	37.5	0.01	
mean + 3 SD	8239	33.2	44.6	1.6	8.0	39.0	30.2	15980	0.05	11.0	399.1	46.9	47.0	0.25	39.6	0.01	

n - number of samples for that parameter  
 minimum - lowest value in data set  
 maximum - highest value in data set  
 mean - average concentration of data  
 st. dev. - sample standard deviation  
 mean + 2 SD - mean value plus 2 standard deviations. If the data is normally distributed, then 95% of the values should be less than this number  
 mean + 3 SD - mean value plus 3 standard deviations. If the data is normally distributed, then 99% of the values should be less than this number.

THIS BACKGROUND SOIL DATA IS FOR INFORMATION AND COMPARISON PURPOSES ONLY. IT IS NOT INTENDED TO REPLACE SAMPLES TAKEN AT THE SPECIFIC SITE IN QUESTION.

WASTE MANAGEMENT DIVISION  
 MICHIGAN DEPARTMENT OF NATURAL RESOURCES



GENERAL BOUNDRIES  
OF  
GLACIAL LOBES

1967

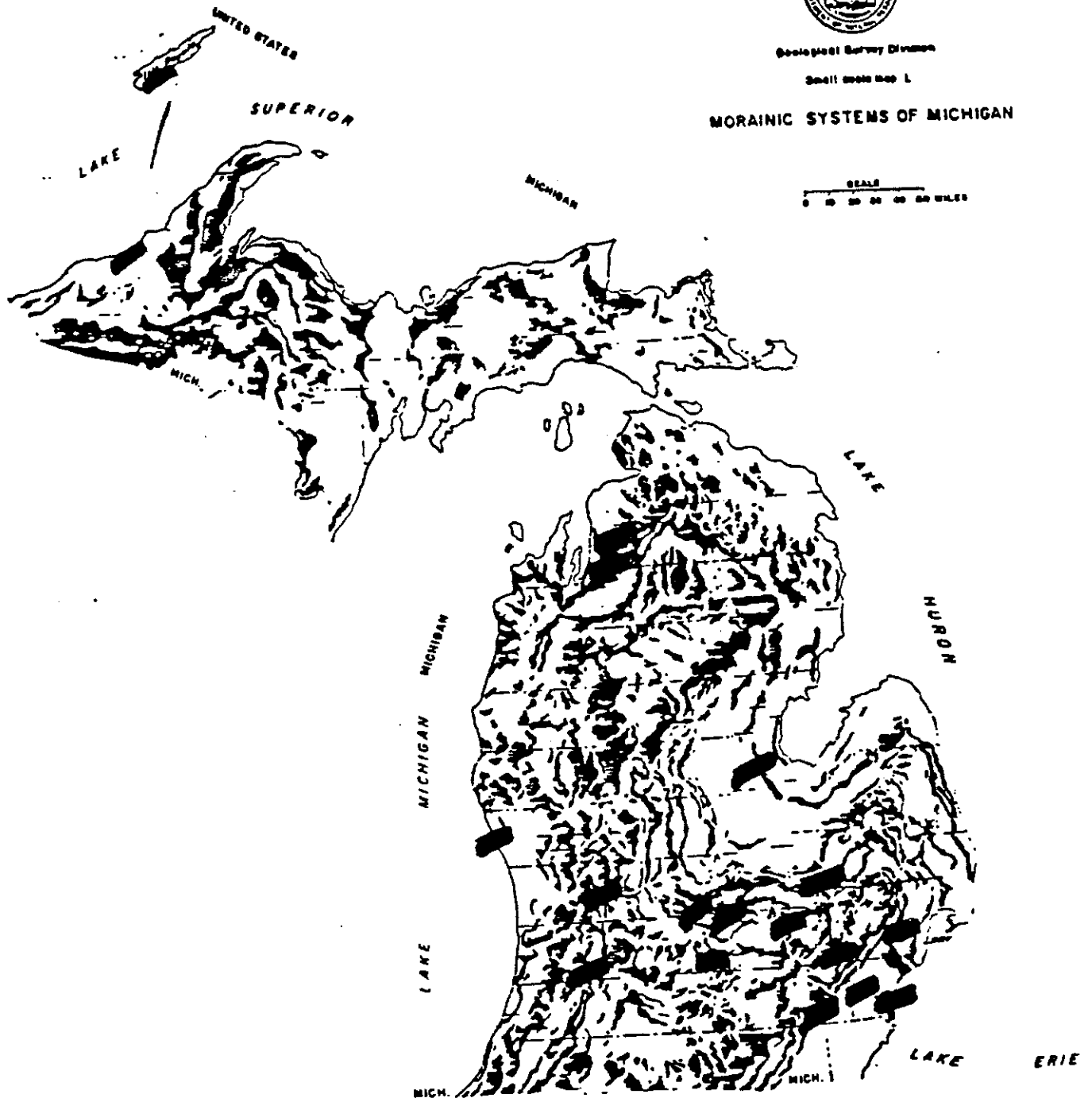


Geological Survey Division

Small scale map L

# MORAINIC SYSTEMS OF MICHIGAN

SCALE  
0 10 20 30 40 50 MILES



# MICHIGAN BACKGROUND SOIL SURVEY

## SAND - Results in mg/kg

SAND	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Hg	Li	Mn	Ni	Pb	Se	Zn	CN
<b>INDIVIDUAL GLACIAL LOBES</b>																	
n-Erie	15		15	15	15		15	15		14			1	15	15	15	
mean	0.17		2.3	125.9	0.2		3.3	8.7		0.02			18.0	4.5	0.20	25.2	
st. dev.	0.23		1.4	50.1	0.2		3.6	3.2		0.01			ERR	4.5	0.02	9.8	
n-Saginaw			8		8		8	8					8	8			8
mean			2.7		1.4		3.0	5.8					9.9	14.0			0.01
st. dev.			0.6		0.1		1.1	0.7					1.4	0.0			0.00
n-Michigan	3		3	4	3		7	7		3			7	3	3	7	
mean	0.20		0.5	6.5	0.2		3.6	6.1		0.04			7.6	7.0	0.20	9.9	
st. dev.	0.00		0.3	2.1	0.0		5.5	4.5		0.02			11.8	3.0	0.00	6.0	
n-West U. P.		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
mean		1237	0.5	5.6	1.0	2.5	8.8	4.2	3033	0.05	1.0	37.0	3.3	2.5	0.25	6.3	
st. dev.		110	0.0	0.4	0.0	0.0	2.6	0.8	306	0.00	0.0	6.0	1.4	0.0	0.00	0.3	
<b>COMBINED SUMMARY:</b>																	
n	18	3	29	22	29	3	33	33	3	20	3	3	19	29	21	25	8
minimum	0.10	1110	0.2	5.2	0.1	2.5	1.0	1.2	2700	0.02	1.0	31.0	1.6	1.2	0.16	4.7	0.01
maximum	1.00	1310	5.5	200.0	1.6	2.5	16.0	15.0	3300	0.06	1.0	43.0	34.0	20.0	0.25	42.0	0.01
mean	0.18	1237	2.1	87.8	0.6	2.5	3.8	7.0	3033	0.03	1.0	37.0	8.4	7.1	0.21	18.7	0.01
st. dev.	0.21	110	1.3	70.3	0.6	0.0	3.8	3.3	306	0.01	0.0	6.0	7.6	5.5	0.02	11.5	0.00
mean + 2 SD	0.60	1457	4.7	228.4	1.8	2.5	11.4	13.7	3644	0.06	1.0	49.0	23.6	18.1	0.25	41.7	0.01
mean + 3 SD	0.81	1567	6.0	298.6	2.3	2.5	15.2	17.0	3950	0.07	1.0	55.0	31.2	23.6	0.28	53.2	0.01

n - number of samples for that parameter  
 minimum - lowest value in data set  
 maximum - highest value in data set  
 mean - average concentration of data  
 st. dev. - sample standard deviation  
 mean + 2 SD - mean value plus 2 standard deviations. If the data is normally distributed, then 95% of the values should be less than this number  
 mean + 3 SD - mean value plus 3 standard deviations. If the data is normally distributed, then 99% of the values should be less than this number.

THIS BACKGROUND SOIL DATA IS FOR INFORMATION AND COMPARISON PURPOSES ONLY. IT IS NOT INTENDED TO REPLACE SAMPLES TAKEN AT THE SITE IN QUESTION.

# MICHIGAN BACKGROUND SOIL SURVEY

## CLAY - Results in mg/kg

CLAY	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Hg	Li	Mn	Ni	Pb	Se	Zn	CN
<b>INDIVIDUAL</b>																	
<b>GLACIAL LOBES</b>																	
n-Erie	49		65	65	89	3	65	65	3	55	3	3	66	84	52	84	13
mean	0.99		14.7	103.1	1.0	12.3	24.2	19.6	21433	0.04	22.7	450.0	26.6	12.6	0.43	50.8	0.26
st. dev.	0.93		13.7	63.2	0.7	1.2	11.0	7.2	503	0.03	0.6	0.0	9.2	6.7	0.16	12.4	0.04
n-Saginaw			32		32		32	32					32	32			32
mean			7.7		1.7		12.1	16.4					26.0	23.3			0.01
st. dev.			8.4		0.5		3.5	5.0					8.4	5.7			0.00
n-Michigan	11		11		11		11	11		11			11	11	11	11	11
mean	0.45		2.2		0.2		8.5	16.1		0.12			33.6	19.1	0.20	40.6	0.05
st. dev.	0.49		0.8		ERR		0.6	2.0		0.20			4.0	6.9	ERR	7.0	ERR
n-West U. P.		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
mean		9538	2.0	94.7	1.0	6.3	27.0	20.7	11017	0.05	11.0	256.7	20.0	2.5	0.25	30.7	
st. dev.		1177	0.2	2.9	0.0	0.8	1.0	1.5	1200	0.00	1.0	23.1	1.7	0.0	0.00	3.2	

## COMBINED SUMMARY:

	Ag	Al	As	Ba	Cd	Co	Cr	Cu	Fe	Hg	Li	Mn	Ni	Pb	Se	Zn	CN
n	60	3	111	68	135	6	111	111	6	69	6	6	112	130	66	98	56
minimum	0.10	8400	0.2	6.8	0.1	5.5	3.9	9.9	9650	0.01	10.0	230.0	4.0	2.5	0.12	22.0	0.01
maximum	3.10	10750	88.0	291.0	3.5	13.0	53.0	52.0	21900	0.70	23.0	450.0	53.0	32.0	0.70	90.0	0.33
mean	0.89	9538	11.1	102.8	1.1	9.3	19.2	18.4	16225	0.06	16.8	353.3	26.9	15.5	0.39	49.1	0.07
st. dev.	0.89	1177	12.3	61.8	0.8	3.4	10.8	6.3	5765	0.09	6.4	106.9	8.8	8.1	0.17	12.6	0.11
mean + 2 SD	2.67	11892	35.7	226.3	2.6	16.1	40.9	31.1	27754	0.23	29.7	567.1	44.5	31.8	0.73	74.2	0.29
mean + 3 SD	3.56	13068	47.9	288.1	3.4	19.5	51.8	37.4	33519	0.31	36.1	674.0	53.3	39.9	0.90	86.7	0.40

n - number of samples for that parameter  
 minimum - lowest value in data set  
 maximum - highest value in data set  
 mean - average concentration of data  
 st. dev. - sample standard deviation  
 mean + 2 SD - mean value plus 2 standard deviations. If the data is normally distributed, then 95% of the values should be less than this number.  
 mean + 3 SD - mean value plus 3 standard deviations. If the data is normally distributed, then 99% of the values should be less than this number.

THIS BACKGROUND SOIL DATA IS FOR INFORMATION AND COMPARISON PURPOSES ONLY. IT IS NOT INTENDED TO REPLACE SAMPLES TAKEN AT THE SPECIFIC SITE IN QUESTION.

1. Manifests (or some type of manifest/waste removal summary) of where and how much waste was shipped.
2. Certification statement is needed by the owner/operator AND an independent registered engineer. All independent registered professional engineer certificates must have an original stamp on at least one copy.
3. Summary of decontamination procedures (pressure wash, steam clean, etc.) and how waste water was disposed.
4. Summary analysis (include conditions of haul roads, time table, soil and groundwater results, weather conditions, runoff controls, equipment decontamination, etc.).
5. Results of all tests used to determine clean closure (chart, tables, lab sheets).
6. Statistical comparisons on sampling results compared to background. This should include full computations on background and statistical analysis.
7. Sampling and analysis procedures (specify references).
8. Final depth and evaluations of excavations of wastes and soils.
9. Properly labelled and easily identified sampling grid stations (map); including background stations.
10. Groundwater data (and statistical evaluation) used to determine if groundwater degradation has occurred (usually four sets of replicate analysis for background compared to sampling event after closure activities). Monitor well construction details and sampling and analysis procedures may be required if documentation is not in the file.
11. Summary of final restoration of excavated area including information on fill material used and/or future land use outline. If clean closure cannot be achieved (e.g. contaminated soils to water table and groundwater results show contamination) this summary item should be used to address the post closure program and/or corrective action.
12. A copy of the approved closure plan and letter of closure approval.

## H. DISPOSAL OPTIONS

Disposal of excavated waste or soil, and purged groundwater must be in accordance with all applicable State regulations. For example, air stripping of contaminated groundwater requires a permit from Air Quality Division. Disposal options in the following order of preference include:

1. Removal for incineration
2. Removal for treatment
3. Removal for landfilling
4. In-place treatment/stabilization
5. Encapsulation/control migration

Proposals for new or innovative technologies or solutions will also be considered. Specific situations are discussed below for off-site disposal options according to the current Michigan regulations. It must be determined whether the waste and the facility in question is regulated or not under RCRA and Act 64 (Hazardous Waste Laws).

### RCRA/ACT 64 REGULATED HAZARDOUS WASTE SITES

#### Waste Material

- Listed waste - must go to Act 64/RCRA permitted TSD
- Characteristic waste - Act 64/RCRA TSD, or if treatment renders material non-hazardous, to Act 641 landfill.

#### Soils

- Metal contamination - If EP TOXIC, or a listed metal, contaminated soils must go to an Act 64/RCRA TSD. If soil concentrations are not EP TOXIC but still above background, they can go to an approved Act 641 landfill only if the metal(s) of concern is not listed.
- Reactive - a determination that the contaminated soils do not meet the criteria set forth in 40 CFR 261.23(a),5. The test method is "Test Method to Determine Hydrogen Cyanide Released from Waste". Interim proposed method recommended by U.S. EPA SW-846 Section 7.3.3.2. Contaminated soils containing more than 250 ppm total cyanide may be considered reactive. If soils are found reactive, no landfilling is allowed. Soils/wastes must be pretreated to reduce cyanide concentrations so that the contaminated soils are not reactive.
- Organics - if listed waste contaminants, then soils are a hazardous waste by the mixture rules. If not listed, then soils should be tested for appropriate waste characteristic test to determine waste classification.



If background sampling has established organic compounds in soils (e.g. coal fragments will given off naphthalene) then contamination would be determined by using a Student's T-test at the 99% level of confidence or other approved statistical method.

#### D. HEAVY METALS EVALUATION

For metals (for example: As, Ba, Cd, Cr, Cu, Pb, Hg, Ag, Se, Zn, Ni and Mn), it is recommended to use a total metals (dry weight basis mg/kg) test procedure to minimize additional sources of variation since these constituents are naturally occurring. After background is established as per section A.2., contamination would be determined by using a Student's T-test at the 99% level of confidence or other approved method to compare background data to the suspect samples. Any statistically significant increase above background will be considered contaminated.

Sample collection, preservation, handling and preparation is to be referenced to EPA Method 3050. Analysis is to be by flame or furnace atomic absorption spectroscopy. Attachment 1 is a summary of typical soil levels on a State-wide basis for comparison purposes only.

#### E. WASTE SPECIFIC CONSTITUENTS

For inorganic constituents and waste specific constituents we recommend use of total analysis (dry-weight basis) to minimize additional sources of variation since some of these constituents may be naturally occurring. After background is established (see A.2.), contamination would be determined by using a Student's T-test at the 99% level of confidence or other approved statistical method.

#### F. STATISTICAL COMPARISONS

1. The t-test should be an "approved" method since there are a number of variations. We recommend the Gosset Student T-test (1908) where:

$$t = \frac{|\bar{x} - \bar{y}|}{\sqrt{S \frac{1}{N} + \frac{1}{M}}}$$

$$\text{with } S = \frac{M(s_1)^2 + N(s_2)^2}{N + M - 2}$$

and / / denotes the absolute value sign, S represents the standard deviation, with N being the population of  $s_2$  and M the population of  $s_1$ ,  $N + M - 2$  the degrees of freedom and  $s_1, s_2, \dots s_n$  are the sample standard deviations.

2. Cochran's Approximation to the Behrens-Fisher Student's t-test is also available for evaluating background variance versus exceedences (i.e. contamination) as referenced in the 40 CFR 264, Appendix IV. Note this statistical comparison method does

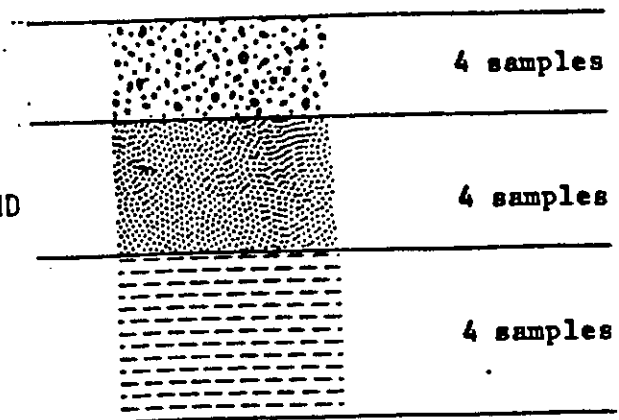
established separately (i.e. minimum 4 samples per each soil unit).

ground surface

Brown medium-coarse SAND

Lt. brown silty fine SAND

Gray silty CLAY w/trace  
of fine-medium sand



## B. SAMPLING GRID

1. A grid system should be established over the specified closure area. Grid point representation should be proportioned to size of area for equal weighting. It is recommended that one of the following equations be used to determine grid intervals for stationing.

using: 1)  $\sqrt{\frac{A\pi}{GL}} = GI$  or 2)  $\sqrt{\frac{A}{\pi}} = GI$   
                     "large site"                      "small sites"

where: GL = length of area to be gridded  
           A = area to be gridded (sq. ft.)  
           GI = grid interval

The first equation results in an extremely heavy weighting for small sites but good representation for large areas and the second equation results in a very light weighting for large sites but good representation for small sites. It appears that some boundaries for applying these equations to various size ranges of sites is appropriate. Possible ranges could be a) 0-0.25 acres, b) 0.25-3.0 acres and c) 3.0 acres and greater.

To even further simplify this application we have developed a chart based on an average size range of sites (1 acre = 43,560 sq. ft.).

<u>Site Acreage</u>	<u>Sq. Feet</u>	<u>Grid Interval</u>
0.001-0.25	43-10,890	20 ft. (minimum 9 sample stations)
0.025-3.00	10,890 - 130,680	40 ft.
3.00 +	130,680 +	60 ft.

**APPENDIX B**  
**CLAYTON SOIL ASSESSMENT REPORT**



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**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

**Subsurface Investigation  
for the Former  
Emission Control Dust Storage Area  
at the  
Former McLouth Steel Products Corporation  
Facility  
Trenton, Michigan**

**Submitted to  
DSC Ltd.  
Trenton, Michigan**

**Clayton Project No. 13-97153.00**

**August 19, 1997**

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### **Appendices**

- A SITE HEALTH AND SAFETY PLAN
- B ANALYTICAL RESULTS OF FILL MATERIAL SAMPLES

## **1.0 INTRODUCTION**

Clayton Environmental Consultants, Inc. is pleased to submit its report for a subsurface investigation conducted at the former McLouth Steel Products Corporation Facility located at 1491 West Jefferson Avenue in Trenton, Michigan. Clayton conducted this investigation of the closure plan in accordance with its proposal dated October 9, 1996 (Clayton Proposal No. 96DETEMR055) and a revised reporting schedule requested by DSC, Ltd.

The purpose of the subsurface investigation was to evaluate the horizontal and vertical extent of barium, cadmium, chromium, hexavalent chromium, and lead at the former emission control dust storage area located at the site. Clayton understands that McLouth Steel formerly stored a listed hazardous waste (Electric Arc Furnace Dust K061) in a diked area prior to the construction of a regulated storage unit for this material. The electric arc furnace dust (EAFD) was removed and properly disposed of by McLouth Steel.

## **2.0 SITE BACKGROUND**

The former McLouth Steel Products Corporation Trenton, Michigan plant is now owned by DSC Ltd. The plant site is bounded on the west and north by Jefferson Avenue, on the south by King Road, and on the east by the Detroit River. The former stockpile area of EAFD is located on the north end of the property, just north of the east extension of Sibley Road. The EAFD was removed and properly disposed of by McLouth Steel. Figure 1 presents a site location map. A copy of the site health and safety plan has been included as Appendix A.

## **3.0 SUMMARY OF SUBSURFACE INVESTIGATION ACTIVITIES**

The following is a summary of activities performed as a part of Clayton's subsurface investigation:

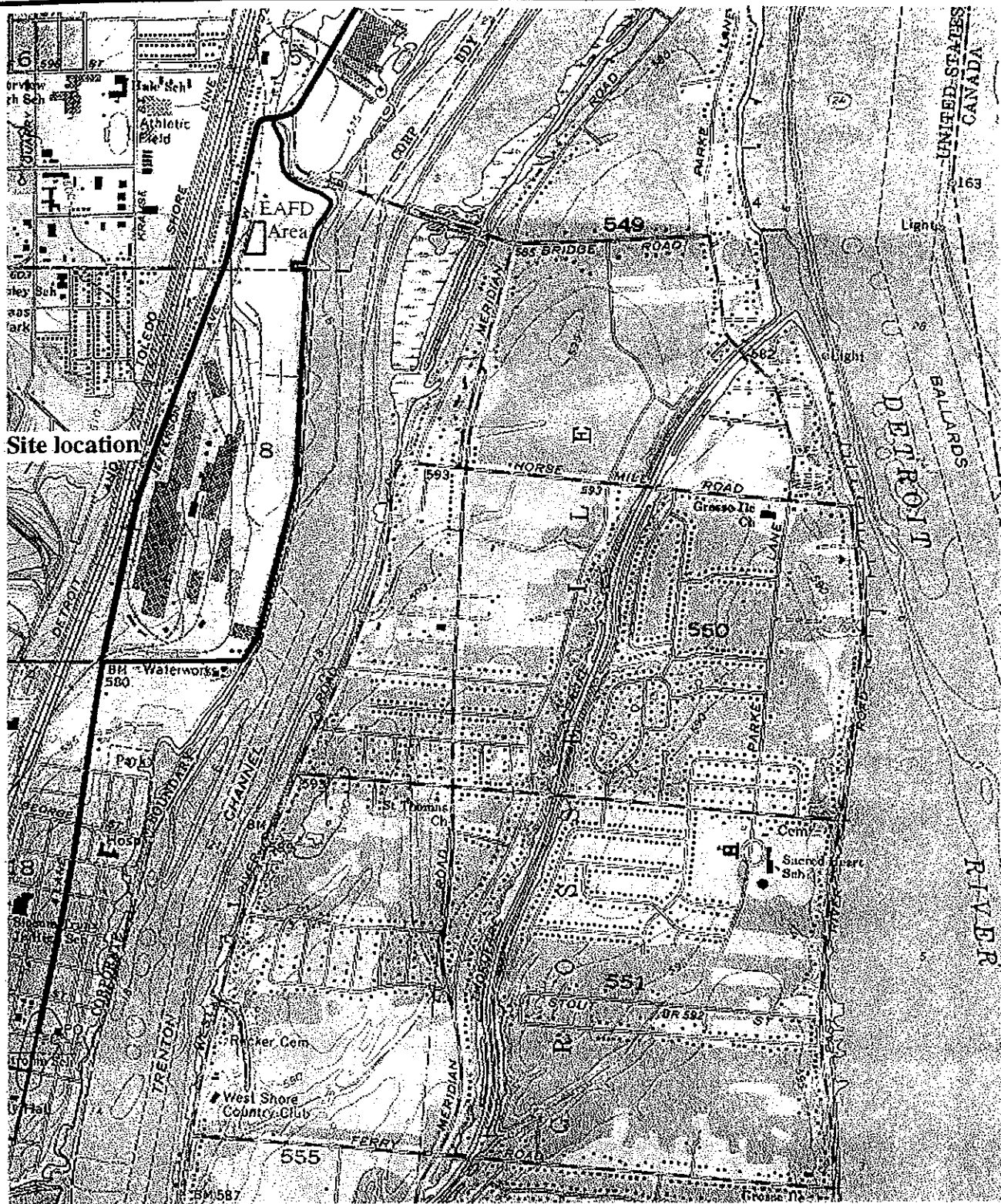
- Collection and analysis of closure fill material samples from the former EAFD storage area
- Collection and analysis of background fill material samples north of the former EAFD storage area
- Evaluation of background concentrations

The installation of monitoring wells and quarterly groundwater sampling events at the property will be addressed in a separate report.

### **3.1 CLOSURE FILL MATERIAL BORINGS**

On November 6 and November 7, 1996 and February 5 and February 6, 1997, Clayton (1) retained a drilling contractor (Fibertec, Inc.) to drill fill material borings utilizing a Geoprobe®, (2) oversaw drilling of the borings, and (3) collected fill material samples. The drilling contractor extracted fill material samples while using the Geoprobe® from clear acetate liners installed within the Geoprobe® rods. At the completion of drilling and following collection of the samples, the borings were backfilled with bentonite chips.





Portion of 7.5-minute Series  
(Topographic) Map  
United States Department of the Interior  
Geological Survey

Wyandotte, Michigan-Ontario, Canada  
Quadrangle  
1967  
Photorevised in 1981

Approximate Scale  
0 feet 2000

**Figure 1**  
**Site location**

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

S  
I  
T  
E

**Former McLouth Steel Products  
Corporation Trenton Plant  
Trenton, Michigan**

Project No. 13-97153.00

August 19, 1997

A total of 27 borings (A1 through A4, B1 through B5, C1 through C5, D1 through D6, E1 through E4, and F2 through F4) were advanced on November 6 and November 7, 1996. An additional 19 borings (A1 South, A1 East, A2 South, A4 South, A5, B1 East, B2, B5, B6, C5, C6, D1 East, D2, D7, E1 East, E2, F1, G2, and G4) were advanced on February 5 and February 6, 1997 following receipt of analytical results from the November 6 and November 7, 1996 sampling and discussions with DSC Ltd. personnel.

Fill material samples were collected at the surface and at 2 feet below ground surface. Fill material samples from the surface were collected using a stainless-steel trowel. Fill material samples from beneath the surface were collected using a Geoprobe®. Based on visual inspections of samples collected from the borings, Clayton observed a dry, sandy, granular, metallic, slag fill material from the surface to the final depth of the borings (a maximum depth of 4 feet below surface [B2, B5, C5, D2, and E2]). Clayton encountered obstructions drilling Borings A3 and D2 and the borings were advanced to 1-foot-below ground surface. According to the SEG closure plan dated September 16, 1988, fill material samples were collected over a grid with a grid spacing of 50 feet. The fill material sampling locations are shown in Figure 2.

Fill material samples were analyzed for barium, cadmium, chromium, lead, hexavalent chromium, and pH. Following the receipt of analytical results on November 6 and 7, 1996 and discussions with DSC Ltd. personnel, additional fill material samples from the borings advanced on February 5 and 6, 1997 were analyzed for barium, cadmium, chromium, and lead to evaluate the horizontal and vertical extent of compounds of concern.

Clayton retained a surveyor (JCK & Associates, Inc.) to survey the relative locations and ground surface elevations of the borings.

### **3.2 BACKGROUND FILL MATERIAL SAMPLES**

On November 6, 1996, Clayton collected four background fill material samples (BGDA through BGDD) from an area away from the EAFD area along the railroad tracks to determine background concentrations. These background samples were collected at the surface and at a depth of 2 feet below ground surface.

At the request of MDEQ Lansing Waste Management Division, Permits Section personnel, two additional background borings (BGD1 and BGD2) were advanced east of the original four background fill material borings. These background samples were collected at the surface and at a depth of 2 feet below ground surface.

Based on visual inspections of samples collected from the borings, Clayton observed a dry, sandy, granular, metallic, slag fill material from the surface to the final depth of the borings (a maximum depth of 2 feet below surface).

### **3.3 EQUIPMENT DECONTAMINATION**

The drilling contractor and Clayton decontaminated sampling equipment (e.g., Geoprobe® rods, and stainless-steel trowels) before collecting samples. The sampling equipment was decontaminated in the following order:

1. Washing and scrubbing the equipment with a nonphosphate detergent solution
2. Rinsing the equipment with tap water

3. Rinsing the equipment with deionized water
4. Air-drying the equipment

Equipment blanks (Equipment Blanks EB-1 and EB-2) were collected by rinsing the Geoprobe® rods and samplers with deionized water and collecting the water in the appropriate containers.

Vehicles were not impacted by drilling activities and were not decontaminated. Fill material generated from drilling was left next to each hole. Decontamination fluid the drilling contractor generated from steam cleaning the Geoprobe® rods was placed on the ground.

### **3.4 SAMPLE COLLECTION AND PRESERVATION**

Fill material samples were collected in laboratory-grade containers, and preserved and stored following United States Environmental Protection Agency (USEPA) Publication SW-846, *Testing Methods for Evaluating Solid Waste*. Clayton transported the samples in ice-cooled containers to Clayton's analytical laboratory in Novi, Michigan.

For samples intended for barium, cadmium, chromium, hexavalent chromium, and lead analyses, Clayton used sample jars that the supplier (1) washed with detergent, (2) rinsed three times with deionized water, (3) rinsed with acid, (4) rinsed three times with organic-free water, (5) oven dried, (6) rinsed with solvent, and (7) oven dried.

### **4.0 LABORATORY ANALYSIS**

Clayton selected fill material samples for laboratory analysis from the surface and from the 2-foot-deep interval in fill material samples collected on November 6 and 7, 1996. Following the receipt of analytical results from the samples collected on November 6 and 7, 1996, Clayton collected additional samples at selected locations on February 5 and 6, 1997 from the surface, 2-feet below ground surface, and at 4-feet below ground surface.

Clayton analyzed the fill material samples for barium, cadmium, chromium, lead, and hexavalent chromium using USEPA 6000- and 7000-series methods. Clayton analyzed the fill material samples for pH using USEPA Method 9045.

### **5.0 ANALYTICAL RESULTS**

Tables 1 and 2 summarize metal analytical results from the November 6 and 7, 1996 and February 5 and 6, 1997 fill material sampling. Detailed analytical reports are included as Appendix B.



+BGD1 +BGD2

+BGDD

+BGDC

+BGDB

+BGDA

**Legend**

+ Soil sample location

+ Background soil sample location

Approximate Scale  
0 feet 50

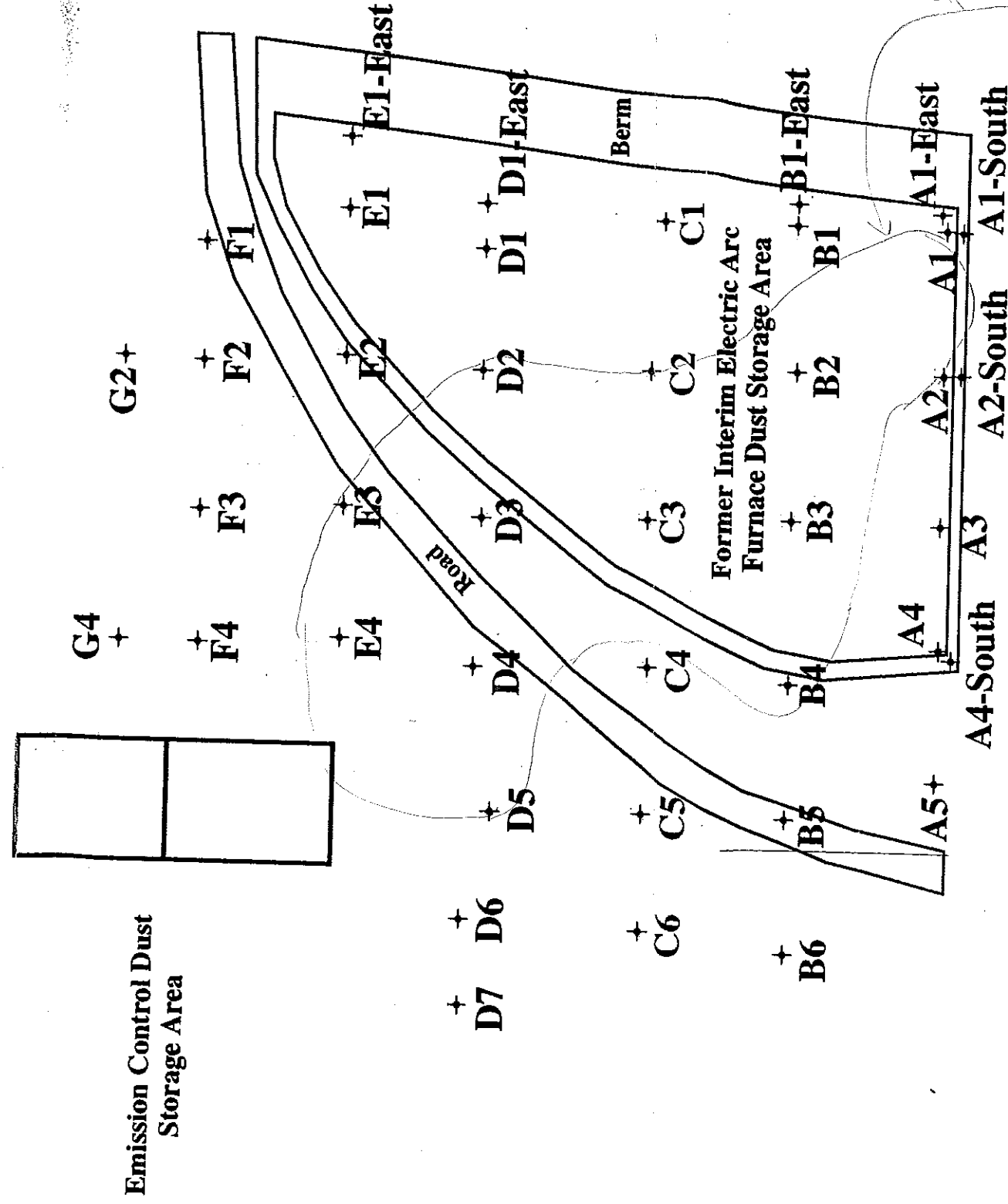


Figure 2  
Fill material and background fill  
material sample locations

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Trenton, Michigan

Former McLouth Steel Products  
Corporation Trenton Plant  
Trenton, Michigan

**Table 1**  
**Summary of Analytical Results for Metals in Fill Material**  
**Clayton Project No. 13-97153.00**  
**Sampling Dates: November 6 and 7, 1996**

Analyte	Sample Concentration (mg/kg)						pH
	Barium	Cadmium	Chromium	Chromium (VI)	Lead		
Sample Identification							
A1 (Surface)	190	5.4	480	NA	884	8.8	
A1 (2')	150	<0.05	210	NA	739	11.1	
A2 (Surface)	140	12	340	NA	7400	8.5	
A2 (2')	82	0.56	1400	<0.1	<20	11.9	
A3 (Surface)	120	3.2	540	NA	<50	8.4	
A3 (1')	110	0.46	480	NA	<50	10.8	
A4 (Surface)	54	5.2	620	NA	620	9.2	
A4 (2')	44	6.6	2600	<0.1	110	12.2	
B1 (Surface)	82	3.4	600	NA	860	7.9	
B1 (2')	71	<0.05	950	NA	<50	12.0	
B1 (2') Duplicate	81	<0.05	1200	NA	<50	12.3	
B2 (Surface)	35	30	640	NA	7200	8.6	
B2 (2')	83	1.7	600	NA	7200	11.9	
B3 (Surface)	49	22	270	NA	330	9.0	
B3 (2')	24	<0.05	760	NA	<50	12.4	
B4 (Surface)	54	3.9	540	NA	880	8.8	
B4 (2')	90	1.1	960	<0.1	150	11.7	
B5 (Surface)	37	<0.05	420	NA	<50	11.1	
B5 (2')	37	<0.05	1300	NA	<50	12.3	
C1 (Surface)	26	0.34	460	NA	120	8.9	
C1 (Surface) Duplicate	55	0.52	820	NA	180	8.8	
C1 (2')	63	0.78	760	<0.1	110	12.3	
C2 (Surface)	34	2.6	650	NA	1300	8.4	
C2 (2')	51	<0.05	810	NA	130	11.6	
C3 (Surface)	65	0.4	410	NA	220	9.2	
C3 (2')	61	0.13	1100	<0.1	<20	12.4	
C4 (Surface)	58	1.4	470	NA	320	9.5	
C4 (2')	40	<0.05	960	NA	<50	12.3	
C5 (Surface)	27	1.1	380	NA	430	8.9	
C5 (2')	32	1.5	1500	0.1	<20	12.4	
D1 (Surface)	70	3	510	NA	1100	8.8	
D1 (2')	50	0.29	690	NA	<50	12.2	
D1 (2') Duplicate	44	0.4	550	NA	<50	12.4	
D2 (Surface)	26	7.2	410	NA	1400	9.2	
D2 (1')	210	2.4	270	<0.1	230	11.0	
D3 (Surface)	71	4.1	1200	<0.1	510	10.1	
D3 (2')	32	0.13	680	NA	<50	12.4	
D4 (Surface)	42	4	280	NA	560	9.1	
D4 (2')	29	0.23	820	NA	<50	12.3	
D5 (Surface)	56	2.6	470	<0.1	620	8.6	
D5 (2')	18	0.1	870	NA	<50	12.3	
D6 (Surface)	42	12	180	NA	1700	8.9	
D6 (Surface) Duplicate	42	12	<130	NA	1800	8.8	
D6 (2')	26	0.38	680	NA	<50	12.3	
E1 (Surface)	77	11	770	<0.1	2900	8.5	
E1 (2')	100	<0.05	660	NA	<20	12.4	
E2 (Surface)	110	0.22	350	NA	440	9.2	
E2 (2')	89	<0.05	1500	NA	95	12.0	
E3 (Surface)	73	3.6	440	<0.1	630	9.6	
E3 (2')	52	<0.05	910	NA	94	12.4	
E4 (Surface)	63	<0.05	490	NA	690	9.0	
E4 (2')	86	0.3	1000	NA	<20	12.1	
F2 (Surface)	61	4.7	490	NA	780	9.4	
F2 (2')	86	<0.05	630	NA	210	11.2	
F2 (2') Duplicate	930	3.5	620	NA	430	11.4	
F3 (Surface)	47	3.5	350	NA	380	9.1	
F3 (2')	57	0.55	220	<0.1	<20	11.5	
F4 (Surface)	50	1.9	440	NA	1100	9.0	
F4 (2')	76	<0.05	380	NA	<50	11.8	
BGDA (Surface)	270	3.6	480	<0.1	450	8.6	
BGDA (2')	110	0.33	690	<0.1	<20	11.4	
BGDB (Surface)	82	1.3	650	<0.1	130	8.8	
BGDB (2')	36	0.77	430	<0.1	55	11.5	
BGDB (Surface) Duplicate	92	1.7	420	<0.1	260	8.9	
BGDC (Surface)	50	0.78	330	<0.1	170	8.5	
BGDC (2')	110	0.4	690	<0.1	100	11.2	
BGDD (Surface)	68	1	360	<0.1	240	8.2	
BGDD (2')	61	0.38	930	<0.1	<20	11.3	
BGD1 (Surface)	100	<0.05	250	<0.1	120	9.3	
BGD1 (2')	17	<0.05	530	<0.1	13	12.3	
BGD2 (Surface)	140	<0.05	290	<0.1	270	8.9	
BGD2 (2')	34	<0.05	540	<0.1	43	12.3	

mg/kg = milligrams per kilogram or parts per million (ppm)  
NA = Not analyzed

**Table 2**  
**Summary of Analytical Results for Metals in Fill Material**  
**Clayton Project No. 13-97153.00**  
**Sampling Dates: February 5 and 6, 1997**

Analyte	Sample Concentration (mg/kg)			
	Barium	Cadmium	Chromium	Lead
Sample Identification				
A1 South Surface	NA	10	NA	740
A1 South (2')	NA	NA	NA	270
A1 East Surface	NA	<0.05	NA	190
A1 East (2')	NA	NA	NA	99
A2 South Surface	NA	<0.05	NA	19
A2 South Surface Dup.	NA	2	NA	270
A2 South (2')	NA	NA	500	NA
A4 South Surface	NA	4.3	NA	270
A4 South (2')	NA	2.4	460	NA
A5 Surface	NA	1.7	NA	220
A5 (2')	NA	0.52	630	NA
B1 East Surface	NA	NA	NA	550
B2 (4')	NA	0.06	NA	5
B5 (4')	NA	<0.05	1,600	NA
B6 (2')	NA	NA	740	NA
C5 (4')	NA	<10	7,400	NA
C6 Surface	NA	3.3	700	NA
C6 (2')	NA	1.5	800	NA
D1 East Surface	NA	NA	NA	520
D2 (4')	52	0.28	NA	15
D7 Surface	NA	3.1	NA	460
E1 East Surface	NA	0.61	NA	90
E2 (4')	NA	NA	580	NA
F1 Surface	64	NA	NA	440
F1 (2')	140	1	NA	160
G2 Surface	55	NA	NA	640
G2 Surface Duplicate	58	NA	NA	990
G2 (2')	86	0.95	NA	270
G4 (Surface)	NA	NA	NA	490

mg/kg = milligrams per kilogram or parts per million (ppm)

NA = Not analyzed

**Subsurface Investigation  
for  
Approved Emission Control Dust Storage Area  
at the  
Former McLouth Steel Products Corporation  
Trenton, Michigan**

**Submitted to  
DSC Ltd.  
Trenton, Michigan**

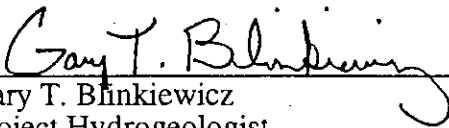
**Clayton Project No. 13-97153.00**

**August 19, 1997**

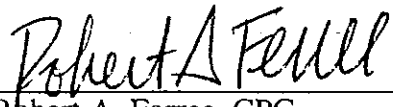
**Limitations**

The information and opinions rendered in this report are exclusively for use by DSC Ltd. Clayton Environmental Consultants, Inc. will not distribute or publish this report without DSC Ltd.'s consent except as required by law or court order. The information and opinions are given in response to a limited assignment and should be implemented only in light of that assignment. Clayton Environmental Consultants, Inc. accepts responsibility for the competent performance of its duties in executing the assignment and preparing reports in accordance with the normal standards of the profession, but disclaims any responsibility for consequential damages.

This report submitted by:

  
\_\_\_\_\_  
Gary T. Blinkiewicz  
Project Hydrogeologist  
Environmental Management and Remediation  
Detroit Regional Office

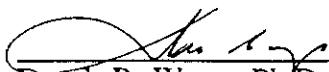
This report reviewed by:

  
\_\_\_\_\_  
Robert A. Ferree, CPG  
Senior Geologist and Supervisor of Geosciences  
Environmental Management and Remediation  
Detroit Regional Office



I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This report reviewed by:

  
Derek R. Wong, Ph.D., P.E.  
Senior Hydrogeologist and Manager  
Environmental Management and Remediation  
Detroit Regional Office

**APPENDIX A**  
**SITE HEALTH AND SAFETY PLAN**

**Detroit Regional Office**

22345 Roethel Drive  
P.O. Box 8022  
Novi, MI 48375  
(810) 344-1770  
Fax (810) 344-2654

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

**Site Health and Safety Plan  
for the  
Former McLouth Steel Plant  
Trenton, Michigan**

**Submitted to  
DSC, Ltd.  
Trenton, Michigan**

**Clayton Project No. 13-97153.00**

**October 25, 1996**

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## **1.0 INTRODUCTION**

This health and safety plan describes the procedures that will be implemented and followed by Clayton Environmental Consultants, Inc. during work activities at the former McLouth Steel Plant in Trenton, Michigan.

This health and safety plan is based on the planned work activities and environmental investigations to be conducted at the site and the requirements of Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120). This health and safety plan should be available onsite during work activities.

## **2.0 WORK ACTIVITIES**

The following is a brief description of the work activities to be performed at the site.

- Install three monitoring wells
- Install 31 soil borings in the former emission control dust storage area
- Sample groundwater from two existing and three new monitoring wells

## **3.0 ONSITE ORGANIZATION**

Each person shall be responsible for following the health and safety plan's guidelines at the site. The site safety officer is Mr. Gary T. Blinkiewicz. The safety officer's duties are to:

- Oversee implementation of the health and safety plan
- Confirm that all personnel have proper training and protective equipment
- Conduct a "tailgate" meeting on the first day before field activities commence
- Stop work if the health and safety of workers is in question
- Observe workers for signs and symptoms of exposure to contaminants
- Evaluate the effectiveness of the personal protective program on an ongoing basis and upgrade the program as needed
- Inform workers of any changes in the health and safety practices
- Perform daily reviews of the work practices and compliance with the health and safety plan
- Note any signs of worker exposure or stress and take proper action immediately

All personnel who enter the work area must comply with the health and safety practices and procedures described in this health and safety plan.

All incidents at the site, such as injuries or near misses, must be reported to the following people as soon as possible:

- Gary T. Blinkiewicz  
Site Safety Officer  
Clayton Environmental Consultants, Inc.  
(810) 344-1770

#### **4.0 HEALTH AND SAFETY HAZARDS**

The health and safety concerns onsite can be categorized as chemical hazards and physical hazards. The potential chemical hazards, based on previous site investigations, are presented by the chemicals listed in the following table.

<b>Hazardous Substance</b>	<b>Potential Health Effects</b>	<b>Permissible Exposure Limit (PEL)</b>	<b>Immediately Dangerous to Life or Health</b>
Barium	eyes, skin, respiratory system damage, heart, CNS damage	0.5 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>
Cadmium	NIOSH Potential Occupational Carcinogen (prostatic & lung cancer); respiratory system and kidney damage	0.005 mg/m <sup>3</sup>	9 mg/m <sup>3</sup>
Chromium	eye and skin damage; respiratory system damage	0.5 mg/m <sup>3</sup>	250 mg/m <sup>3</sup>
Lead	eye damage; GI tract damage; CNS damage; kidney, blood, gingival tissue damage	0.050 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>

Physical hazards present at the site are limited to unstable footing.

#### **4.1 CHEMICAL HAZARDS**

Hazards generally associated with chemicals used onsite and chemical contamination present in soil and/or groundwater include overexposure through the following possible routes of entry: (1) Skin or eye contact resulting in skin damage and in some cases, dermal absorption, (2) Inhalation of chemical vapors, dust or gases, (3) Ingestion of chemicals. To minimize exposure to chemical contaminants, personal protective equipment as specified in this plan must be worn. Site control measures must also be taken to minimize exposures and to provide for contingency measures. Air monitoring/sampling as specified in this plan will be used to assess potential airborne exposure. Material Safety Data Sheets for any chemicals brought onsite should be available for review.

#### **4.2 PHYSICAL HAZARDS**

The following subsections describe possible health and safety hazards associated with work activities at the site.

##### **4.2.1 Traffic and Heavy Equipment Hazards**

Stay at least 10 feet away from moving equipment. If closer than 10 feet:

- Keep equipment in sight at all times.
- Inform the operator of your location.

The working area will be closed to traffic with barricades, caution tape, cones, or other traffic control equipment.

No unauthorized or unessential vehicle will be allowed to enter the barricaded area. Only trained personnel may operate heavy equipment.

#### **4.2.2 Underground Utilities Hazards**

Extreme care will be taken in invasive drilling/excavation techniques to ensure that no utility lines exist at that location.

If an underground utility line is encountered or damaged during the work:

- Stop all activities immediately and clear the area.
- Stop all engines and mechanical and electrical equipment.
- Call MISSDIG (1-800-482-7171) immediately.

#### **4.2.3 Lifting Heavy Objects**

To prevent back injury resulting from lifting heavy objects:

- Bend your knees
- Lift with your legs not your back
- Keep your feet centered under you
- Keep the load close to your body

#### **4.2.4 Unstable Footing, Physical Obstacles and Falling Objects**

Inspect the work areas carefully before entering and make sure of safe footing. Use caution when navigating physical obstacles, and beware of falling objects.

#### **4.2.5 Overhead Utility Lines**

Extreme care must be taken to avoid overhead utility lines with equipment brought onsite.

If an overhead utility line is encountered or damaged during the work:

- Stop all activities immediately and clear the area.
- Stop all engines and mechanical and electrical equipment
- Call US ALERT (1-800-642-2444) immediately.

### **5.0 ONSITE SAFETY EQUIPMENT**

The following subsections describe personal and general safety equipment that will be required onsite.

#### **5.1 PERSONAL SAFETY EQUIPMENT**

The following personal protective equipment (PPE) will be required at all times:



- Hard Hat
- Steel toed shoes
- Gloves (vinyl and nitrile)
- Safety glasses or goggles

## **5.2 GENERAL SAFETY EQUIPMENT**

The following items must be available and easily accessible for use:

- First aid kit
- Fire extinguisher (foam, dry chemical, or carbon dioxide)
- Eye wash

## **6.0 TRAINING**

All personnel who may be exposed to onsite contaminants must provide documentation of the following:

- Current training that meets the requirements of 29 CFR 1910.120 to include:
  - 40 hours of classroom instruction/hands-on training
  - Three days of field experience under the supervision of an experienced supervisor
  - Eight hours of annual classroom refresher training, as appropriate
- Eight hours of supervisory training as specified in 29 CFR 1910.120 if a person is a designated supervisor.

Project-specific training and information will be provided either before traveling to the site or at the site before entry into contaminated areas onsite. The information and training will be documented, and will include the following:

- The contents of the health and safety plan
- A discussion of the site specific health and safety hazards, protective measures, and work practices

## **7.0 MEDICAL SURVEILLANCE**

Prior to being assigned to a hazardous or a potentially hazardous activity involving exposure to toxic materials, employees must receive a baseline physical exam. The contents of the physical exam is to be determined by the employee's medical consultant. The baseline physical exam should categorize employees as fit-for-duty and able to wear respiratory protection.

In addition to the baseline physical, employees must have a periodic physical exam every 12 months. All personnel working in contaminated or potentially contaminated areas at the site must have current medical monitoring (i.e., exam within 12 months).

## **8.0 AIR MONITORING/SAMPLING**

During field operations, the air will be monitored with an Hnu Photo Ionization Detector (PID). If organic vapors are consistently detected at a concentration of 50 parts per million (ppm) in the breathing zone, an exclusion zone will be set up to conduct work activities. The exclusion zone limit is set based on the lowest PEL of the contaminants listed. (Personal protective equipment associated with the zones are discussed in greater detail in Section 5.0).

## **9.0 SITE CONTROL MEASURES**

The following safe work practices apply for the entire site: (include applicable restrictions/safe work practices)

- Observe the "buddy system," never enter or exit contaminated areas alone
- Maintain line-of-sight of radio communication between personnel in contaminated and non-contaminated areas
- No smoking, eating or drinking except in a designated "clean zone"
- No horse play
- No matches or lighters in contaminated areas

A site map is attached as Figure 1.

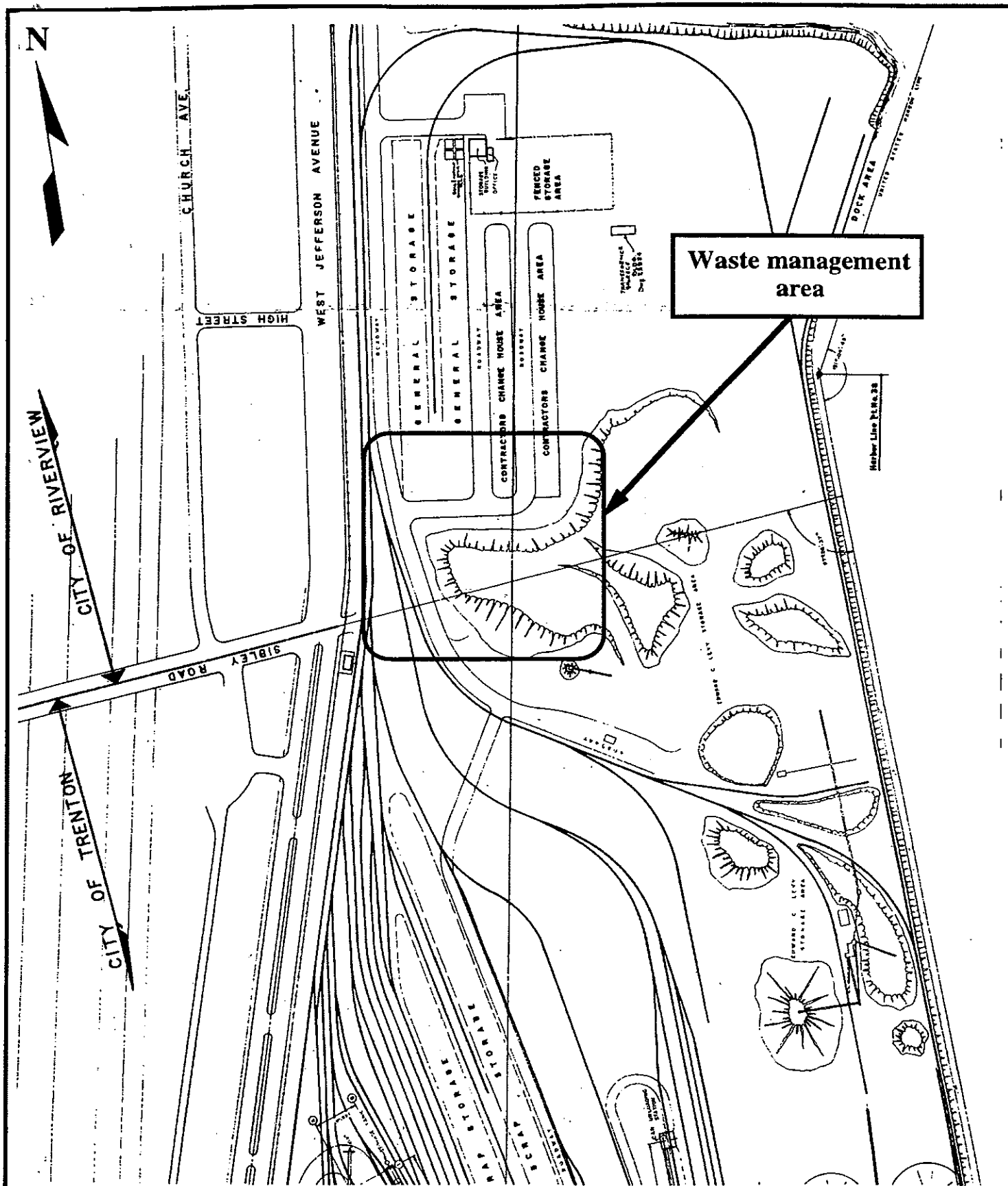
## **10.0 DECONTAMINATION PLAN**

Decontamination involves the orderly controlled removal of contaminants. All personnel and equipment must be decontaminated in the Contamination Reduction Zone. The following are specific procedures for decontamination on this site

**Level D:** Remove outer garments (i.e., coveralls), remove and discard gloves, wash hands, and face in the offices prior to leaving the site

## **11.0 WASTE HANDLING AND DISPOSAL**

The waste handling procedures discussed in the work plan will be followed. Waste generated by implementation of this health and safety program may include spent protective clothing, such as Tyvek™ suits or gloves, and wash rinse solutions. Protective clothing will be collected in a lined container or DOT drum. Liquid wastes will be collected and pumped or poured into DOT approved drums with equipment decontamination rinsate.



**Figure 1**  
**Site diagram**

**Clayton**  
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CONSULTANTS

SITE

**Former McLouth Steel Company  
Trenton, Michigan**

Project No. 13-97153.00

October 25, 1996

## **12.0 EMERGENCY RESPONSE/CONTINGENCY PLAN**

### **12.1 PERSONAL INJURY**

In case of a minor personal injury, general first aid procedures will apply. A first aid kit will be available at the site in a designated location or in company vehicles. All injuries or accidents will be reported to the site safety officer immediately.

More serious injuries may require assistance from paramedics. The project manager, site safety officer, or another designated person will contact the appropriate emergency personnel by dialing 911.

### **12.2 EYE AND SKIN EXPOSURE TO CHEMICALS**

These chemicals and substances are irritants to eyes and skin. In case of exposure:

- Remove contaminated clothing and shoes.
- Flush affected areas with plenty of water.
- IF IN EYE, hold eyelids open and flush with plenty of water.
- If irritation or discomfort continues, call for medical aid immediately.

### **12.3 INTERNAL EXPOSURE TO CHEMICALS**

Chemicals can be harmful if swallowed. In case of exposure:

- Call for medical aid.
- Get immediate medical attention.

### **12.4 INHALATION EXPOSURE TO CHEMICALS**

Inhalation of these chemicals can cause upper respiratory problems, tight chest, muscle aches, headache, nausea, and eye, nose, and throat irritation. In case of exposure:

- Move victim to fresh air.
- If discomfort continues, call for medical aid immediately.
- If breathing has stopped, give artificial respiration.
- If breathing is difficult, give oxygen.

### **12.5 FIRE HAZARD**

In case of fire, leave the area and call fire department immediately.

## 12.6 EMERGENCY CONTACTS

Emergency contacts will be made, as necessary, from the list in this section:

### Hospital

Name: Oakwood Hospital Seaway Center  
Address: 5450 Fort Street, Trenton, Michigan  
Phone: (313) 671-3800

Ambulance: Call 911 or (313) 671-3883

Fire Dept. Call 911

Police Dept. Call 911 or (313) 256-9636

See Figure 2 for locations of emergency facilities.

### Other Telephone Numbers

US ALERT: 1-800-642-2444

National Response Center: 1-800-424-8802

## 13.0 SPILL CONTAINMENT PROGRAM

The following spill containment program applies for activities at the site:

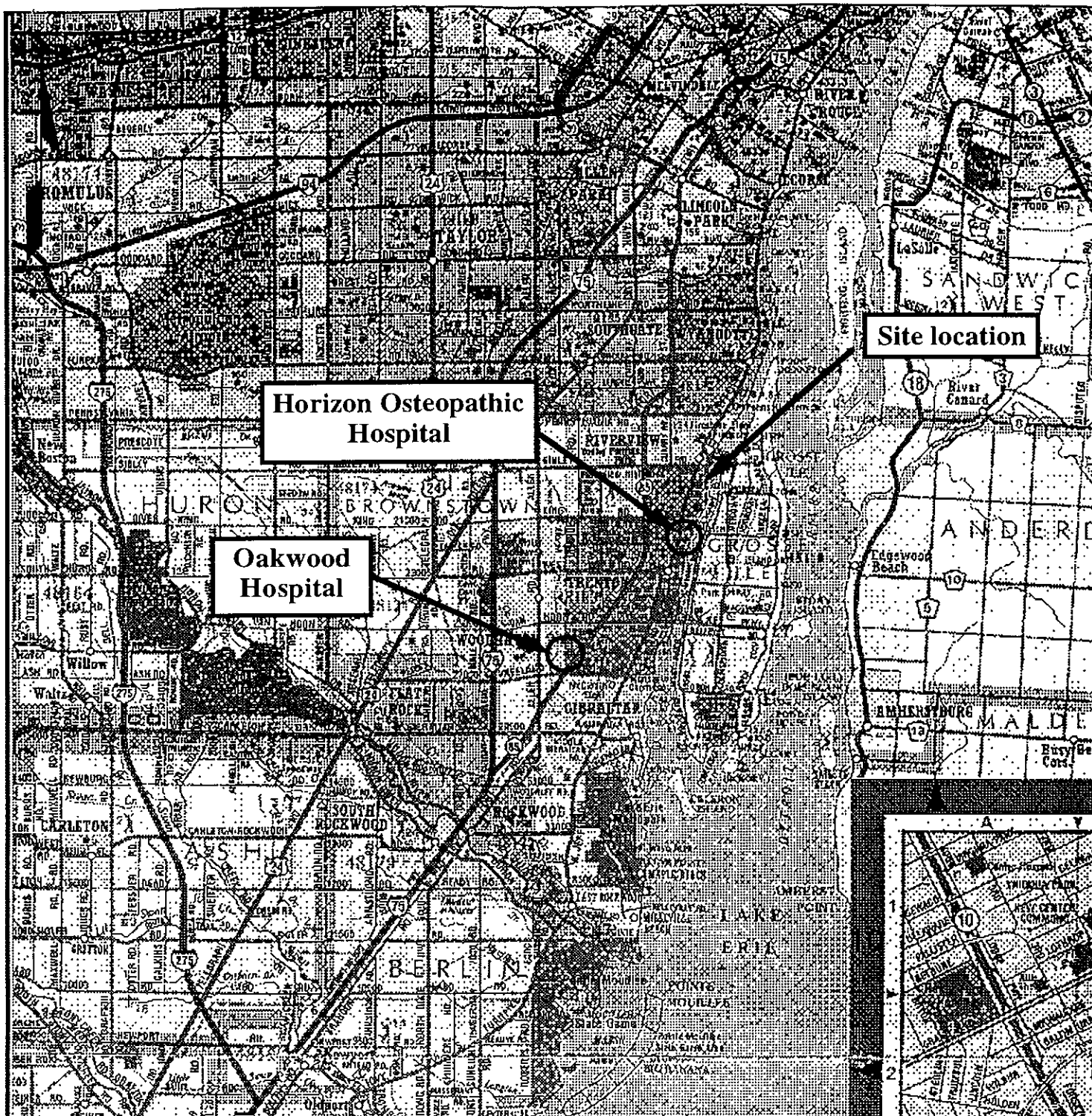
- All drums and containers used during the cleanup will meet DOT requirements for the wastes they will contain. Drums will be inspected and integrity assured before they are used and moved. Only drums found to be sound will be used. Drum and container movement will be minimized to reduce the potential for spills.
- Where spills may occur, adequate quantities of spill containment materials (absorbent, pillows, etc.) will be stationed in the immediate area.

This plan prepared by : Susan J. Boddy  
Staff Geologist

This plan reviewed by : Robert A. Ferree, CPG  
Senior Geologist and Supervisor of Geosciences

Reviewed and accepted by : \_\_\_\_\_  
Name Date

Reviewed and accepted by : \_\_\_\_\_



**Figure 2**  
Location of nearest  
emergency centers

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

S  
I  
T  
E

**Former McLouth Steel Plant  
Trenton, Michigan**

Project No. 13-97153.00

October 25, 1996

**EMERGENCY INFORMATION**

IN CASE OF AN EMERGENCY, USE THIS SHEET

Emergency Phone No.:

911

or

(313) 671-3883

Site Address:

1491 W. Jefferson Avenue  
Trenton, Michigan

Nearest Intersection:

Jefferson Avenue and Sibley Road



**APPENDIX B**  
**ANALYTICAL RESULTS OF FILL MATERIAL SAMPLES**

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Barium	
		(mg/kg)	LOD (mg/kg)
001a	A1 (SURFACE)	190	1
002a	A1 (2')	150	1
003a	A2 (SURFACE)	140	1
004a	A3 (SURFACE)	120	1
005a	A3 (1')	110	1
006a	A4 (SURFACE)	54	1
007a	B1 (SURFACE)	82	1
008a	B1 (2')	71	1
009a	B1 (2') DUPLICATE	81	1
010a	B2 (SURFACE)	35	1
011a	B2 (2')	83	1
012a	B3 (SURFACE)	49	1
013a	B3 (2')	24	1
014a	B4 (SURFACE)	54	1
015a	B5 (SURFACE)	37	1
016a	B5 (2')	37	1
017a	C1 (SURFACE)	26	1
018a	C1 (SURFACE) DUPLICATE	55	1
021a	C2 (SURFACE)	34	1
022a	C2 (2')	51	1
023a	C3 (SURFACE)	65	1
024a	F4 (2')	76	1
025a	C4 (SURFACE)	58	1
026a	C4 (2')	40	1
027a	C5 (SURFACE)	27	1
028a	D1 (SURFACE)	70	1
029a	D1 (2')	50	1
030a	D2 (SURFACE)	26	1
031a	D1 (2') DUPLICATE	44	1
032a	D3 (2')	32	1
033a	D4 (SURFACE)	42	1
034a	D4 (2')	29	1

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type:	Soil	Date Sampled:	11/06/96
Analytical Method:	EPA 6010	Date Received:	11/08/96
Analyst:	CR	Date Analyzed:	11/13/96

Barium			
Lab No.	Sample Identification	(mg/kg)	LOD (mg/kg)
035a	D5 (2')	18	1
036a	D6 (SURFACE)	42	1
037a	D6 (2')	26	1
038a	D6 (SURFACE) DUPLICATE	42	1
041a	E1 (2')	100	1
042a	E2 (SURFACE)	110	1
043a	E2 (2')	89	1
044a	E3 (2')	52	1
045a	E4 (SURFACE)	63	1
046a	E4 (2')	86	1
047a	F2 (SURFACE)	61	1
048a	F2 (2')	86	1
049a	F2 (2') DUPLICATE	930	1
050a	F3 (SURFACE)	47	1
051a	F4 (SURFACE)	50	1
052a	A2 (2')	82	1
053a	A4 (2')	44	1
054a	B4 (2')	90	1
055a	C1 (2')	63	1
056a	C3 (2')	61	1
057a	C5 (2')	32	1
058a	D2 (1')	210	1
059a	D3 (SURFACE)	71	1
060a	D5 (SURFACE)	56	1
061a	E1 (SURFACE)	77	1
062a	E3 (SURFACE)	73	1
063a	F3 (2')	57	1
064a	BGDA (SURFACE)	270	1
065a	BGDA (2')	110	1
066a	BGDB (SURFACE)	82	1
067a	BGDB (2')	36	1
068a	BGDB (SURFACE) DUPLICATE	92	1

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CR

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Barium	
		(mg/kg)	LOD (mg/kg)
071a	BGDC (SURFACE)	50	1
072a	BGDC (2')	110	1
073a	BGDD (SURFACE)	68	1
074a	BGDD (2')	61	1
075a	LAB BLANK	<1	1

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6020  
Analyst: CR

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Cadmium	
		(mg/kg)	LOD (mg/kg)
001a	A1 (SURFACE)	5.4	0.05
002a	A1 (2')	<0.05	0.05
003a	A2 (SURFACE)	12	0.05
004a	A3 (SURFACE)	3.2	0.05
005a	A3 (1')	0.46	0.05
006a	A4 (SURFACE)	5.2	0.05
007a	B1 (SURFACE)	3.4	0.05
008a	B1 (2')	<0.05	0.05
009a	B1 (2') DUPLICATE	<0.05	0.05
010a	B2 (SURFACE)	30	0.05
011a	B2 (2')	1.7	0.05
012a	B3 (SURFACE)	22	0.05
013a	B3 (2')	<0.05	0.05
014a	B4 (SURFACE)	3.9	0.05
015a	B5 (SURFACE)	<0.05	0.05
016a	B5 (2')	<0.05	0.05
017a	C1 (SURFACE)	0.34	0.05
018a	C1 (SURFACE) DUPLICATE	0.52	0.05
021a	C2 (SURFACE)	2.6	0.05
022a	C2 (2')	<0.05	0.05
023a	C3 (SURFACE)	0.4	0.05
024a	F4 (2')	<0.05	0.05
025a	C4 (SURFACE)	1.4	0.05
026a	C4 (2')	<0.05	0.05
027a	C5 (SURFACE)	1.1	0.05
028a	D1 (SURFACE)	3	0.05
029a	D1 (2')	0.29	0.05
030a	D2 (SURFACE)	7.2	0.05
031a	D1 (2') DUPLICATE	0.4	0.05
032a	D3 (2')	0.13	0.05
033a	D4 (SURFACE)	4	0.05
034a	D4 (2')	0.23	0.05

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6020  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Cadmium	
		(mg/kg)	LOD (mg/kg)
035a	D5 (2')	0.1	0.05
036a	D6 (SURFACE)	12	0.05
037a	D6 (2')	0.38	0.05
038a	D6 (SURFACE) DUPLICATE	12	0.05
041a	E1 (2')	<0.05	0.05
042a	E2 (SURFACE)	0.22	0.05
043a	E2 (2')	<0.05	0.05
044a	E3 (2')	<0.05	0.05
045a	E4 (SURFACE)	<0.05	0.05
046a	E4 (2')	0.3	0.05
047a	F2 (SURFACE)	4.7	0.05
048a	F2 (2')	<0.05	0.05
049a	F2 (2') DUPLICATE	3.5	0.05
050a	F3 (SURFACE)	3.5	0.05
051a	F4 (SURFACE)	1.9	0.05
052a	A2 (2')	0.56	0.05
053a	A4 (2')	6.6	0.05
054a	B4 (2')	1.1	0.05
055a	C1 (2')	0.78	0.05
056a	C3 (2')	0.13	0.05
057a	C5 (2')	1.5	0.05
058a	D2 (1')	2.4	0.05
059a	D3 (SURFACE)	4.1	0.05
060a	D5 (SURFACE)	2.6	0.05
061a	E1 (SURFACE)	11	0.05
062a	E3 (SURFACE)	3.6	0.05
063a	F3 (2')	0.55	0.05
064a	BGDA (SURFACE)	3.6	0.05
065a	BGDA (2')	0.33	0.05
066a	BGDB (SURFACE)	1.3	0.05
067a	BGDB (2')	0.77	0.05
068a	BGDB (SURFACE) DUPLICATE	1.7	0.05

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6020  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Cadmium	
		(mg/kg)	LOD (mg/kg)
071a	BGDC (SURFACE)	0.78	0.05
072a	BGDC (2')	0.4	0.05
073a	BGDD (SURFACE)	1	0.05
074a	BGDD (2')	0.38	0.05
075a	LAB BLANK	<0.05	0.05

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable



Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: Cw

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Chromium	
		(mg/kg)	LOD (mg/kg)
001a	A1 (SURFACE)	480	130
002a	A1 (2')	210	130
003a	A2 (SURFACE)	340	130
004a	A3 (SURFACE)	540	130
005a	A3 (1')	480	130
006a	A4 (SURFACE)	620	130
007a	B1 (SURFACE)	600	130
008a	B1 (2')	950	130
009a	B1 (2') DUPLICATE	1200	130
010a	B2 (SURFACE)	640	130
011a	B2 (2')	600	130
012a	B3 (SURFACE)	270	130
013a	B3 (2')	760	130
014a	B4 (SURFACE)	540	130
015a	B5 (SURFACE)	420	130
016a	B5 (2')	1300	130
017a	C1 (SURFACE)	460	130
018a	C1 (SURFACE) DUPLICATE	820	130
021a	C2 (SURFACE)	650	130
022a	C2 (2')	810	130
023a	C3 (SURFACE)	410	130
024a	F4 (2')	380	130
025a	C4 (SURFACE)	470	130
026a	C4 (2')	960	130
027a	C5 (SURFACE)	380	130
028a	D1 (SURFACE)	510	130
029a	D1 (2')	690	130
030a	D2 (SURFACE)	410	130
031a	D1 (2') DUPLICATE	550	130
032a	D3 (2')	680	130
033a	D4 (SURFACE)	280	130
034a	D4 (2')	820	130

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CR

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Chromium	
		(mg/kg)	LOD (mg/kg)
035a	D5 (2')	870	130
036a	D6 (SURFACE)	180	130
037a	D6 (2')	680	130
038a	D6 (SURFACE) DUPLICATE	<130	130
041a	E1 (2')	660	50
042a	E2 (SURFACE)	350	50
043a	E2 (2')	1500	50
044a	E3 (2')	910	50
045a	E4 (SURFACE)	490	50
046a	E4 (2')	1000	50
047a	F2 (SURFACE)	490	50
048a	F2 (2')	630	50
049a	F2 (2') DUPLICATE	620	50
050a	F3 (SURFACE)	350	50
051a	F4 (SURFACE)	440	50
052a	A2 (2')	1400	50
053a	A4 (2')	2600	50
054a	B4 (2')	960	50
055a	C1 (2')	760	50
056a	C3 (2')	1100	50
057a	C5 (2')	1500	50
058a	D2 (1')	270	50
059a	D3 (SURFACE)	1200	50
060a	D5 (SURFACE)	470	50
061a	E1 (SURFACE)	770	50
062a	E3 (SURFACE)	440	50
063a	F3 (2')	220	50
064a	BGDA (SURFACE)	480	50
065a	BGDA (2')	690	50
066a	BGDB (SURFACE)	650	50
067a	BGDB (2')	430	50
068a	BGDB (SURFACE) DUPLICATE	420	50

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Chromium	
		(mg/kg)	LOD (mg/kg)
071a	BGDC (SURFACE)	330	50
072a	BGDC (2')	690	50
073a	BGDD (SURFACE)	360	50
074a	BGDD (2')	930	50
075a	LAB BLANK	<2.5	2.5

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 7196  
Analyst: CC

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/14/96

Lab No.	Sample Identification	Hexavalent chromium	
		(mg/kg)	LOD (mg/kg)
052a	A2 (2')	<0.1	0.1
053a	A4 (2')	<0.1	0.1
054a	B4 (2')	<0.1	0.1
055a	C1 (2')	<0.1	0.1
056a	C3 (2')	<0.1	0.1
057a	C5 (2')	0.1	0.1
058a	D2 (1')	<0.1	0.1
059a	D3 (SURFACE)	<0.1	0.1
060a	D5 (SURFACE)	<0.1	0.1
061a	E1 (SURFACE)	<0.1	0.1
062a	E3 (SURFACE)	<0.1	0.1
063a	F3 (2')	<0.1	0.1
064a	BGDA (SURFACE)	<0.1	0.1
065a	BGDA (2')	<0.1	0.1
066a	BGDA (SURFACE)	<0.1	0.1
067a	BGDA (2')	<0.1	0.1
068a	BGDA (SURFACE) DUPLICATE	<0.1	0.1
071a	BGDC (SURFACE)	<0.1	0.1
072a	BGDC (2')	<0.1	0.1
073a	BGDC (SURFACE)	<0.1	0.1
074a	BGDD (2')	<0.1	0.1

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Lead	
		(mg/kg)	LOD (mg/kg)
001a	A1 (SURFACE)	884	50
002a	A1 (2')	739	50
003a	A2 (SURFACE)	7400	50
004a	A3 (SURFACE)	<50	50
005a	A3 (1')	<50	50
006a	A4 (SURFACE)	620	50
007a	B1 (SURFACE)	860	50
008a	B1 (2')	<50	50
009a	B1 (2') DUPLICATE	<50	50
010a	B2 (SURFACE)	7200	50
011a	B2 (2')	7200	50
012a	B3 (SURFACE)	330	50
013a	B3 (2')	<50	50
014a	B4 (SURFACE)	880	50
015a	B5 (SURFACE)	<50	50
016a	B5 (2')	<50	50
017a	C1 (SURFACE)	120	50
018a	C1 (SURFACE) DUPLICATE	180	50
021a	C2 (SURFACE)	1300	50
022a	C2 (2')	130	50
023a	C3 (SURFACE)	220	50
024a	F4 (2')	<50	50
025a	C4 (SURFACE)	320	50
026a	C4 (2')	<50	50
027a	C5 (SURFACE)	430	50
028a	D1 (SURFACE)	1100	50
029a	D1 (2')	<50	50
030a	D2 (SURFACE)	1400	50
031a	D1 (2') DUPLICATE	<50	50
032a	D3 (2')	<50	50
033a	D4 (SURFACE)	560	50
034a	D4 (2')	<50	50

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Lead	
		(mg/kg)	LOD (mg/kg)
035a	D5 (2')	<50	50
036a	D6 (SURFACE)	1700	50
037a	D6 (2')	<50	50
038a	D6 (SURFACE) DUPLICATE	1800	50
041a	E1 (2')	<20	20
042a	E2 (SURFACE)	440	20
043a	E2 (2')	95	20
044a	E3 (2')	94	20
045a	E4 (SURFACE)	690	20
046a	E4 (2')	<20	20
047a	F2 (SURFACE)	780	20
048a	F2 (2')	210	20
049a	F2 (2') DUPLICATE	430	20
050a	F3 (SURFACE)	380	20
051a	F4 (SURFACE)	1100	20
052a	A2 (2')	<20	20
053a	A4 (2')	110	20
054a	B4 (2')	150	20
055a	C1 (2')	110	20
056a	C3 (2')	<20	20
057a	C5 (2')	<20	20
058a	D2 (1')	230	20
059a	D3 (SURFACE)	510	20
060a	D5 (SURFACE)	620	20
061a	E1 (SURFACE)	2900	20
062a	E3 (SURFACE)	630	20
063a	F3 (2')	<20	20
064a	BGDA (SURFACE)	450	20
065a	BGDA (2')	<20	20
066a	BGDB (SURFACE)	130	20
067a	BGDB (2')	55	20
068a	BGDB (SURFACE) DUPLICATE	260	20

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 6010  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	Lead	
		(mg/kg)	LOD (mg/kg)
071a	BGDC (SURFACE)	170	20
072a	BGDC (2')	100	20
073a	BGDD (SURFACE)	240	20
074a	BGDD (2')	<20	20
075a	LAB BLANK	<1	1

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable



Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 9045  
Analyst: CR

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	pH
001a	A1 (SURFACE)	8.8
002a	A1 (2')	11.1
003a	A2 (SURFACE)	8.5
004a	A3 (SURFACE)	8.4
005a	A3 (1')	10.8
006a	A4 (SURFACE)	9.2
007a	B1 (SURFACE)	7.9
008a	B1 (2')	12.0
009a	B1 (2') DUPLICATE	12.3
010a	B2 (SURFACE)	8.6
011a	B2 (2')	11.9
012a	B3 (SURFACE)	9.0
013a	B3 (2')	12.4
014a	B4 (SURFACE)	8.8
015a	B5 (SURFACE)	11.1
016a	B5 (2')	12.3
017a	C1 (SURFACE)	8.9
018a	C1 (SURFACE) DUPLICATE	8.8
021a	C2 (SURFACE)	8.4
022a	C2 (2')	11.6
023a	C3 (SURFACE)	9.2
024a	F4 (2')	11.8
025a	C4 (SURFACE)	9.5
026a	C4 (2')	12.3
027a	C5 (SURFACE)	8.9
028a	D1 (SURFACE)	8.8
029a	D1 (2')	12.2
030a	D2 (SURFACE)	9.2
031a	D1 (2') DUPLICATE	12.4
032a	D3 (2')	12.4
033a	D4 (SURFACE)	9.1
034a	D4 (2')	12.3

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 9045  
Analyst: CR

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

Lab No.	Sample Identification	pH	
035a	D5 (2')	12.3	
036a	D6 (SURFACE)	8.9	
037a	D6 (2')	12.3	
038a	D6 (SURFACE) DUPLICATE	8.8	
041a	E1 (2')	12.4	
042a	E2 (SURFACE)	9.2	
043a	E2 (2')	12.0	
044a	E3 (2')	12.4	
045a	E4 (SURFACE)	9.0	
046a	E4 (2')	12.1	
047a	F2 (SURFACE)	9.4	
048a	F2 (2')	11.2	
049a	F2 (2') DUPLICATE	11.4	
050a	F3 (SURFACE)	9.1	
051a	F4 (SURFACE)	9.0	
052a	A2 (2')	11.9	
053a	A4 (2')	12.2	
054a	B4 (2')	11.7	
055a	C1 (2')	12.3	
056a	C3 (2')	12.4	
057a	C5 (2')	12.4	
058a	D2 (1')	11.0	
059a	D3 (SURFACE)	10.1	
060a	D5 (SURFACE)	8.6	
061a	E1 (SURFACE)	8.5	
062a	E3 (SURFACE)	9.6	
063a	F3 (2')	11.5	
064a	BGDA (SURFACE)	8.6	
065a	BGDA (2')	11.4	
066a	BGDB (SURFACE)	8.8	
067a	BGDB (2')	11.5	
068a	BGDB (SURFACE) DUPLICATE	8.9	

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Soil  
Analytical Method: EPA 9045  
Analyst: CR

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/13/96

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pH		
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Lab No.	Sample Identification	
071a	BGDC (SURFACE)	8.5
072a	BGDC (2')	11.2
073a	BGDD (SURFACE)	8.2
074a	BGDD (2')	11.3

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General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: BGD1 (SURFACE)  
Lab Number: 001a  
Sample Type: Soil/Sludge  
Analyst: DH

Date Sampled: 11/06/96  
Date Received: 11/15/96  
Moisture (%): 6

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	100	10	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Cadmium	<0.5	0.5	EPA 3050A 11/19/96	EPA 6020A 12/04/96
Chromium	250	25	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Lead	120	10	EPA 3050A 11/19/96	EPA 6010A 11/21/96

Sample Identification: BGD1 (2')  
Lab Number: 002a  
Sample Type: Soil/Sludge  
Analyst: DH

Date Sampled: 11/07/96  
Date Received: 11/15/96  
Moisture (%): 12

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	17	10	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Cadmium	<0.5	0.5	EPA 3050A 11/19/96	EPA 6020A 12/04/96
Chromium	530	25	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Lead	13	10	EPA 3050A 11/19/96	EPA 6010A 11/21/96

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: BGD2 (SURFACE)  
Lab Number: 003a  
Sample Type: Soil/Sludge  
Analyst: DH

Date Sampled: 11/07/96  
Date Received: 11/15/96  
Moisture (%): 25

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	140	10	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Cadmium	<0.5	0.5	EPA 3050A 11/19/96	EPA 6020A 12/04/96
Chromium	290	25	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Lead	270	20	EPA 3050A 11/19/96	EPA 6010A 11/21/96

Sample Identification: BGD2 (2')  
Lab Number: 004a  
Sample Type: Soil/Sludge  
Analyst: DH

Date Sampled: 11/07/96  
Date Received: 11/15/96  
Moisture (%): 22

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	34	10	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Cadmium	<0.5	0.5	EPA 3050A 11/19/96	EPA 6020A 12/04/96
Chromium	540	25	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Lead	43	20	EPA 3050A 11/19/96	EPA 6010A 11/21/96

**Analytical Results**  
for  
**DSC LTD.**  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: LAB BLANK  
Lab Number: 005a  
Sample Type: Soil/Sludge  
Analyst: DH

Date Sampled: --  
Date Received: 11/15/96  
Moisture (%): 0

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	<1	1	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Cadmium	<0.05	0.05	EPA 3050A 11/19/96	EPA 6020A 12/04/96
Chromium	<2.5	2.5	EPA 3050A 11/19/96	EPA 6010A 11/21/96
Lead	<1	1	EPA 3050A 11/19/96	EPA 6010A 11/21/96

**General Notes**

--: Information not available or not applicable.  
The results are reported on a dry weight basis.

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: BGD1 (SURFACE)  
Lab Number: 001  
Sample Type: Soil  
Analyst: BB

Date Sampled: 11/06/96  
Date Received: 11/15/96

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.1	0.1	EPA 7196	11/27/96

Sample Identification: BGD1 (SURFACE)  
Lab Number: 001  
Sample Type: Soil  
Analyst: MR

Date Sampled: 11/06/96  
Date Received: 11/15/96

Analyte	Concentration	LOD	Analytical Method	Date Analyzed
pH	9.3	--	EPA 9045	11/22/96



**Analytical Results**  
for  
**DSC LTD.**  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: BGD1 (2')  
Lab Number: 002  
Sample Type: Soil  
Analyst: BB

Date Sampled: 11/07/96  
Date Received: 11/15/96

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.1	0.1	EPA 7196	11/27/96

Sample Identification: BGD1 (2')  
Lab Number: 002  
Sample Type: Soil  
Analyst: MR

Date Sampled: 11/07/96  
Date Received: 11/15/96

Analyte	Concentration	LOD	Analytical Method	Date Analyzed
pH	12.3	--	EPA 9045	11/22/96

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: BGD2 (SURFACE)  
Lab Number: 003  
Sample Type: Soil  
Analyst: BB

Date Sampled: 11/07/96  
Date Received: 11/15/96

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.1	0.1	EPA 7196	11/27/96

Sample Identification: BGD2 (SURFACE)  
Lab Number: 003  
Sample Type: Soil  
Analyst: MR

Date Sampled: 11/07/96  
Date Received: 11/15/96

Analyte	Concentration	LOD	Analytical Method	Date Analyzed
pH	8.9	--	EPA 9045	11/22/96

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: BGD2 (2')  
Lab Number: 004  
Sample Type: Soil  
Analyst: BB

Date Sampled: 11/07/96  
Date Received: 11/15/96

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.1	0.1	EPA 7196	11/27/96

Sample Identification: BGD2 (2')  
Lab Number: 004  
Sample Type: Soil  
Analyst: MR

Date Sampled: 11/07/96  
Date Received: 11/15/96

Analyte	Concentration	LOD	Analytical Method	Date Analyzed
pH	12.3	--	EPA 9045	11/22/96

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44091.00/13-97153.00

Sample Identification: LAB BLANK  
Lab Number: 005  
Sample Type: Soil  
Analyst: MR

Date Sampled: --  
Date Received: --

Analyte	Concentration	LOD	Analytical Method	Date Analyzed
pH	7.0	--	EPA 9045	11/22/96

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Water  
Analytical Method: EPA 200.8  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/14/96

Lab No.	Sample Identification	Barium	
		(mg/L)	LOD (mg/L)
076a	EB-1	<0.2	0.2
077a	EB-2	<0.2	0.2
078a	LAB BLANK	<0.2	0.2

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type:	Water	Date Sampled:	11/06/96
Analytical Method:	EPA 200.8	Date Received:	11/08/96
Analyst:	CW	Date Analyzed:	11/14/96

Lab No.	Sample Identification	Cadmium	
		(mg/L)	LOD (mg/L)
076a	EB-1	0.007	0.0005
077a	EB-2	0.006	0.0005
078a	LAB BLANK	0.006	0.0005

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Water  
Analytical Method: EPA 200.8  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/14/96

Lab No.	Sample Identification	Chromium	
		(mg/L)	LOD (mg/L)
076a	EB-1	<0.05	0.05
077a	EB-2	<0.05	0.05
078a	LAB BLANK	<0.05	0.05



Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type: Water  
Analytical Method: EPA 200.8  
Analyst: CW

Date Sampled: 11/06/96  
Date Received: 11/08/96  
Date Analyzed: 11/14/96

Lab No.	Sample Identification	Lead	
		(mg/L)	LOD (mg/L)
076a	EB-1	<0.003	0.003
077a	EB-2	0.005	0.003
078a	LAB BLANK	<0.003	0.003

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 43861.00/13-97153.00

Sample Type:	Water	Date Sampled:	11/06/96
Analytical Method:	EPA 150.1	Date Received:	11/08/96
Analyst:	LH	Date Analyzed:	11/11/96

---

		pH
		-----
Lab No.	Sample Identification	
076a	EB-1	1.8
077a	EB-2	1.8

---

Table 1  
Analytical Results  
for  
DSC LTD.

Page 2 of 1

Clayton Project No. 46378.00/13-97153.00

Sample Identification: A5 (2')  
Lab Number: 001a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 29

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	0.52	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Chromium	630	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: B5 (4')  
Lab Number: 002a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 9

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	<0.05	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Chromium	1600	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: B5 (4') MS  
Lab Number: 003a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 8

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	<0.05	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Chromium	1500	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: B5 (4') MSD  
Lab Number: 004a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 7

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	0.06	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Chromium	1500	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: C6 SURFACE  
Lab Number: 005a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 23

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	3.3	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Chromium	700	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: C6 (2')  
Lab Number: 006a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 9

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	1.5	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Chromium	800	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: C5 (4')  
Lab Number: 007a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 6

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	<10	10	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Chromium	7400	27	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: A4 SOUTH (2')  
Lab Number: 008a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 13

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	2.4	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Chromium	460	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)  
Analytical Results  
for  
DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification:	B6 (2')	Date Sampled:	02/06/97
Lab Number:	009a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	15
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Chromium	740	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification:	A2 SOUTH (2')	Date Sampled:	02/05/97
Lab Number:	010a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	17
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Chromium	500	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97



Table 1 (continued)  
Analytical Results  
for  
DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification:	E2 (4')	Date Sampled:	02/06/97
Lab Number:	011a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	11
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Chromium	580	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification:	B1 EAST SURFACE	Date Sampled:	02/06/97
Lab Number:	012a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	22
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Lead	550	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: G4 SURFACE  
Lab Number: 013a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 19

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Lead	490	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: A1 EAST SURFACE  
Lab Number: 014a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 13

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	<0.05	0.05	EPA 3050A 02/13/97	EPA 6020 02/18/97
Lead	190	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification:	A1 SOUTH SURFACE	Date Sampled:	02/05/97
Lab Number:	015a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	20
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	10	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Lead	740	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification:	A2 SOUTH SURFACE	Date Sampled:	02/05/97
Lab Number:	016a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	16
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	<0.05	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	19	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: A5 SURFACE  
Lab Number: 017a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 22

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	1.7	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Lead	220	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: A4 SOUTH SURFACE  
Lab Number: 018a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 18

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	4.3	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Lead	270	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: B2 (4')  
Lab Number: 019a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 7

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	0.06	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Lead	5	1	EPA 3050A 02/13/97	EPA 6020 02/18/97

Sample Identification: D7 SURFACE  
Lab Number: 020a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 17

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	3.1	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	460	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: E1 EAST SURFACE  
Lab Number: 021a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 21

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	0.61	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	90	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: A2 SOUTH SURFACE DUPLICATE  
Lab Number: 022a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/07/97  
Moisture (%): 19

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Cadmium	2	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	270	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)  
Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46378.00/13-97153.00

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Sample Identification: D2 (4')  
Lab Number: 023a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 10

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	52	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97
Cadmium	0.28	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	15	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: F1 (2')  
Lab Number: 024a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 12

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	140	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97
Cadmium	1	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	160	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: G2 (2')  
Lab Number: 025a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 11

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	86	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97
Cadmium	0.95	0.05	EPA 3050A 02/13/97	EPA 7131A 02/19/97
Lead	270	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: F1 SURFACE  
Lab Number: 026a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 14

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	64	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97
Lead	440	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97



Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification: G2 SURFACE  
Lab Number: 027a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 22

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	55	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97
Lead	640	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification: G2 SURFACE DUPLICATE  
Lab Number: 028a  
Sample Type: Soil/Sludge  
Analyst: CW

Date Sampled: 02/06/97  
Date Received: 02/07/97  
Moisture (%): 26

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	58	1	EPA 3050A 02/13/97	EPA 6010A 02/18/97
Lead	990	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)  
Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46378.00/13-97153.00

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Sample Identification:	A1 EAST (2')	Date Sampled:	02/05/97
Lab Number:	029a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	16
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Lead	99	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification:	A1 SOUTH (2')	Date Sampled:	02/05/97
Lab Number:	030a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	12
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Lead	270	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 46378.00/13-97153.00

Sample Identification:	D1 EAST SURFACE	Date Sampled:	02/06/97
Lab Number:	031a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	17
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Lead	520	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

Sample Identification:	LAB BLANK	Date Sampled:	--
Lab Number:	032a	Date Received:	02/07/97
Sample Type:	Soil/Sludge	Moisture (%):	0
Analyst:	CW		

Analyte	Concentration (mg/kg)	LOD (mg/kg)	Preparation Method and Date	Analytical Method and Date
Barium	<1	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97
Cadmium	<0.05	0.05	EPA 3050A 02/13/97	EPA 7131A 02/20/97
Chromium	<2.5	2.5	EPA 3050A 02/13/97	EPA 6010A 02/19/97
Lead	<1	1	EPA 3050A 02/13/97	EPA 6010A 02/19/97

General Notes

--: Information not available or not applicable.  
The results are reported on a dry weight basis.

**APPENDIX C**  
**CLAYTON HYDROGEOLOGICAL ASSESSMENT REPORT**



**Hydrogeological Investigation  
for the Former  
Approved Electric Arc Furnace Dust Storage Area  
at the  
Former McLouth Steel Products Corporation Facility  
Trenton, Michigan**

**Submitted to  
DSC Ltd.  
Trenton, Michigan**

**Clayton Project No. 13-97153.00**

**December 9, 1997**



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ENVIRONMENTAL  
CONSULTANTS

**Hydrogeological Investigation  
for the Former  
Approved Electric Arc Furnace Dust Storage Area  
at the  
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Trenton, Michigan**

**Submitted to  
DSC Ltd.  
Trenton, Michigan**

**Clayton Project No. 13-97153.00**

**December 9, 1997**

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B	ANALYTICAL RESULTS OF GROUNDWATER SAMPLES

## **1.0 INTRODUCTION**

Clayton Environmental Consultants, Inc. is pleased to submit its report of a hydrogeologic investigation conducted at the former McLouth Steel Products Corporation Trenton Plant located at 1491 West Jefferson Avenue in Trenton, Michigan. Clayton conducted this investigation in accordance with the approved plan for closure of the Electric Arc Furnace Dust (EAFD) interim status hazardous waste storage pile.

The purpose of the investigation was to evaluate barium, cadmium, chromium, hexavalent chromium, and lead in groundwater at the former emission control dust storage area located at the site.

## **2.0 SITE BACKGROUND**

The former McLouth Steel Products Corporation Trenton, Michigan plant is now owned by DSC Ltd. The plant site is bounded on the west and north by Jefferson Avenue, on the south by King Road, and on the east by the Detroit River. The former interim status EAFD storage area is located on the north end of the property, just north of the east extension of Sibley Road. Figure 1 presents a site location map.

## **3.0 SUMMARY OF SUBSURFACE INVESTIGATION ACTIVITIES**

The following is a summary of activities performed as a part of Clayton's hydrogeological investigation:

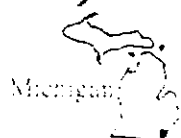
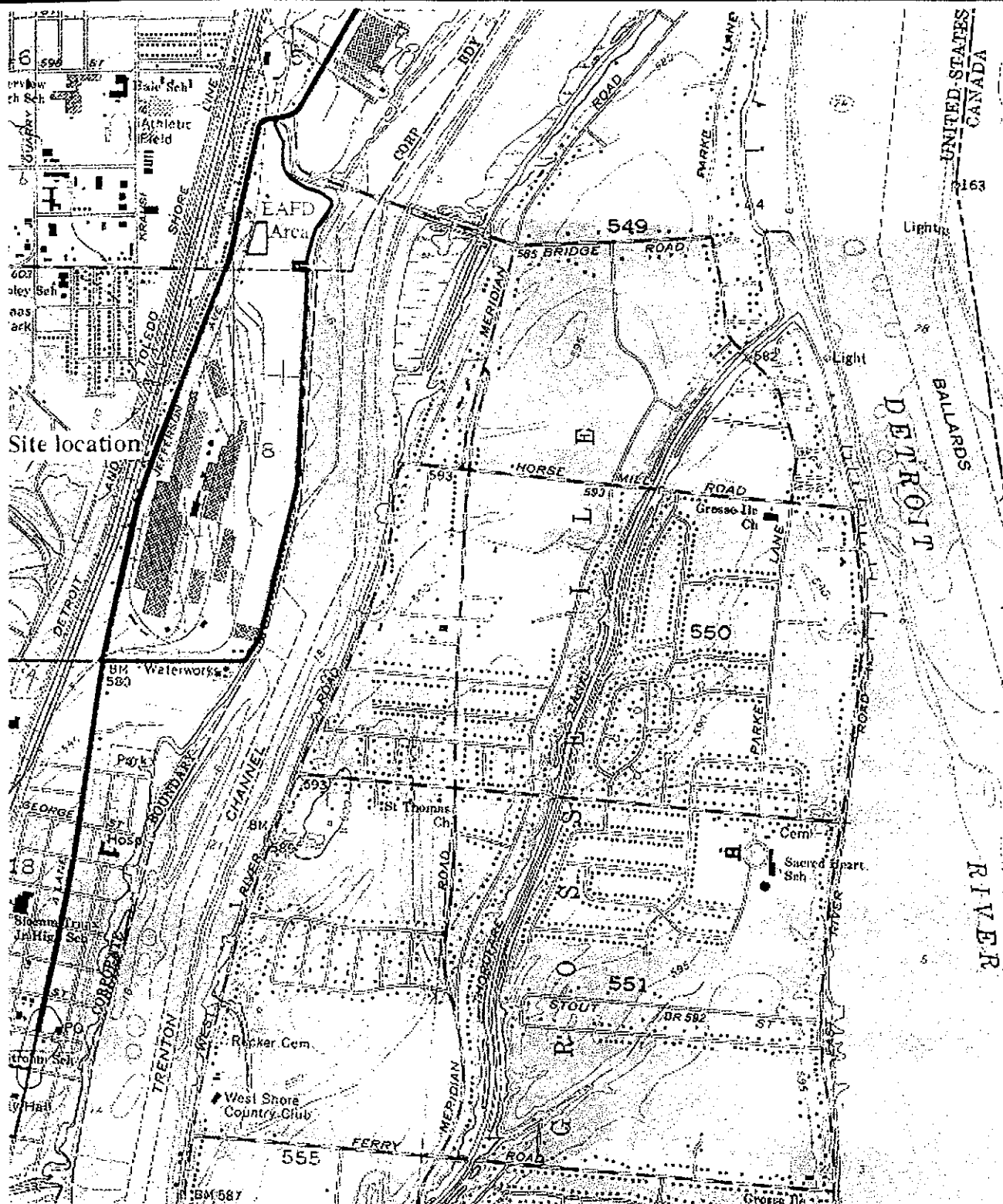
- Installation of three additional monitoring wells and replacement of one existing monitoring well downgradient of the former EAFD storage area
- Collection of groundwater samples from the five monitoring wells on a quarterly basis
- Measurement of water levels in the five monitoring wells on a quarterly basis

### **3.1 MONITORING WELL INSTALLATION**

On October 30, October 31, November 1, and November 20, 1996, Clayton installed Monitoring Wells MW-2, MW-3, MW-4, and MW-5 (Figure 2). Two monitoring wells existed from a previous hydrogeologic investigation conducted at the property (Monitoring Wells MW-1 and MW-3). Clayton was unable to utilize existing Monitoring Well MW-3 due to a bent casing and metal debris blockage within the monitoring well. A replacement Monitoring Well MW-3 was installed in approximately the same location. Following the drilling of Monitoring Well MW-2 on October 30, 1996, dry conditions were encountered. On November 20, 1996, Clayton permanently abandoned Monitoring Well MW-2 by (1) removing the well from the ground and (2) filling the hole to the surface with bentonite and cement grout. Clayton installed a replacement Monitoring Well MW-2 on November 20, 1996 approximately 20 feet southeast of the former Monitoring Well MW-2 in an accessible area near the access road.

Hollow-stem augers (4-1/4-inch inside diameter) were used to advance the boreholes. Soil samples were extracted from the borings using a 2-foot-long split-spoon at 5-foot deep intervals from ground surface to the final depths of the borings for soil conditions and types. The soil samples collected were not submitted for laboratory analysis.





Portion of 7.5-minute Series  
Topographic Map  
United States Department of the Interior  
Geological Survey

Wyandotte, Michigan-Ontario-Canada  
Quadrangle  
1967  
Photorevised in 1981

Approximate Scale  
0 feet 2000

**Figure 1**  
**Site location**

**Clayton**  
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**Former McLouth Steel Products  
Corporation Trenton Plant  
Trenton, Michigan**

Project No. 13-97153.00

December 9, 1997

Each monitoring well was constructed using a threaded, 2-inch-diameter, polyvinyl chloride (PVC) casing and a 5-foot-long section of 10-slot PVC well screen. The screens had a slot thickness of 0.01 inches. Glues were not used on the casing joints and screen connectors. The well screens were placed at a depth to straddle the top of the water table to allow for seasonal fluctuations in the water table. The monitoring wells were designed to allow (1) groundwater in the water-bearing soil surrounding the screen to seep into the well casing until the static water level (groundwater surface depth) in the well equaled the static water level in surrounding soil, (2) measurement of groundwater surface depth, and (3) collection of groundwater samples at the depth of the screens for laboratory analyses. Clayton developed each monitoring well by bailing at least three times the initial volume of groundwater from the well casing (equal to the cross-sectional area of the riser times the length of the water column in the riser). The monitoring wells were constructed as follows:

1. The annular void between the well screen and the borehole was filled with a noncementing, coarse-grained, silica sand filter pack (from the bottom of the boring to a vertical position of 1 foot above the well screen); this filter pack minimized the concentration of soil particulates in the groundwater sample.
2. A 2-foot-long column of bentonite pellets was placed above the sand to seal the annular void.
3. The remainder of the borehole was filled with a bentonite and cement grout. A water-resistant locking cap was placed on each well casing and an aboveground protective steel cover was installed over the top of the monitoring well.

Clayton examined soil samples from each boring as the drilling contractor (Rau Drilling) extracted soil from each boring; placed the samples in labeled, precleaned glass jars; and stored the sample jars in ice-cooled containers. Clayton prepared a geologic log for each boring based on soil inspection. Clayton visually inspected soil samples from each boring for indications of contamination and screened the samples with a photoionization detector (PID). Soil boring logs including the PID field screening results have been included as Appendix A.

### **3.2 EQUIPMENT DECONTAMINATION**

The drilling contractors and Clayton decontaminated sampling equipment (e.g., split spoons, augers) before collecting soil samples. The sampling equipment was decontaminated in the following order:

1. Washing and scrubbing the equipment with a nonphosphate detergent solution
2. Rinsing the equipment with tap water
3. Rinsing the equipment with deionized water
4. Air-drying the equipment

### **3.3 GROUNDWATER SAMPLES**

On November 8 and 20, 1996, February 5, 1997, May 23, 1997, and August 27, 1997, Clayton collected groundwater samples from each monitoring well (Monitoring Wells MW-1 through MW-5). Groundwater elevations were measured during each sampling

event. On December 9, 1996, Clayton performed an additional measurement of water levels in each of the five monitoring wells.

Clayton collected groundwater samples from the five monitoring wells after (1) measuring the water depth in each well and (2) purging at least three times the initial volume of groundwater in the well. Clayton then collected the sample using a dedicated disposable bailer after sufficient groundwater seeped into the well.

All groundwater samples were analyzed for barium, cadmium, chromium, lead, hexavalent chromium, and measured for pH. All groundwater samples collected for barium, cadmium, chromium, and lead were field filtered using a dedicated 0.45-micron filter into containers preserved with nitric acid. All groundwater samples collected for hexavalent chromium were placed directly into the appropriate container. All groundwater samples collected for pH were measured in the field.

Clayton collected Equipment Blank EB-3 on November 8, 1996, Equipment Blank EB-1 on February 5, 1997, and Equipment Blank EB-1 on August 27, 1997 after (1) rinsing the disposable bailers with deionized water and (2) placing the water in the appropriate containers. An equipment blank was not collected during the May 23, 1997 sampling event. Matrix spike and matrix spike duplicate samples were collected from Monitoring Well MW-3 and a duplicate sample was collected from Monitoring Well MW-4 on November 8, 1996.

### 3.4 SAMPLE COLLECTION AND PRESERVATION

Groundwater samples were collected in laboratory-grade containers, and preserved and stored following United States Environmental Protection Agency (USEPA) Publication SW-846, *Testing Methods for Evaluating Solid Waste*. Clayton transported the samples in ice-cooled containers to Clayton's analytical laboratory in Novi, Michigan.

For samples intended for barium, cadmium, chromium, hexavalent chromium, and lead analyses, Clayton used sample jars that the supplier (1) washed with detergent, (2) rinsed three times with deionized water, (3) rinsed with acid, (4) rinsed three times with organic-free water, (5) oven dried, (6) rinsed with solvent, and (7) oven dried.

### 3.5 SURVEYING

On December 9 and 10, 1996, a surveyor (JCK & Associates, Inc.) retained by Clayton surveyed the relative locations of four new and one existing monitoring wells and the top-of-casing elevations (refer to Figure 2). The elevations of the top of the monitoring well casings were measured relative to a benchmark located at King Road and Jefferson Avenue.

### 3.6 SITE HYDROGEOLOGY

Clayton typically encountered fill materials (e.g., metals debris, bricks, concrete, refuse) from ground surface to a depth of approximately 12 feet below ground surface except at Monitoring Well MW-4 (see below). Clayton also typically encountered a moist, native clayey sand from 12 feet below ground surface to the final depths of the borings. Monitoring Well MW-2 was advanced to a depth of 17 feet below ground surface, Monitoring Wells MW-3 and MW-5 were advanced to a depth of 18 feet below ground surface, and Monitoring Well MW-4 was advanced to a depth of 30 feet below ground surface. Monitoring Well MW-4 was advanced in an elevated area of debris created by activities conducted at the site.

The groundwater depths in each monitoring well were measured using an electric water-level indicator. The depth to groundwater measured in each well was from the surveyed mark on the top of the well casing to the groundwater surface in the well. The water depth was recorded to the nearest 0.01 feet. The elevation of the top of each well casing was measured by the surveyor. Groundwater surface elevations (piezometric head) were computed from the top of casing elevations and the measured water depths. Groundwater moves in accordance with the hydraulic gradient from points of high hydraulic head to points of low hydraulic head. The contour lines on the groundwater surface map connect points of equal head. The movement of groundwater is perpendicular to these equal head contour lines.

The piezometric heads in monitoring wells for each groundwater measurement date (November 20, 1996; December 9, 1996, February 5, 1997, May 23, 1997, and August 27, 1997) have been included in Table 1.

Using the elevations of the monitoring wells and depth to groundwater measurements in each monitoring well from December 9, 1996, Clayton triangulated the piezometric elevation differences between the EAFD monitoring wells and estimated the groundwater flow direction is toward the south-southeast. Groundwater surface elevations and interpolated flow direction for the December 9, 1996 elevations have been included on Figure 2.

#### **4.0     LABORATORY ANALYSIS**

Clayton analyzed the groundwater samples for barium, cadmium, chromium, lead, and hexavalent chromium using USEPA 6000- and 7000-series methods.

#### **5.0     ANALYTICAL RESULTS**

Tables 2 through 5 summarize groundwater analytical results for metals in samples from the November 8 and 20, 1996, February 5, 1997, May 23, 1997, and August 27, 1997 groundwater sampling events. Detailed analytical reports are included as Appendix B.

**Table 1**  
**Piezometric Head in Monitoring Wells**

Monitoring Well	Elevation of Top of Monitoring Well Casing (feet)	Depth from Top of Casing to Groundwater Surface (feet)	Elevation of Groundwater Surface (feet)
Groundwater Measurement Date: November 20, 1996			
MW-1	590.88	10.70	580.18
MW-2	593.19	18.33	574.86
MW-3	592.92	17.47	575.45
MW-4	603.02	27.86	575.16
MW-5	591.72	16.46	575.26
Groundwater Measurement Date: December 9, 1996			
MW-1	590.88	11.03	579.85
MW-2	593.19	17.07	576.12
MW-3	592.92	17.82	575.10
MW-4	603.02	28.20	574.82
MW-5	591.72	16.93	574.79
Groundwater Measurement Date: February 5, 1997			
MW-1	590.88	10.63	580.25
MW-2	593.19	16.58	576.61
MW-3	592.92	17.29	575.63
MW-4	603.02	27.88	575.14
MW-5	591.72	16.38	575.34
Groundwater Measurement Date: May 23, 1997			
MW-1	590.88	10.86	580.02
MW-2	593.19	16.99	576.20
MW-3	592.92	16.88	576.04
MW-4	603.02	27.16	575.86
MW-5	591.72	15.78	575.94
Groundwater Measurement Date: August 27, 1997			
MW-1	590.88	10.96	579.92
MW-2	593.19	17.02	576.17
MW-3	592.92	16.95	575.97
MW-4	603.02	27.22	575.80
MW-5	591.72	15.73	575.99

**Table 2**  
**Summary of Analytical Results for Metals in Groundwater**  
**Clayton Project No. 13-97153.00**  
**Sampling Dates: November 8 and 20, 1996**

Analyte	Sample Concentration (mg/L)					
	Barium	Cadmium	Chromium	Chromium (VI)	Lead	pH
Sample Identification						
MW-1	<0.2	0.015	0.1	<0.05*	0.013	11.27
MW-2	<0.2	<0.0005	0.08	<0.05*	<0.003	11.70
MW-3	0.55	0.013	0.12	<0.05*	0.012	12.52
MW-3 MS	0.61	0.016	0.12	NA	0.013	NA
MW-3 MSD	0.53	0.014	<0.05	NA	0.02	NA
MW-4	0.54	0.017	<0.05	<0.05*	0.026	12.61
MW-4 Duplicate	0.46	0.016	<0.05	NA	0.022	NA
MW-5	<0.2	0.017	0.11	<0.05*	0.011	12.02
EB-3	<0.2	0.015	0.12	NA	0.011	11.40

mg/L = milligrams per liter or parts per million (ppm)

NA = not analyzed or applicable

\* Limit of detection was raised due to matrix interference

**Table 4**  
**Summary of Analytical Results for Metals in Groundwater**  
**Clayton Project No. 13-97153.00**  
**Sampling Date: May 23, 1997**

Analyte	Sample Concentration (mg/L)					
	Barium	Cadmium	Chromium	Chromium (VI)	Lead	pH
Sample Identification						
MW-1	<0.2	0.0078	<0.05	<0.05	0.004	11.59
MW-2	<0.2	0.011	<0.05	<0.05	0.021	12.32
MW-3	0.5	0.0083	<0.05	<0.05	0.079	12.75
MW-4	0.4	0.0068	<0.05	<0.05	0.073	12.73
MW-5	<0.2	0.0074	<0.05	<0.05	0.085	12.69

mg/L = milligrams per liter or parts per million (ppm)

**Table 3**  
**Summary of Analytical Results for Metals in Groundwater**  
**Clayton Project No. 13-97153.00**  
**Sampling Date: February 5, 1997**

Analyte	Sample Concentration (mg/L)					
	Barium	Cadmium	Chromium	Chromium (VI)	Lead	pH
Sample Identification						
MW-1	<0.2	<0.0005	<0.05	<0.005	<0.003	11.45
MW-2	0.2	<0.0005	<0.05	<0.05*	<0.003	12.30
MW-3	0.6	<0.0005	<0.05	<0.05*	<0.003	12.75
MW-4	0.4	<0.0005	<0.05	<0.05*	<0.003	12.82
MW-5	0.2	<0.0005	<0.05	<0.05*	<0.003	12.65
EB-1	<0.2	<0.0005	<0.05	<0.005	<0.003	10.73

mg/L = milligrams per liter or parts per million (ppm)

\* Limit of detection was raised due to sample matrix



**Table 5**  
**Summary of Analytical Results for Metals in Groundwater**  
**Clayton Project No. 13-97153.00**  
**Sampling Date: August 27, 1997**

Analyte	Sample Concentration (mg/L)					
	Barium	Cadmium	Chromium	Chromium (VI)	Lead	pH
Sample Identification						
MW-1	<0.2	<0.0005	<0.05	<0.05*	<0.003	11.74
MW-2	0.2	<0.0005	<0.05	<0.05*	0.023	12.42
MW-3	0.5	<0.0005	<0.05	<0.005	0.007	13.17
MW-4	0.4	<0.0005	<0.05	<0.05*	0.004	13.24
MW-5	0.5	<0.0005	0.15	<0.05*	0.19	13.13
EB-1	<0.2	<0.0005	<0.05	<0.05*	<0.003	NA

mg/L = milligrams per liter or parts per million (ppm)

NA = not analyzed

\* Limit of detection was raised due to sample matrix

**Hydrogeological Investigation  
for the Former  
Approved Electric Arc Furnace Dust Storage Area  
at the  
Former McLouth Steel Products Corporation  
Trenton, Michigan.**

**Submitted to  
DSC Ltd.  
Trenton, Michigan**

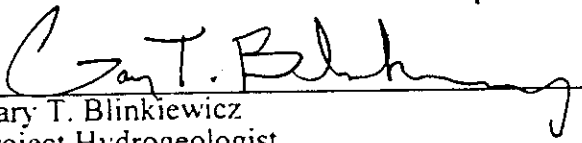
**Clayton Project No. 13-97153.00**

**December 9, 1997**

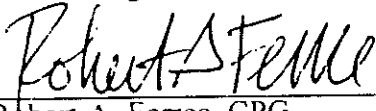
**Limitations**

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This report submitted by:

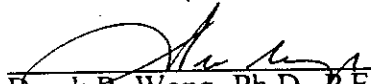
  
Gary T. Blinkiewicz  
Project Hydrogeologist  
Environmental Risk Management and Remediation  
Detroit Regional Office

This report reviewed by:

  
Robert A. Ferree, CPG  
Senior Geologist and Supervisor of Geosciences  
Environmental Risk Management and Remediation  
Detroit Regional Office

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This report reviewed by:

  
Derek R. Wong, Ph.D., P.E.  
Senior Hydrogeologist and Manager  
Environmental Risk Management and Remediation  
Detroit Regional Office

**APPENDIX A**  
**SOIL BORING LOGS**

# Boring Log

**Clayton**  
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## Clayton Boring MW-2

Final depth	17 feet BGS	ft	R	Soil	N	Soil Type	Color	Soil Moisture	Comment	PID ppm
Page	1 of 1	0								
Boring location	Former McLouth Steel Plant	2								
Client	DSC Ltd.	4								
Project No.	13-97153.00.004	6								
Site	Former McLouth Steel Plant	8								
Clayton geologist	Gary Blinkiewicz	10								
Driller	Rau Drilling	12								
Start date	20 Nov 96									
Final date	20 Nov 96									
Method	Hollow stem auger									
Auger OD	4.25 inches									
Sampler										
Elevation										
Datum										
Ground surface	feet	14								
Monitoring Well	MW-2	16	80		18	CLAYEY SAND with pebbles	Black	Moist	No odor	0
TOC elevation	feet				62					
Grout interval	3.0 feet BGS				9					
Bentonite plug	2.0 feet thick				7					
Filter pack interval	11.0 feet BGS	18								
Screen length	5.0 feet									
Slot size	0.10 inches									
Screen bottom	17.0 feet BGS	20								
Grout method										
Pack material	sand									
Grout material										
Development	purge	22								
Well lock No.										
Groundwater	Date 1									
Static level	feet below TOC	24								
Elevation	feet									
Volume purged	gallons									
Conductivity	µmhos									
Temperature	°F	26								
pH										
Static level	feet below TOC	28								
Elevation	feet									
Volume purged	gallons									
Conductivity	µmhos									
Temperature	°F									
pH		30								

End of Boring

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

# Boring Log

Clayton  
ENVIRONMENTAL  
CONSULTANTS

## Clayton Boring MW-3

Final depth	18 feet BGS	ft	R	Soil	N	Soil Type	Color	Soil Moisture	Comment	PID ppm
Page	1 of 1	0								
Boring location	Former McLouth Steel Plant	2								
Client	DSC Ltd.	4								
Project No.	13-97153.00.004	50			30	SAND fill with pieces of cement	Dark Brown	Dry	No odor	0
Site	Former McLouth Steel Plant	6			25			Dry		
		8			25			Dry		
					25			Dry		
Clayton geologist	Nick McCullough									
Driller	Rau Drilling	10	50		36	CLAYEY SILT fill with pieces of concrete and rock	Brown	Dry	No odor	0
Start date	1 Nov 96				18			Dry		
Final date	1 Nov 96				50			Dry		
Method	Hollow stem auger				4			Dry		
Auger OD	4.25 inches	12								
Sampler										
Elevation										
Datum										
Ground surface	feet	14								
Monitoring Well	MW-3	10			12	SAND, medium- to coarse-grained	Black	Moist	No odor	0
TOC elevation	feet				12			Moist		
Grout interval	3.0 feet BGS	16			13			Moist		
Bentonite plug	2.0 feet thick				13			Moist		
Filter pack interval	11.0 feet BGS	18								
Screen length	5.0 feet									
Slot size	0.10 inches									
Screen bottom	18.0 feet BGS	20								
Grout method										
Pack material	sand									
Grout material										
Development	purge	22								
Well lock No.										
Groundwater	Date 1									
Static level	feet below TOC	24								
Elevation	feet									
Volume purged	gallons									
Conductivity	µmhos									
Temperature	°F	26								
pH										
	Date 2									
Static level	feet below TOC									
Elevation	feet	28								
Volume purged	gallons									
Conductivity	µmhos									
Temperature	°F									
pH										
		30								

End of Boring

Clayton  
ENVIRONMENTAL  
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**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

30 feet BGS		n	R	Soil	N	Soil Type	Color	Soil Moisture	Comment	PID ppm
1 of 1 Former McLouth Steel Plant		0								
DSC Ltd.		2								
13-97153.00.004		4								
Former McLouth Steel Plant		6	50	7	11	SAND fill with pebbles, pieces of brick, metal debris, and refuse	Black	Dry Dry Dry Dry	No odor	
Gary Blinkiewicz		8			13					
Rau Drilling 31 Oct 96 1 Nov 96 Hollow stem auger 4.25 inches		10	70	46	45	CLAYEY SAND fill with pebbles, pieces of brick, and metal debris	Black	Dry Dry Dry Dry	No odor	
		12			50					
feet		14			50					
MW-4										
feet										
3.0 feet BGS		16								
21.0 feet BGS										
2.0 feet thick										
23.0 feet BGS		18								
30.0 feet BGS										
5.0 feet										
0.10 inches										
30.0 feet BGS		20	100	20	18	CLAYEY SAND fill with pebbles, rock, and pieces of brick	Brown	Dry Dry Dry Dry	No odor	
sand					8					
purge		22			7					
Date 1										
feet below TOC		24								
feet										
gallons										
μmhos										
°F		26	20	33	36	CLAYEY SAND with pebbles	Black/Gray	Dry Dry Moist Moist	No odor	
Date 2					50					
feet below TOC					4					
feet		28								
gallons										
μmhos										
°F										
		30								

Clayton  
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End of  
Boring

# Boring Log

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

## Clayton Boring MW-5

Final depth		18 feet BGS	n	R	Soil	N	Soil Type	Color	Soil Moisture	Comment	PID ppm
Page	1 of 1		0								
Boring location	Former McLouth Steel Plant										
Client	DSC Ltd.		2								
Project No.	13-97153.00.004		4								
Site	Former McLouth Steel Plant		6								
			8								
Clayton geologist	Gary Blinkiewicz		10	60		26		Black	Dry	No odor	0
Driller	Rau Drilling					25			Dry		
Start date	30 Oct 96					26			Dry		
Final date	30 Oct 96					30			Dry		
Method	Hollow stem auger								Dry		
Auger OD	4.25 inches		12								
Sampler											
Elevation											
Datum											
Ground surface	feet		14								
Monitoring Well	MW-4		40			9		Brown	Dry	No odor	0
TOC elevation	feet					11					
Grout interval	3.0 feet BGS		16			15			Dry		
Bentonite plug	2.0 feet thick					17			Moist		
Filter pack interval	11.0 feet BGS		18								
Screen length	5.0 feet										
Slot size	0.10 inches										
Screen bottom	18.0 feet BGS		20								
Grout method	sand										
Pack material											
Grout material											
Development	purge		22								
Well lock No.											
Groundwater	Date 1										
Static level	feet below TOC										
Elevation	feet		24								
Volume purged	gallons										
Conductivity	µmhos										
Temperature	°F		26								
pH											
	Date 2										
Static level	feet below TOC										
Elevation	feet		28								
Volume purged	gallons										
Conductivity	µmhos										
Temperature	°F										
pH			30								

End of Boring

**Clayton**  
ENVIRONMENTAL  
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**APPENDIX B**  
**ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**

Table 1  
Analytical Results  
for  
DSC LTD.

Page 2 of 2

Clayton Project No. 43906.00/13-97153.00

Sample Identification: MW-1  
Lab Number: 001a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.015	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	0.1	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.013	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Sample Identification: MW-3  
Lab Number: 002a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.55	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.013	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	0.12	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.012	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 43906.00/13-97153.00

Sample Identification: MW-4  
Lab Number: 003a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96

Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.54	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.017	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	<0.05	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.026	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Sample Identification: MW-5  
Lab Number: 004a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96

Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.017	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	0.11	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.011	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Table 1 (continued)

Analytical Results

for

DSC LTD.

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Clayton Project No. 43906.00/13-97153.00

Sample Identification: EB-3  
Lab Number: 005a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.015	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	0.12	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.011	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Sample Identification: MW-4 DUPLICATE  
Lab Number: 006a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.46	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.016	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	<0.05	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.022	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Table 1 (continued)  
Analytical Results  
for  
DSC LTD.

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Clayton Project No. 43906.00/13-97153.00

Sample Identification: MW-3 MS  
Lab Number: 007a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.61	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.016	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	0.12	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.013	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Sample Identification: MW-3 MSD  
Lab Number: 008a  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/08/96  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.53	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	0.014	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	<0.05	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	0.02	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

Table 1 (continued)  
Analytical Results  
for

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DSC LTD.

Clayton Project No. 43906.00/13-97153.00

Sample Identification: LAB BLANK  
Lab Number: 009a  
Sample Type: Water  
Analyst: CW

Date Sampled: --  
Date Received: 11/11/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.20	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Cadmium	<0.0005	0.0005	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Chromium	<0.05	0.05	EPA 3020A 11/19/96	EPA 200.8 11/26/96
Lead	<0.003	0.003	EPA 3020A 11/19/96	EPA 200.8 11/26/96

General Notes

--: Information not available or not applicable.

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44250.00/13-97153.00

Sample Identification: MW-1  
Lab Number: 001  
Sample Type: Water  
Analyst: CR

Date Sampled: 11/20/96  
Date Received: 11/21/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05	EPA 7196	11/21/96

Sample Identification: MW-2  
Lab Number: 002  
Sample Type: Water  
Analyst: CR

Date Sampled: 11/20/96  
Date Received: 11/21/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05	EPA 7196	11/21/96

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44250.00/13-97153.00

Sample Identification: MW-2  
Lab Number: 002b  
Sample Type: Water  
Analyst: CW

Date Sampled: 11/20/96  
Date Received: 11/21/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.2	EPA 3020A 11/26/96	EPA 6020A 12/04/96
Cadmium	<0.0005	0.0005	EPA 3020A 11/26/96	EPA 6020A 12/04/96
Chromium	0.08	0.05	EPA 3020A 11/26/96	EPA 6020A 12/04/96
Lead	<0.003	0.003	EPA 3020A 11/26/96	EPA 6020A 12/04/96



Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44250.00/13-97153.00

Sample Identification: MW-3  
Lab Number: 003  
Sample Type: Water  
Analyst: CR

Date Sampled: 11/20/96  
Date Received: 11/21/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05	EPA 7196	11/21/96

Sample Identification: MW-4  
Lab Number: 004  
Sample Type: Water  
Analyst: CR

Date Sampled: 11/20/96  
Date Received: 11/21/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05	EPA 7196	11/21/96

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 44250.00/13-97153.00

Sample Identification: MW-5  
Lab Number: 005  
Sample Type: Water  
Analyst: CR

Date Sampled: 11/20/96  
Date Received: 11/21/96

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05	EPA 7196	11/21/96

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

Limit of detection was raised due to matrix interference.

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification: MW-1  
Lab Number: 001a  
Sample Type: Water  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

Sample Identification: MW-2  
Lab Number: 002a  
Sample Type: Water  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.2	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification: MW-3  
Lab Number: 003a  
Sample Type: Water  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.6	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

Sample Identification: MW-4  
Lab Number: 004a  
Sample Type: Water  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.4	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification:	MW-5	Date Sampled:	02/05/97
Lab Number:	005a	Date Received:	02/06/97
Sample Type:	Water		
Analyst:	CW		

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	0.2	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

Sample Identification:	EB-1	Date Sampled:	02/05/97
Lab Number:	006a	Date Received:	02/06/97
Sample Type:	Water		
Analyst:	CW		

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification: LAB BLANK  
Lab Number: 007a  
Sample Type: Water  
Analyst: CW

Date Sampled: 02/05/97  
Date Received: 02/05/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Barium	<0.2	0.2	EPA 3020A 02/17/97	EPA 6020 02/19/97
Cadmium	<0.0005	0.0005	EPA 3020A 02/17/97	EPA 6020 02/19/97
Chromium	<0.05	0.05	EPA 3020A 02/17/97	EPA 6020 02/19/97
Lead	<0.003	0.003	EPA 3020A 02/17/97	EPA 6020 02/19/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification: MW-1  
Lab Number: 001  
Sample Type: Water  
Analyst: CR

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.005	0.005	EPA 7196	02/06/97

Sample Identification: MW-2  
Lab Number: 002  
Sample Type: Water  
Analyst: CR

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05 (a)	EPA 7196	02/06/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification: MW-3  
Lab Number: 003  
Sample Type: Water  
Analyst: CR

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05 (a)	EPA 7196	02/06/97

Sample Identification: MW-4  
Lab Number: 004  
Sample Type: Water  
Analyst: CR

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05 (a)	EPA 7196	02/06/97



Analytical Results  
for  
DSC LTD.  
Clayton Project No. 46319.00/13-97153.00

Sample Identification: MW-5  
Lab Number: 005  
Sample Type: Water  
Analyst: CR

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05	0.05 (a)	EPA 7196	02/06/97

Sample Identification: EB-1  
Lab Number: 006  
Sample Type: Water  
Analyst: CR

Date Sampled: 02/05/97  
Date Received: 02/06/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.005	0.005	EPA 7196	02/06/97

(a) Limit of detection was raised due to sample matrix.

General Notes:

<: Less than the indicated limit of detection (LOD)

--: Information not available or not applicable

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 50210.00/13-97153.00

Sample Identification: MW-1  
Lab Number: 001a  
Sample Type: Water  
Analyst: CW

Date Sampled: 05/23/97  
Date Received: 05/23/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date		Analytical Method and Date	
<hr/>						
Metals						
Barium	<0.2	0.2	EPA 6020	06/06/97	EPA 6020	06/09/97
Cadmium	0.0078	0.0005	EPA 6020	06/06/97	EPA 6020	06/09/97
Chromium	<0.05	0.05	EPA 6020	06/06/97	EPA 6020	06/09/97
Lead	0.004	0.003	EPA 6020	06/06/97	EPA 6020	06/09/97

Sample Identification: MW-2  
Lab Number: 002a  
Sample Type: Water  
Analyst: CW

Date Sampled: 05/23/97  
Date Received: 05/23/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date		Analytical Method and Date	
<hr/>						
Metals						
Barium	<0.2	0.2	EPA 6020	06/06/97	EPA 6020	06/09/97
Cadmium	0.011	0.0005	EPA 6020	06/06/97	EPA 6020	06/09/97
Chromium	<0.05	0.05	EPA 6020	06/06/97	EPA 6020	06/09/97
Lead	0.021	0.003	EPA 6020	06/06/97	EPA 6020	06/09/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 50210.00/13-97153.00

Sample Identification: MW-3  
Lab Number: 003a  
Sample Type: Water  
Analyst: CW

Date Sampled: 05/23/97  
Date Received: 05/23/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Metals				
Barium	0.5	0.2	EPA 6020 06/06/97	EPA 6020 06/09/97
Cadmium	0.0083	0.0005	EPA 6020 06/06/97	EPA 6020 06/09/97
Chromium	<0.05	0.05	EPA 6020 06/06/97	EPA 6020 06/09/97
Lead	0.079	0.003	EPA 6020 06/06/97	EPA 6020 06/09/97

Sample Identification: MW-4  
Lab Number: 004a  
Sample Type: Water  
Analyst: CW

Date Sampled: 05/23/97  
Date Received: 05/23/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Metals				
Barium	0.4	0.2	EPA 6020 06/06/97	EPA 6020 06/09/97
Cadmium	0.0068	0.0005	EPA 6020 06/06/97	EPA 6020 06/09/97
Chromium	<0.05	0.05	EPA 6020 06/06/97	EPA 6020 06/09/97
Lead	0.073	0.003	EPA 6020 06/06/97	EPA 6020 06/09/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 50210.00/13-97153.00

Sample Identification: MW-5  
Lab Number: 005a  
Sample Type: Water  
Analyst: CW

Date Sampled: 05/23/97  
Date Received: 05/23/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date		Analytical Method and Date	
<hr/>						
Metals						
Barium	<0.2	0.2	EPA 6020	06/06/97	EPA 6020	06/09/97
Cadmium	0.0074	0.0005	EPA 6020	06/06/97	EPA 6020	06/09/97
Chromium	<0.05	0.05	EPA 6020	06/06/97	EPA 6020	06/09/97
Lead	0.085	0.003	EPA 6020	06/06/97	EPA 6020	06/09/97

Sample Identification: LAB BLANK  
Lab Number: 006a  
Sample Type: Water  
Analyst: CW

Date Sampled: --  
Date Received: 05/23/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date		Analytical Method and Date	
<hr/>						
Metals						
Barium	<0.2	0.2	EPA 6020	06/06/97	EPA 6020	06/09/97
Cadmium	<0.0005	0.0005	EPA 6020	06/06/97	EPA 6020	06/09/97
Chromium	<0.05	0.05	EPA 6020	06/06/97	EPA 6020	06/09/97
Lead	<0.003	0.003	EPA 6020	06/06/97	EPA 6020	06/09/97

General Notes

--: Information not available or not applicable.

Analytical Results  
for  
DSC, LTD.  
Clayton Project No. 50210.00/13-97153.00

Sample Type: Water  
Analytical Method: EPA 7196  
Analyst: CR

Date Sampled: 05/23/97  
Date Received: 05/23/97  
Date Prepared: 05/23/97  
Date Analyzed: 05/23/97

Lab No.	Sample Identification	Hexavalent chromium	
		(mg/L)	LOD (mg/L)
001b	MW-1	<0.05	0.05
002b	MW-2	<0.05	0.05
003b	MW-3	<0.05	0.05
004b	MW-4	<0.05	0.05
005b	MW-5	<0.05	0.05

General Notes:

- <: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

**Analytical Results  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00**

Sample Identification: MW-1  
Lab Number: 001a  
Sample Type: Water  
Analyst: CW

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Dissolved Metals				
Barium	<0.2	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	<0.05	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	<0.003	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97

Sample Identification: MW-2  
Lab Number: 002a  
Sample Type: Water  
Analyst: CW

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Dissolved Metals				
Barium	0.2	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	<0.05	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	0.023	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00

Sample Identification: MW-3  
Lab Number: 003a  
Sample Type: Water  
Analyst: CW

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Dissolved Metals				
Barium	0.5	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	<0.05	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	0.007	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97

Sample Identification: MW-4  
Lab Number: 004a  
Sample Type: Water  
Analyst: CW

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Dissolved Metals				
Barium	0.4	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	<0.05	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	0.004	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00

Sample Identification: MW-5  
Lab Number: 005a  
Sample Type: Water  
Analyst: CW

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Dissolved Metals				
Barium	0.5	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	0.15	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	0.19	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97

Sample Identification: EB-1  
Lab Number: 006a  
Sample Type: Water  
Analyst: CW

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Dissolved Metals				
Barium	<0.2	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	<0.05	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	<0.003	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97



Analytical Results  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00

Sample Identification: LAB BLANK  
Lab Number: 007a  
Sample Type: Water  
Analyst: CW

Date Sampled: --  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Preparation Method and Date	Analytical Method and Date
Metals				
Barium	<0.2	0.2	EPA 3020A 09/05/97	EPA 6020 09/08/97
Cadmium	<0.0005	0.0005	EPA 3020A 09/05/97	EPA 6020 09/08/97
Chromium	<0.05	0.05	EPA 3020A 09/05/97	EPA 6020 09/08/97
Lead	<0.003	0.003	EPA 3020A 09/05/97	EPA 6020 09/08/97

General Notes

--: Information not available or not applicable.

**Analytical Results**  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00

Sample Identification: MW-1  
Lab Number: 001  
Sample Type: Water  
Analyst: SC

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05 (a)	0.05	EPA 7196	08/28/97

Sample Identification: MW-2  
Lab Number: 002  
Sample Type: Water  
Analyst: SC

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05 (a)	0.05	EPA 7196	08/28/97

**Analytical Results  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00**

Sample Identification: MW-3  
Lab Number: 003  
Sample Type: Water  
Analyst: SC

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.005	0.005	EPA 7196	08/28/97

Sample Identification: MW-4  
Lab Number: 004  
Sample Type: Water  
Analyst: SC

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05 (a)	0.05	EPA 7196	08/28/97

**Analytical Results  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00**

Sample Identification: MW-5  
Lab Number: 005  
Sample Type: Water  
Analyst: SC

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05 (a)	0.05	EPA 7196	08/28/97

Sample Identification: EB-1  
Lab Number: 006  
Sample Type: Water  
Analyst: SC

Date Sampled: 08/27/97  
Date Received: 08/27/97

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.05 (a)	0.05	EPA 7196	08/28/97

Analytical Results  
for  
DSC LTD.  
Clayton Project No. 53532.00/13-97153.00

Sample Identification: LAB BLANK  
Lab Number: 008  
Sample Type: Water  
Analyst: SC

Date Sampled: --  
Date Received: --

Analyte	Concentration (mg/L)	LOD (mg/L)	Analytical Method	Date Analyzed
Hexavalent chromium	<0.005	0.005	EPA 7196	08/28/97

(a) Limit of detection raised due to sample matrix.

General Notes:

<: Less than the indicated limit of detection (LOD)  
--: Information not available or not applicable

**APPENDIX D**  
**FINAL WASTE REMOVAL MANIFESTS**



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.  
Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. M I D O 1 7 4 2 3 3 0 4	Manifest Document No. F L 9107	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.	
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>				A. State Manifest Document Number <b>PAC 4900571</b>		
4. Generator's Phone (313) 285-1200				B. State Gen. ID		
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES, INC.</b>				C. State Trans. ID <b>PA-</b>		
6. US EPA ID Number <b>P H D 9 8 6 9 7 4 7 8 0</b>				D. Transporter's Phone ( )		
7. Transporter 2 Company Name				E. State Trans. ID <b>PA-</b>		
8. US EPA ID Number				F. Transporter's Phone ( )		
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>				G. State Facility's ID		
10. US EPA ID Number <b>P A D 0 0 2 3 9 5 8 8 7</b>				H. Facility's Phone <b>215 825-2111</b>		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.	
a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. ORM-E 9189</b> <b>ELECTRIC ARC FURNACE SLUDGE K061</b>		No. <b>0 0 1</b>	Type <b>T</b>	<b>46000 P</b>	<b>K061</b>	
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above				K. Handling Codes for Wastes Listed Above		
Lab Pack Physical State		Lab Pack Physical State		a. <b>S07</b> c.		
a. <input type="checkbox"/>		c. <input type="checkbox"/>		b. d.		
b. <input type="checkbox"/>		d. <input type="checkbox"/>				
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 24</b> <b>SCALE TICKET #</b> <b>P.O. NUMBER - HSI5094</b>						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name		Signature		MONTH DAY YEAR <b>9/19/91</b>		
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR <b>9/19/91</b>		
Printed/Typed Name		Signature		MONTH DAY YEAR <b>9/19/91</b>		
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR <b>9/19/91</b>		
Printed/Typed Name		Signature		MONTH DAY YEAR <b>9/19/91</b>		
19. Discrepancy Indication Space <b>Generator, please fill in Item 9, D, and please be sure Item 9, E, is filled in J.D. and date in 16, and please use complete</b> <b>and 17. no LEADERS on ALL copies and please use complete</b>						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name <b>K O C H &amp; Co</b>		Signature <b>[Signature]</b>		MONTH DAY YEAR <b>9/23/91</b>		

ER-WM-51 REV. 1/91

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>MD017423304</b>		Manifest Document No. <b>CL 9105</b>		2. Page 1		Information in the shaded areas is not required by Federal law but is required by State law.			
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48103</b>						<div style="background-color: #cccccc; padding: 5px;"> <b>PA</b>          B. State Facility ID          C. State Facility Name          D. State Facility Address          E. State Facility City          F. State Facility State          G. State Facility ZIP          H. Facility Phone ( ) -       </div>					
4. Generator's Phone ( ) <b>313 285-1200</b>											
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES, INC.</b>											
6. US EPA ID Number <b>OH D 986974780</b>											
7. Transporter 2 Company Name						8. US EPA ID Number					
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071</b>						10. US EPA ID Number <b>PA D 002395807</b>					
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit	
a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. GRM-E 9189 ELECTRIC ARC FURNACE SLUDGE K061</b>						No. <b>001</b>		Type <b>D</b>		Weight <b>474</b>	
b.											
c.											
d.											
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Materials Listed Above					
Lab Pack Physical State						Lab Pack Physical State					
a. <input type="checkbox"/>						a. <input type="checkbox"/>					
b. <input type="checkbox"/>						b. <input type="checkbox"/>					
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO.31 TRUCK # 201 SCALE TICKET # PM6003 P.O. NUMBER - HX5094</b>											
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.											
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name <b>Steve R. Comstock</b>						Signature <i>Steve R. Comstock</i>			MONTH DAY YEAR <b>10 9 12 4 91</b>		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Robert Lemasters</b>						Signature <i>Robert Lemasters</i>			MONTH DAY YEAR <b>10 9 12 4 91</b>		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name						Signature			MONTH DAY YEAR		
19. Discrepancy Indication Space <b>Generator, please fill in items C, D, and Physical State in Item 11. Debrah L. Coye 9/26/91</b>											
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>JE Kott</b>						Signature <i>JE Kott</i>			MONTH DAY YEAR <b>10 9 12 4 91</b>		

PAL4900556







PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>MI9017423304</b>	Manifest Document No. <b>C 1 9186</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>			A. State Manifest Document Number <b>PAC 4900560</b>		
4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>			B. State Gen. ID		
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES, INC.</b>			C. State Trans. ID <b>PA-</b>		
6. US EPA ID Number <b>0HD986974780</b>			D. Transporter's Phone ( )		
7. Transporter 2 Company Name			E. State Trans. ID <b>PA-</b>		
8. US EPA ID Number			F. Transporter's Phone ( )		
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071</b>			G. State Facility's ID		
10. US EPA ID Number <b>PAD002395887</b>			H. Facility's Phone ( ) <b>215 826-2111</b>		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. <b>RQ HAZARDOUS WASTE SOLID N.O.S. ORM-E 9189 ELECTRIC ARC FURNACE SLUDGE K061</b>		<b>001 D</b>	<b>42400 P</b>		<b>K061</b>
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State Lab Pack Physical State			K. Handling Codes for Wastes Listed Above		
a. <input type="checkbox"/> <input type="checkbox"/>			a. <b>S03</b> c.		
b. <input type="checkbox"/> <input type="checkbox"/>			b. d.		
c. <input type="checkbox"/> <input type="checkbox"/>					
d. <input type="checkbox"/> <input type="checkbox"/>					
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO.31 TRUCK # 206 SCALE TICKET # PM6001 P.O. NUMBER - H815094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>Steve R Comstock</b>			Signature <b>Steve R Comstock</b> MONTH DAY YEAR <b>12 24 91</b>		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Robert Hudson</b>			Signature <b>Robert Hudson</b> MONTH DAY YEAR <b>12 24 91</b>		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature MONTH DAY YEAR		
19. Discrepancy Indication Space <b>Generator please fill in Item 19 and Physical State in Item 19 and please use complete ID number in Item 11. W/above to Page 9/26/91</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DE KALT</b>			Signature <b>DE KALT</b> MONTH DAY YEAR <b>12 25 91</b>		



## PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Waste Management

P. O. Box 8550

Harrisburg, PA 17105-8550

## OFFICIAL PENNSYLVANIA MANIFEST FORM

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.Form approved,  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.2. Page 1  
of 1Information in the shaded areas  
is not required by Federal law  
but is required by State law.

## 3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDELER  
1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

## 4. Generator's Phone ( 313 ) 285-1200

## 5. Transporter 1 Company Name

AUTUMN INDUSTRIES, INC.

## 6. US EPA ID Number

OED986974780

## 7. Transporter 2 Company Name

## 8. US EPA ID Number

## 9. Designated Facility Name and Site Address

HORSHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071

## 10. US EPA ID Number

PAD002395887

## A. State Manifest Document Number

PAC 4900593

## B. State Gen. ID

## C. State Trans. ID

PA-

## D. Transporter's Phone ( )

## E. State Trans. ID

PA-

## F. Transporter's Phone ( )

## G. State Facility's ID

## H. Facility's Phone ( 215 ) 826-2111

## 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

## 12. Containers

13. Total  
Quantity14. Unit  
Wt/Vol

## 15. Waste No.

a.

RQ HAZARDOUS WASTE SOLID H.O.B. ORN-X 9189  
ELECTRIC ARC FURNACE SLUDGE K061

001

DT

442408

K061

b.

c.

d.

## J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

a. ☐☐c. ☐☐b. ☐☐d. ☐☐

## K. Handling Codes for Wastes Listed Above

S03

a.

c.

b.

d.

## 15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO.31  
TRUCK # 203  
SCALE TICKET #  
P.O. NUMBER - HSX5094

## 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

MONTH DAY YEAR

## 17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

## 18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

## 19. Discrepancy Indication Space

## 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR



ER-WM-81 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>		4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		A. State Manifest Document Number <b>PAC 4900604</b>	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES, INC.</b>		6. US EPA ID Number <b>OH D 9 8 6 9 7 4 7 8 0</b>		B. State Gen. ID	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Trans. ID <b>PA</b>	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PA D 0 0 2 3 9 5 8 8 7</b>		D. Transporter's Phone ( <b>214</b> ) <b>372-5902</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity	
a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. ORM-E 9189</b> <b>ELECTRIC ARC FURNACE SLUDGE K061</b>		No. <b>0 0 1</b> Type <b>D T</b>		14. Unit Wt/Vol <b>P</b>	
b.				15. Waste No. <b>K061</b>	
c.					
d.					
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
Lab Pack Physical State		Lab Pack Physical State		a. <b>S03</b> c.	
a. <input type="checkbox"/>		c. <input type="checkbox"/>		b. d.	
b. <input type="checkbox"/>		d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO.31</b> <b>TRUCK # 704</b> <b>SCALE TICKET # PM6002</b> <b>P.O. NUMBER - HSX5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>Steve R. Comstock</b>		Signature <b>Steve R. Comstock</b>		MONTH DAY YEAR <b>10 9 12 4 9 1</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Joe CAMPANA</b>		Signature <b>Joe Campana</b>		MONTH DAY YEAR <b>10 9 12 4 9 1</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>Generator please fill in Item C and Physical State in Item 11, and please use complete ID Num</b> <b>ver in Item 11. Deborah R. Cape 7/26/91</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DE Koot</b>		Signature <b>DE Koot</b>		MONTH DAY YEAR <b>10 12 5 9 1</b>	



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

AND CHEMOTHERAPEUTIC WASTE.

Form approved,  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>M I D 0 1 7 4 2 3 3 0 4</b>	Manifest Document No. <b>C L 9113</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>				A. State Manifest Document Number <b>PAC 4900630</b>	
4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>				B. State Gen. ID	
5. Transporter 1 Company Name <b>K&amp;D INDUSTRIES WEST, INC.</b>		6. US EPA ID Number <b>M I D 0 7 2 7 9 0 7 1 0</b>		C. State Trans. ID <b>PA</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone ( ( <b>313</b> ) ) <b>343-2222</b>	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071</b>		10. US EPA ID Number <b>P A D 0 0 2 3 9 5 8 8 7</b>		E. State Trans. ID <b>PA</b>	
				F. Transporter's Phone ( )	
				G. State Facility's ID	
				H. Facility's Phone ( <b>215 636-2111</b> )	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. ORM-E 9189 ELECTRIC ARC FURNACE SLUDGE K061</b>			<b>0 0 1 D</b>	<b>3242</b>	<b>P</b>
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above			K. Handling Codes for Wastes Listed Above		
Lab Pack Physical State Lab Pack Physical State			a. b. c. d.		
a. b.			a. b. c. d.		
b. d.			b. d.		
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31 TRUCK # T-36 DT2-1 SCALE TICKET # PMG004 P.O. NUMBER - HSI5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>STEVE R. COMSTOCK</b>			Signature		MONTH DAY YEAR <b>7 12 91</b>
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <i>Charles Brown</i>			Signature <i>Charles Brown</i>		MONTH DAY YEAR <b>7 12 91</b>
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature		MONTH DAY YEAR
19. Discrepancy Indication Space <i>Generator, please follow item C and D. Physical State in item 5, and please see complete LD Num. in item 11. Deborah &amp; Cape 4/26/91</i>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <i>DE KORT</i>			Signature <i>DE KORT</i>		MONTH DAY YEAR <b>10 25 91</b>



ER-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved,  
OMB No. 2050-0039  
Expires 9-30-91UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.

2. Page 1

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDELER  
1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

4. Generator's Phone (313) 285-1200

5. Transporter 1 Company Name

AUTUMN INDUSTRIES, INC.

6. US EPA ID Number

QND986974780

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071

10. US EPA ID Number

HAD002395987

A. State Manifest Document Number

PAC 4900512

B. State Gen. ID

C. State Trans. ID

PA

D. Transporter's Phone

E. State Trans. ID

PA

F. Transporter's Phone

G. State Facility's ID

H. Facility's Phone 215 836-2111

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

No.

Type

13. Total  
Quantity14. Unit  
Wt/Vol

15. Waste No.

a. RO HAZARDOUS WASTE SOLID N.O.S. ORM-E 9189  
ELECTRIC ARC FURNACE SLUDGE K061

001 DT

P

K061

J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

K. Handling Codes for Wastes Listed Above

a.

c.

a. S03

c.

b.

d.

b.

d.

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO.31

TRUCK # 43384

SCALE TICKET # PG0006

P.O. NUMBER - RSX5094

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

MONTH DAY YEAR

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR

PAC 4900512

Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

ER-WM-51 REV. 1/91

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.

2. Page 1  
of

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDELER  
1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

4. Generator's Phone ( 313 ) 285-1200

5. Transporter 1 Company Name

6. US EPA ID Number

AUTUMN INDUSTRIES, INC.

OH D 9 8 6 9 7 4 7 8 0

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071

PA D 0 0 2 3 9 5 8 8 7

A. State Manifest Document Number

PAC 4900523

B. State Gen. ID

C. State Trans. ID

PA-

D. Transporter's Phone ( )

E. State Trans. ID

PA-

F. Transporter's Phone ( )

G. State Facility's ID

H. Facility's Phone ( )

215 826-2111

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

No.

Type

13. Total  
Quantity

Unit  
Wt/Vol

Waste No.

RQ HAZARDOUS WASTE SOLID H.O.S. ORM-E 9189  
ELECTRIC ARC FURNACE SLUDGE K061

0 0 1

D T

4 6 6 4 0 F

K061

J. Additional Descriptions for Materials Listed Above  
Lab Pack Physical State

Lab Pack

Physical State

K. Handling Codes for Wastes Listed Above

a. ☐

☐

c. ☐

☐

a. 503

c. ☐

b. ☐

☐

d. ☐

☐

b. ☐

d. ☐

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO.31

TRUCK # 40802

SCALE TICKET # P6 000.9

P.O. NUMBER - HSX5094

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

MONTH DAY YEAR

9 26 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

19. Discrepancy Indication Space

Generator please fill in Items C, D, Physical State in Item 11, and date in Item 16, please use Complete ID Num. in Item 11, and please be sure Item 16 a 17 are correct.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR

PAC 4900523





DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

AND CHEMOTHERAPEUTIC WASTE.

Form approved,  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.

2. Page 1  
of 1

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDLER  
1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

4. Generator's Phone ( 313 ) 285-1200

5. Transporter 1 Company Name

AUTOMN INDUSTRIES, INC.

6. US EPA ID Number

OND986974780

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071

10. US EPA ID Number

PADO02395887

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

13. Total  
Quantity

14. Unit  
Wt/Vol

15. Waste No.

a.

RQ HAZARDOUS WASTE SOLID H.O.S. ORH-E 9189  
ELECTRIC ARC FURNACE SLUDGE K061

001

46 Full P

K061

b.

c.

d.

J. Additional Descriptions for Materials Listed Above  
Lab Pack Physical State

Lab Pack Physical State

K. Handling Codes for Wastes Listed Above

a. ☐

☐

c. ☐

☐

a. S03

c. ☐

b. ☐

☐

d. ☐

☐

b. ☐

d. ☐

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO.31

TRUCK # 39202

SCALE TICKET # P60008

P.O. NUMBER - HX15094

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name

Signature

MONTH DAY YEAR

9 26 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

9 26 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

9 26 91

19. Discrepancy Indication Space

Printed/Typed Name

Signature

MONTH DAY YEAR

9 26 91



Bureau of Waste Management

P. O. Box 8550

Harrisburg, PA 17105-8550

## OFFICIAL PENNSYLVANIA MANIFEST FORM

ER-WM-51 REV. 1/91

Form approved,  
OMB No. 2050-0039  
Expires 9-30-91UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.

2. Page 1

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDLER  
1630 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

4. Generator's Phone (313) 285-1200

5. Transporter 1 Company Name

AUTUMN INDUSTRIES, INC.

6. US EPA ID Number

C H D 9 8 6 9 7 4 7 8 9

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 19071

10. US EPA ID Number

P A D 0 0 2 3 9 5 8 8 2

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

13. Total  
Quantity14. Unit  
Wt/Vol

15. Waste No.

a. BQ HAZARDOUS WASTE SOLID H.O.S. ORM-E 9189  
ELECTRIC ARC FURNACE SLUDGE K061

0 0 1 1 2 3 8 1 2 0 P

J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

K. Handling Codes for Waste Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO. 31

TRUCK # 40201

SCALE TICKET # PG0007

P.O. NUMBER - HX15094

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name

Signature

MONTH DAY YEAR

09 12 69

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

09 12 69

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

09 12 69

19. Discrepancy Indication Space

39,060 weight less from 11,400 (HS) per batch. Please fill in item 20. I have checked the manifest and it is correct.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR

09 12 91

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

1/30/91 (Carbon was turned up. dec 9/30/91)

Copy 5 - TSD Facility: Mail to Generator

Copy 3 - Generator: Retain This Copy

In case of an emergency or spill immediately call the National Response Center (800) 424-9302 and PA D 50-0017 703-4243

GENERATOR

TRANSPORTER

FACILITY

PA04300545



ER-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

N I D 0 1 7 4 2 3 3 0 4

Manifest  
Document No.

C L 9111

2. Page 1

1

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

## 3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDELER

1630 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

## 4. Generator's Phone ( 313 )

285-1200

## 5. Transporter 1 Company Name

K&amp;D INDUSTRIAL SERVICES, INC.

## 6. US EPA ID Number

N I D 0 7 2 7 9 0 7 1 0

## 7. Transporter 2 Company Name

## 8. US EPA ID Number

## 9. Designated Facility Name and Site Address

HORSEHEAD RESOURCE DEVELOPMENT CO.

EAST PLANT, DELAWARE AVENUE

PALMERTON, PA 18071

## 10. US EPA ID Number

P A D 0 0 2 3 9 5 8 8 7

## 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

RQ HAZARDOUS WASTE SOLID N.O.S. ORM-E 9189  
ELECTRIC ARC FURNACE SLUDGE K061

## 12. Containers

No.

Type

13. Total  
Quantity14. Unit  
Wt/Vol

0 0 1 D

38360

P

## J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

a. ☐c. ☐b. ☐d. ☐

## K. Handling Codes for Wastes Listed Above

S03

## 15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO. 31

TRUCK # T-19 DTA-3

SCALE TICKET #

P.O. NUMBER - 8515094

## 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name

STEVE R. COMSTOCK

Signature

Steve R. Comstock

MONTH DAY YEAR

10 9 26 91

## 17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Dan Totten

Signature

Dan Totten

MONTH DAY YEAR

10 9 26 91

## 18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

## 19. Discrepancy Indication Space

Generator please fill in Item C.D. and Physprop  
3860V Steel in Item T.O. and please use complete ID Number  
in Item 11. W-branch Copy 9/30/91

## 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

DE KLOCH

Signature

DE KLOCH

MONTH DAY YEAR

10 9 27 91

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.  
OMB No. 2060-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded area is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48163</b>		4. Generator's Phone <b>313</b> ) <b>285-1200</b>		5. Transporter 1 Company Name	
6. US EPA ID Number		7. Transporter 2 Company Name		8. US EPA ID Number	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PA D 002395887</b>		H. Facility's Phone	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNANCES), CLASS 9, HA3007, PGIII, (K061)</b>		12. Containers No. <b>001</b> Type <b>ET</b>		13. Total Quantity <b>42920</b>	14. Unit <b>P</b>
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State a. <b>S</b>		c. <b>S</b>		K. Handling Codes for Wastes Listed Above <b>S03</b>	
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 10603</b> <b>SCALE TICKET # PG0013</b> <b>P.O. NUMBER - HX5094</b>					
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Printed/Typed Name <b>STEVE R. COMSTOCK</b>		Signature <i>Steve R. Comstock</i>		MONTH DAY YEAR <b>11 01 1991</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Jeffrey D. Balint</b>		Signature <i>Jeffrey D. Balint</i>		MONTH DAY YEAR <b>11 01 1991</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>43060</b> Generator please see correct "ID Number" in item 11. D. Winder to. Copy 10 B/K1					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name <b>DE K OCH</b>		Signature <i>DE K OCH</i>		MONTH DAY YEAR <b>11 02 1991</b>	

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

Copy 5 - TSD Facility: Mail to Generator

Copy 3 - Generator: Retain This Copy

PAC 4900652



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form Approved,  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>		1. Generator's US EPA ID No. <b>MI D 0 1 7 4 2 3 3 0 4</b>		Manifest Document No. <b>EL 9116</b>	
4. Generator's Phone (313) 285-1200		6. US EPA ID Number		A. State of Michigan	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>		7. Transporter 2 Company Name		B. State of Michigan	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PA D 0 0 2 3 9 5 8 8 7</b>		C. State of Michigan	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3007, PGII, (K061)</b>		12. Containers No. Type		D. State of Michigan	
		13. Total Quantity		E. State of Michigan	
		14. Unit Wt/Vol		F. State of Michigan	
		15. Waste No.		G. State of Michigan	
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State		K. Handling Codes for Wastes Listed Above		H. Facility's Phone	
a. <input type="checkbox"/> Solid		b. <input type="checkbox"/> Liquid		c. <input type="checkbox"/> Gas	
b. <input type="checkbox"/> Solid		c. <input type="checkbox"/> Liquid		d. <input type="checkbox"/> Gas	
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 4020</b> <b>SCALE TICKET # P60012</b> <b>P.O. NUMBER - HSI5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>STEVE R. COMSTOCK</b>		Signature <i>Steve R. Comstock</i>		MONTH DAY YEAR <b>11 01 1991</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>John C. HA</b>		Signature <i>John C. HA</i>		MONTH DAY YEAR <b>11 01 1991</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>Generator please correct ID Number in item 11 to 017423304</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DF KOCI</b>		Signature <i>DF KOCI</i>		MONTH DAY YEAR <b>11 01 1991</b>	

PAC4900663

**UNIFORM HAZARDOUS  
WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest  
Document No.

2. Page 1  
of

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

**MCLOWRY STEEL - ATTN: D. WINDELER  
1630 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48103**

4. Generator's Phone ( 313 ) 285-1200

5. Transporter 1 Company Name

6. US EPA ID Number

**AUTUMN INDUSTRIES INC / OH D 9 8 6 9 7 4 7 8 0**

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

**HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071**

**P A D 0 0 2 3 9 5 8 8 7**

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers  
No. Type

13. Total  
Quantity

14. Unit  
Wt/Vol

15. Waste No.

**RQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/  
SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC  
FURNACES), CLASS 9, HA3007, PGIII, (K061)**

0 0 1

D T

44800P

100

J. Additional Descriptions for Materials Listed Above  
Lab Pack Physical State

Lab Pack Physical State

K. Handling Codes for Wastes Listed Above

a. ☒ Solid ☐ Liquid ☐ Gas

c. ☐ Flammable ☐ Corrosive ☐ Toxic ☐ Other

e. ☒ 103 ☐ 104 ☐ 105

b. ☐ Other ☐ Other

d. ☐ Other ☐ Other

f. ☐ Other ☐ Other

15. Special Handling Instructions and Additional Information

**EMERGENCY RESPONSE GUIDE NO. 31**

**TRUCK # 43301**

**SCALE TICKET # P60011**

**P.O. NUMBER - BS15094**

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

**STEVE R. COMSTOCK**

Signature

MONTH DAY YEAR

11 00 1991

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

**Mark Gorman**

Signature

**Mark Gorman**

MONTH DAY YEAR

11 01 1991

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

19. Discrepancy Indication Space

**Generator please use correct ID Number  
(NA 3077) in item 11. Deborah S. Cope 10/13/91**

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

**DE KOOH**

Signature

**DE KOOH**

MONTH DAY YEAR

10 00 91



## PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Waste Management

P. O. Box 8550

Harrisburg, PA 17105-8550

## OFFICIAL PENNSYLVANIA MANIFEST FORM

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form approved.

OMB No. 2050-0039

Expires 9-30-91

ER-WM-51 REV. 1/81

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48163</b>		4. Generator's Phone <b>813</b> ) <b>285-1200</b>		5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES, INC.</b>	
6. US EPA ID Number <b>AD002395887</b>		7. Transporter 2 Company Name		8. US EPA ID Number	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number		11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, HA3007, PGIII, (K061)</b>	
12. Containers		13. Total Quantity		14. Unit	
No. Type		Quantity		Wt/Vol	
1 0 1 5 T		43260 P		P	
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 40802</b> <b>SCALE TICKET # PG0014</b> <b>P.O. NUMBER - HX15094</b>		16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.		17. Transporter 1 Acknowledgement of Receipt of Materials	
Printed/Typed Name <b>STEVE R. CONSTOCK</b>		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>11 9 01 91</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR	
Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>13700</b> <b>After 11 and please be sure to see</b> <b>Gary Sisley, 10/1/91</b> <b>LEGISLATIVE on ALL Copies, Walworth</b>		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		MONTH DAY YEAR	
Printed/Typed Name <b>DE KACH</b>		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>10 0 91</b>	

PAC4900685



Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>PA D 0 1 7 4 2 3 3 0 4</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1630 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48103</b>		A. State <b>PA</b>		
4. Generator's Phone <b>(313) 285-1200</b>		B. SIC <b>3311</b>		
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>		C. State <b>PA</b>		
6. US EPA ID Number <b>10 H D 9 8 6 9 7 4 7 8 0</b>		D. SIC <b>3311</b>		
7. Transporter 2 Company Name		E. State <b>PA</b>		
8. US EPA ID Number		F. SIC <b>3311</b>		
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		G. State <b>PA</b>		
10. US EPA ID Number <b>PA D 0 0 2 3 9 5 8 8 7</b>		H. Facility's Phone <b>610-261-1111</b>		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, HA3007, PGIII, (K061)</b>		12. Containers No. <b>1</b> Type <b>P</b>	13. Total Quantity <b>2320</b>	14. Unit Wt/Vol <b>P</b>
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above		
a. <input type="checkbox"/> Lab Pack <input checked="" type="checkbox"/> Physical State <b>S</b>		a. <b>803</b>		
b. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State		b. <input type="checkbox"/> <input type="checkbox"/>		
c. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State		c. <input type="checkbox"/> <input type="checkbox"/>		
d. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State		d. <input type="checkbox"/> <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 39202</b> <b>SCALE TICKET # PG0010</b> <b>P.O. NUMBER - HX5094</b>				
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.				
Printed/Typed Name <b>STEVE R. CONSTOCK</b>		Signature <i>[Signature]</i> MONTH DAY YEAR <b>11 9 01 1991</b>		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Vern Stangerhoup</b>		Signature <i>[Signature]</i> MONTH DAY YEAR <b>10 10 1991</b>		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature <i>[Signature]</i> MONTH DAY YEAR		
19. Discrepancy Indication Space <b>Generator please see correct ID Number</b> <b>11. Deborah &amp; Co 10/3/91</b>				
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>OF Kott</b> Signature <i>[Signature]</i> MONTH DAY YEAR <b>10 02 91</b>				

A Form 8700-22 (Rev. 9/88) Previous editions are obsolete

Copy 5 - TSD Facility: Mail to Generator

Copy 8 - Generator: Retain This Copy

PA 4300696

Bureau of Waste Management

P. O. Box 8550

Harrisburg, PA 17105-8550

## OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved:

OMB No. 2050-0039

Expires 9-30-91

EP-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. M I D 0 1 7 4 2 3 3 0 4	Manifest Document No. C L 9121	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>				A. State of Michigan	
4. Generator's Phone ( 313 ) 285-1200				B. Date of Shipment	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>				C. State of Michigan	
6. US EPA ID Number <b>10HD986974780</b>				D. Date of Receipt	
7. Transporter 2 Company Name				E. State of Michigan	
8. US EPA ID Number				F. Date of Receipt	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>				G. State of Pennsylvania	
10. US EPA ID Number <b>P A D 0 0 2 3 9 5 8 8 7</b>				H. Facility's Phone ( 610 ) 281-1111	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity	14. Unit (Lb/Vol)
a. <b>RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNANCES), CLASS 9, HA3007, PGIII, (K061)</b>		No. Type <b>0 0 1 D T</b>		<b>45680P</b>	Waste No.
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
Lab Pack	Physical State	Lab Pack	Physical State		
a. <input type="checkbox"/>	<b>S</b>	c. <input type="checkbox"/>		<b>803</b>	
b. <input type="checkbox"/>		d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 40201</b> <b>SCALE TICKET # P60019</b> <b>P.O. NUMBER - HSX5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>STEVE R. COMSTOCK</b>		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>11 1 91</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>1 1 1 1</b>	
Printed/Typed Name <b>John G. H.</b>		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>1 1 1 1</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR	
Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>Generator please use correct ID Number in the</b> <b>11. 10HD986974780</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>10 10 91</b>	
Printed/Typed Name <b>DK KAH</b>		Signature <i>[Signature]</i>		MONTH DAY YEAR <b>10 10 91</b>	

PAC 4900711





PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.  
Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>MD017423304</b>	Manifest Document No. <b>CL 9122</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48163</b>				A. State of Origin <b>PA</b>	
4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>				B. State of Destination <b>PA</b>	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>				C. State of Transporter <b>PA</b>	
6. US EPA ID Number <b>10ND986974780</b>				D. State of Transporter <b>PA</b>	
7. Transporter 2 Company Name				E. State of Transporter <b>PA</b>	
8. US EPA ID Number				F. Transporter's Phone <b>215-244-2116</b>	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071</b>				G. State Facility's ID <b>PA</b>	
10. US EPA ID Number <b>PAD002395887</b>				H. Facility's Phone <b>215-244-2111</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. <b>RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3007, PGIII, (K061)</b>			<b>001</b> <b>D T</b>	<b>43580</b>	<b>P</b>
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State			K. Handling Codes for Wastes Listed Above		
a. <b>S</b>			a. <b>S03</b>		
b.			b.		
c.			c.		
d.			d.		
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31 TRUCK # 10603 SCALE TICKET # 100017 P.O. NUMBER - HX15094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>STEVE R. CONSTOCK</b>			Signature <i>[Signature]</i>		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Jeff B. List</b>			Signature <i>[Signature]</i>		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature		
19. Discrepancy Indication Space <b>Generator please use correct ID Number is 10ND986974780</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DE KACH</b>			Signature <i>[Signature]</i>		

PAC4900722



Information in the shaded areas  
is not required by Federal law  
but is required by State law.

**F A D 0 0 2 3 9 5 8 8 7**

**Waste No**

# THE

K. Handling Codes for Wastes Listed Above:

503

[illegible]

EMERGENCY RESPONSE GUIDE NO.31  
TRUCK # 43301  
SCALE TICKET # PG0018  
P.O. NUMBER - H815094

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name <b>STEVE R. COMSTOCK</b>	Signature <i>Steve R. Comstock</i>	MONTH 11	DAY 3	YEAR 91
--	---------------------------------------	-------------	----------	------------

17. Transporter 1 Acknowledgement of Receipt of Materials		18. Transporter 2 Acknowledgement of Receipt of Materials	
Printed/Typed Name	Signature	Printed/Typed Name	Signature
MONTH DAY YEAR	MONTH DAY YEAR	MONTH DAY YEAR	MONTH DAY YEAR

18. Transporter 2 Acknowledgement of Receipt of Materials		100391	
Printed/Typed Name	Signature	MONTH	DAY
Mark Gorman	Mark Gorman		

19. Discrepancy Indication Space

Xenia Steen 11 40 South & Cape 10/7/91

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed Name	Signature	MONTH	DAY	YEAR
MF Kahl	[Signature]	10	10	11

PAC 4900733

Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NID017423304	Manifest Document No. CL 9124	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address MCLOUTH STEEL - ATTN: D. WINDLER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183				A. State: PA	
4. Generator's Phone (313) 285-1200				B. State Dept. ID: PA 100074	
5. Transporter 1 Company Name AUTUMN INDUSTRIES INC				C. State Dept. ID: PA 100074	
6. US EPA ID Number 10HD986974780				D. Transporter's Phone: (610) 271-3111	
7. Transporter 2 Company Name				E. State Dept. ID: PA 100074	
8. US EPA ID Number				F. Transporter's Phone: (610) 271-3111	
9. Designated Facility Name and Site Address HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071				G. State Dept. ID: PA 100074	
10. US EPA ID Number PAD002395887				H. Facility's Phone: (610) 271-3111	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. HQ HAZARDOUS WASTE SOLID H.O.B. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3087, PGIII, (K061)		001	D	46660	P
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
Lab Pack	Physical State	Lab Pack	Physical State	a. 503	
a. <input type="checkbox"/>	S	c. <input type="checkbox"/>		b. 503	
b. <input type="checkbox"/>		d. <input type="checkbox"/>		c. 503	
15. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE NO. 31 TRUCK # 43401 SCALE TICKET # P60016 P.O. NUMBER - HX15094					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name D. WINDLER		Signature D. Windler		MONTH DAY YEAR 10 3 91	
Printed/Typed Name Mike Rose		Signature Mike Rose		MONTH DAY YEAR 10 03 91	
Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space Generator please use correct ID Number in item 11. W. clench & Corp 10/7/91					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name D. K. O'H		Signature D. K. O'H		MONTH DAY YEAR 10 04 91	



EF-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>MD017423304</b>	Manifest Document No. <b>CL 9125</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48103</b>		4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		A. State of Origin <b>PA</b>	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>		6. US EPA ID Number <b>10HD986974780</b>		B. State of Destination <b>PA</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State of Destination <b>PA</b>	
9. Designated Facility Name and Site Address <b>HONSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PA D002395887</b>		D. State of Destination <b>PA</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3007, PGIII, (K061)</b>		12. Containers No. <b>001</b> Type <b>DT</b>		13. Total Quantity <b>46000 P</b>	14. Unit Wt/Vol <b>P</b>
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State a. <input type="checkbox"/> <b>S</b>		K. Handling Codes for Wastes Listed Above a. <b>S03</b>		Waste No. <b>1001</b>	
b. <input type="checkbox"/>		c. <input type="checkbox"/>		b. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 42701</b> <b>SCALE TICKET # PG0015</b> <b>P.O. NUMBER - HSI5094</b>		d. <input type="checkbox"/>		c. <input type="checkbox"/>	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		MONTH DAY YEAR <b>10 3 91</b>	
17. Transporter 1 Acknowledgment of Receipt of Materials Printed/Typed Name <b>Pete Barkus</b>		Signature <b>Pete Barkus</b>		MONTH DAY YEAR <b>11 03 91</b>	
18. Transporter 2 Acknowledgment of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>Generator please see correct ID Number in item 11. Wabash &amp; Co. 10/1/91</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name <b>DE KOLH</b>		Signature <b>DE KOLH</b>		MONTH DAY YEAR <b>10 04 91</b>	

PAC 4900755

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.  
**MI0017423304**

Manifest  
Document No.  
**CL 9126**

2. Page 1  
of  
**1**

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address  
**MCLOUTH STEEL - ATTN: D. WINDELER  
1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183**

4. Generator's Phone ( **313** ) **285-1200**

5. Transporter 1 Company Name  
**JOHN PFADOMMER INC**

6. US EPA ID Number  
**PA D0008781072**

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address  
**HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071**

10. US EPA ID Number  
**PA D0002395887**

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)  
**a. RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/  
SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC  
FURNACES), CLASS 9, NA3007, PGIII, (K061)**

12. Containers  
No. Type  
**001 D 47100 P**

13. Total  
Quantity  
**47100 P**

14. Unit  
Wt/Vol  
**P**

15. Waste No.  
**503**

J. Additional Descriptions for Materials Listed Above  
Lab Pack Physical State  
**a. ☐ ☒ S**

K. Handling Codes for Wastes Listed Above  
**a. 503**

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  
  
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.  
  
Printed/Typed Name Signature MONTH DAY YEAR  
**Michael Tucker** **10/8/91**

18. Transporter 2 Acknowledgement of Receipt of Materials  
Printed/Typed Name Signature MONTH DAY YEAR  
**Michael Tucker** **10/8/91**

19. Discrepancy Indication Space  
**Generator, please use correct ID Num  
ber in item 11 to be in 10/14/91**

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.  
Printed/Typed Name Signature MONTH DAY YEAR  
**Michael Tucker** **10/8/91**

PAC4900781



ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. PA D 0 1 7 4 2 3 3 0 4	Manifest Document No. CL 9127	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48163</b>		4. Generator's Phone ( 313 ) 285-1200		A. State of Origin: PA	
5. Transporter 1 Company Name <b>JOHN PEROMMER INC</b>		6. US EPA ID Number PA D 0 0 8 7 8 1 0 7 2		B. State of Destination: PA	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State of Transfer: PA	
9. Designated Facility Name and Site Address <b>BORSENAID RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number PA D 0 0 2 3 9 5 8 7		D. Transferor's Phone: ( 610 ) 385-3551	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. <b>RO HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3007, PGIII, (K061)</b>		12. Containers No. Type 0 0 1 D 48340P		13. Total Quantity	14. Unit Wt/Vol
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State a. <input type="checkbox"/> <input checked="" type="checkbox"/> S		K. Handling Codes for Wastes Listed Above a. S03		b. d. 1087	
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31 285-1200</b> <b>TRUCK # 298</b> <b>SCALE TICKET # PGW22</b> <b>P.O. NUMBER - HSI5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>Richard Boal</b>		Signature <i>Richard Boal</i>		MONTH DAY YEAR 10 18 91	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space Generator please see <i>number in letter 11 above with copy 10/11/91</i>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DE KACH</b>		Signature <i>DE KACH</i>		MONTH DAY YEAR 10 07 91	

PA 4900792





PAENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

R-WM-61 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1630 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48103</b>		4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		B. State of Origin <b>PA</b>	
5. Transporter 1 Company Name <b>JOHN FROMMER INC</b>		6. US EPA ID Number <b>PA D008781072</b>		C. State of Destination <b>PA</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		D. State of Destination <b>PA</b>	
9. Designated Facility Name and Site Address <b>BORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 19071</b>		10. US EPA ID Number <b>PA D002395887</b>		E. State of Destination <b>PA</b>	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3007, PGIII, (K061)</b>		<b>001</b>	<b>D</b>	<b>43480</b>	<b>P</b>
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
Lab Pack Physical State		a. <b>S03</b>			
a. <b>S</b>		c.			
b.		d.			
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # H112</b> <b>SCALE TICKET # P60023</b> <b>P.O. NUMBER - H815094</b>		285-1200			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		MONTH DAY YEAR	
		<i>[Signature]</i>		<b>10 8 91</b>	
17. Transporter 1 Acknowledgment of Receipt of Materials		Signature		MONTH DAY YEAR	
Printed/Typed Name		<i>[Signature]</i>		<b>10 08 19 1</b>	
18. Transporter 2 Acknowledgment of Receipt of Materials		Signature		MONTH DAY YEAR	
Printed/Typed Name					
19. Discrepancy Indication Space <b>Generator please use correct "ID Number" in 11. Debris is Copied 10/14/91</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		MONTH DAY YEAR	
<b>DE KACH</b>		<i>[Signature]</i>		<b>10 09 91</b>	

PAC4900803

FD-302 (REV. 1-25-60)

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.	
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>		4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		A. State of <b>PA</b>		
5. Transporter 1 Company Name <b>JOHN PERAMMER INC</b>		6. US EPA ID Number <b>PA D008781072</b>		B. State of <b>PA</b>		
7. Transporter 2 Company Name		8. US EPA ID Number		C. State of <b>PA</b>		
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PA D002395887</b>		D. State of <b>PA</b>		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity		
a. <b>RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3007, PGIII, (K061)</b>		No. <b>001</b> Type <b>D</b>		14. Unit <b>WT/VOL</b>		
b.				15. Waste No. <b>P</b>		
c.						
d.						
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above				
Lab Pack Physical State		Lab Pack Physical State				
a. <b>S</b>		c. <b>S03</b>				
b.		d.				
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # 310</b> <b>SCALE TICKET # PG0020</b> <b>P.O. NUMBER - HSX5094</b>						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.						
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name		Signature		MONTH DAY YEAR		
17. Transporter 1 Acknowledgement of Receipt of Materials <b>Clarence A Bush</b>		Signature <b>Clarence A Bush</b>		10 8 91		
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR		
19. Discrepancy Indication Space <b>Generator please see correct ID Number in letter 11. Deborah S Coye 10/11/91</b>						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Signature		MONTH DAY YEAR		
Printed/Typed Name <b>DE KACH</b>		Signature <b>DE KACH</b>		10 8 91		

**PAC4900825**





VER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>MD017423394</b>	Manifest Document No. <b>CL 9133</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>		6. US EPA ID Number <b>MD0986974780</b>		A. State of Michigan	
4. Generator's Phone (313) 285-1200		7. Transporter 2 Company Name		B. State of Michigan	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>		8. US-EPA ID Number		C. State of Michigan	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PA D002395887</b>		D. State of Michigan	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>EQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, HAZ 2993, PGIII, (K061)</b>		12. Containers No. <b>001</b>	Type <b>D</b>	13. Total Quantity <b>41760 P</b>	14. Unit Wt/Vol <b>P</b>
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
a. Lab Pack Physical State <b>S</b>		a. <b>507</b>			
b. Lab Pack Physical State		b. <b>507</b>			
c. Lab Pack Physical State		c. <b>507</b>			
d. Lab Pack Physical State		d. <b>507</b>			
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER 1-800-800-CA27 TRUCK # 37202 SCALE TICKET # PG0024 P.O. NUMBER - H8X5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		MONTH DAY YEAR	
[Signature]		[Signature]		10/11/71	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		MONTH DAY YEAR	
[Signature]		[Signature]		10/10/71	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		MONTH DAY YEAR	
[Signature]		[Signature]		10/11/71	
19. Discrepancy Indication Space <b>16200</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		MONTH DAY YEAR	
[Signature]		[Signature]		10/11/71	

PA4900766

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>MI D 0 1 7 4 2 3 3 0 4</b>		Manifest Document No. <b>CL 9132</b>		2. Page 1 of 1		Information in the shaded areas is not required by Federal law but is required by State law.			
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>											
4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>											
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>											
6. US EPA ID Number <b>MI D 9 8 6 9 7 4 7 8 0</b>											
7. Transporter 2 Company Name											
8. US EPA ID Number											
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071</b>											
10. US EPA ID Number <b>PA D 0 0 2 3 9 5 8 8 7</b>											
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit	
a. <b>RQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA 1002, PGIII, (K061)</b>						No.		Type		Waste No.	
						001		D 46240 P		1001	
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above					
Lab Pack Physical State						Lab Pack Physical State					
a. <input type="checkbox"/> <b>S</b>						b. <input type="checkbox"/> <b>503</b>					
b. <input type="checkbox"/>						c. <input type="checkbox"/>					
c. <input type="checkbox"/>						d. <input type="checkbox"/>					
d. <input type="checkbox"/>						e. <input type="checkbox"/>					
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER - 1-800-800-0427 TRUCK # 20001 SCALE TICKET # P60023 P.O. NUMBER - H8X5094</b>											
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name						Signature			MONTH DAY YEAR		
<b>STEVE B. CONROCK</b>						<i>[Signature]</i>			11/1/11		
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name						Signature			MONTH DAY YEAR		
<b>Jerome Klein</b>						<i>[Signature]</i>			10/10/11		
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name						Signature			MONTH DAY YEAR		
19. Discrepancy Indication Space <b>46060</b>											
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.											
Printed/Typed Name						Signature			MONTH DAY YEAR		
<b>M. H. H. H.</b>						<i>[Signature]</i>			10/11/11		

PAC 4900770

ER-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.	
3. Generator's Name and Mailing Address MCLOUTH STEEL - ATTN: D. WINKLER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48163		4. Generator's Phone (313) 285-1200		5. Transporter 1 Company Name Autumn Industries Inc		
6. US EPA ID Number 10HD986974780		7. Transporter 2 Company Name		8. US EPA ID Number		
9. Designated Facility Name and Site Address HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071		10. US EPA ID Number PAD002395887		11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. RQ HAZARDOUS WASTE SOLID M.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3097, PGIII, (K061)		
12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol		
001 DT		44940P				
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State		K. Handling Codes for Wastes Listed Above				
a. 8		b. 503				
15. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER 1-800-600-0422 TRUCK # 10603 SCALE TICKET # PGW 22 P.O. NUMBER - HX5094						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name GUYNE & COMPANY		Signature Guyne & Company		MONTH DAY YEAR 11/01/91		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jeff Balint		Signature Jeff Balint		MONTH DAY YEAR 11/01/91		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR		
19. Discrepancy Indication Space 44460						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Horsehead Resource Development Co		Signature Horsehead Resource Development Co		MONTH DAY YEAR 10/11/91		

PAL4900840



ER-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>McLouth Steel - ATTN: D. Windeler</b> <b>1650 W. Jefferson Avenue, Trenton, Michigan 48183</b>		4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		A. State of <b>PA</b>	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES INC</b>		6. US EPA ID Number <b>10HD986974780</b>		B. State of <b>PA</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State of <b>PA</b>	
9. Designated Facility Name and Site Address <b>Harshad Resource Development Co.</b> <b>East Plant, Delaware Avenue</b> <b>Palmerton, PA 18071</b>		10. US EPA ID Number <b>PAD002395887</b>		D. State of <b>PA</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity	14. Unit Wt/Vol
a. <b>RQ Hazardous waste solid, n.e.s. (emission control dust/slag from primary production of steel in electric furnaces), Class 9, HA3077, (R061)</b>		No. <b>001</b> Type <b>DT</b>		<b>47080</b>	<b>P</b>
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
Lab Pack Physical State		Lab Pack Physical State			
a. <input type="checkbox"/> <b>S</b>		c. <input type="checkbox"/> <b>507</b>			
b. <input type="checkbox"/>		d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information <b>Emergency response guide No. 312</b> <b>Truck # 39204</b> <b>Scale ticket # PG0073</b> <b>P.O. number - RSX3094</b> <b>24 HOUR EMERGENCY RESPONSE NUMBER 1-800-800-CAZ7</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		MONTH DAY YEAR	
<b>Steve J. Conner</b>		<b>[Signature]</b>		<b>10/10/91</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR	
Printed/Typed Name		Signature		MONTH DAY YEAR	
<b>MER/ HOFFMAN</b>		<b>[Signature]</b>		<b>10/10/91</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		MONTH DAY YEAR	
Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>Generator please see complete US DOT Description in item 11. Deborah S. Cope 10/14/91</b>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		MONTH DAY YEAR	
<b>ALG Hissner</b>		<b>[Signature]</b>		<b>10/11/91</b>	

PAC 4900851



ER-WM-51 REV. 1/91

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. H I D 9 1 7 4 2 3 3 0 4	Manifest Document No. C L 9120	2. Page 1 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address MCLOUTH STEEL - ATTN: D. WINDELER 1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 46183				A. State Manifest ID PAC 4900700	
4. Generator's Phone ( 313 ) 285-1200				B. State ID PA-10110330	
5. Transporter 1 Company Name K+D INDUSTRIAL				C. State ID PA-10110330	
6. US EPA ID Number H I D 0 7 2 7 9 0 7 1 0				D. State ID PA-10110330	
7. Transporter 2 Company Name				E. State ID PA-10110330	
8. US EPA ID Number				F. Transporter's Phone	
9. Designated Facility Name and Site Address HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMERTON, PA 18071				G. State Facility ID PA-10110330	
10. US EPA ID Number P A D 0 0 2 3 9 5 8 8 7				H. Facility's Phone ( 313 ) 330-2111	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST, SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, HAZARDOUS, PGIII, (K061)			0 0 1 D T	38660P	K061
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State			K. Handling Codes for Wastes Listed Above		
a. [ ] [S]			b. [ ] [S]		
b. [ ] [ ]			c. [ ] [ ]		
15. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE NO. 31 2A HOUR EMERGENCY RESPONSE NUMBER 31 TRUCK # 1-14 SCALE TICKET # P.O. NUMBER - HEX5094			1-313-729-3350		
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name STEVE R. CONSTOCK			Signature [Signature]		MONTH DAY YEAR 10 15 91
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Dan Tetterton			Signature [Signature]		MONTH DAY YEAR 10 16 91
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature		MONTH DAY YEAR
19. Discrepancy Indication Space 37100					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name [Signature]			Signature [Signature]		MONTH DAY YEAR 10 16 91

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

Copy 5 - TSD Facility: Mail to Generator

Copy 3 - Generator: Return To DoE

PAC 4900700



ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE, TRENTON, MICHIGAN 48104</b>		4. Generator's Phone (313) 285-1200		A. State Hazardous Waste ID No. <b>PAC 4000782</b>	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES</b>		6. US EPA ID Number <b>104 D9 869 24780</b>		B. State Hazardous Waste ID No. <b>PA 104102671</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Hazardous Waste ID No. <b>PA 104102671</b>	
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PAD 002 395887</b>		D. State Hazardous Waste ID No. <b>PA 104102671</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>RQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA3077, PGIII, (K061)</b>		12. Containers No. Type <b>0 0 1 D T 45620P</b>		13. Total Quantity <b>45620P</b>	
14. Unit Wt/Vol <b>10/15/91</b>		15. Waste No. <b>10/15/91</b>		16. Waste No. <b>10/15/91</b>	
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State <b>a. [ ] S</b>		K. Handling Codes for Wastes Listed Above <b>503</b>		17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Steve R. Constock</b>	
b. [ ]		c. [ ]		Signature <b>Steve R. Constock</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name <b>Dale Hutchins</b>		Signature <b>Dale Hutchins</b>		MONTH DAY YEAR <b>10/15/91</b>	
19. Discrepancy Indication Space <b>45620</b>		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DE Korta</b>		Signature <b>DE Korta</b>	
				MONTH DAY YEAR <b>10/16/91</b>	

PAC4900862



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

ER-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved,  
OMB No. 2050-0039  
Expires 9-30-91

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.

2. Page 1  
of 1

Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDLER  
1650 W. JEFFERSON AVENUE, TRENTON, MICHIGAN 48184

4. Generator's Phone (313) 285-1200

5. Transporter 1 Company Name

6. US EPA ID Number

AUTUMN INDUSTRIES

10HD986974780

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071

PAD002395887

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

13. Total  
Quantity

14. Unit  
Wt/Vol

15. Waste No.

RG HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/  
SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC  
FURNACES), CLASS 9, NA3077, PGIII, (K061)

001

DT

45720 P

2001

J. Additional Descriptions for Materials Listed Above  
Lab Pack Physical State

Lab Pack Physical State

K. Handling Codes for Wastes Listed Above

a. ☐ ☒ S

c. ☐ ☐

a. 503

b. ☐ ☐

d. ☐ ☐

b. ☐ ☐

d. ☐ ☐

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER (313)729-3350  
TRUCK # 39202  
SCALE TICKET # 39202  
P.O. NUMBER - HSY5094

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

MONTH DAY YEAR  
11 15 11

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR  
10 12 11

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR  
10 12 11

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR  
10 16 11

PAC 4900873







WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.2. Page 1  
of 1Information in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

**MCLOUTH STEEL - ATTN: D. WINDLER**  
**1650 W. JEFFERSON AVENUE, TRENTON, MICHIGAN 49184**  
 4. Generator's Phone ( **313** ) **285-1200**

5. Transporter 1 Company Name

6. US EPA ID Number

**AUTUMN INDUSTRIES INC**  
 7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

**HORSEHEAD RESOURCE DEVELOPMENT CO.**  
**EAST PLANT, DELAWARE AVENUE**  
**PALMERTON, PA 18071**

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

13. Total  
Quantity14. Unit  
Wt/Vol

15. Waste No.

a. **RQ HAZARDOUS WASTE SOLID H.O.S. (EMISSION CONTROL DUST/  
 SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC  
 FURNACES), CLASS 9, HA3077, PGIII, (K061)**

0 0 1 D T

4 1 3 2 0 P

J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

**EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER (313)729-3350**  
**TRUCK # 10603**  
**SCALE TICKET #**  
**P.O. NUMBER - NSX3094**

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

MONTH DAY YEAR

STEVE R. CONSTOCK

Steve R. Constock

10 15 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

JEFF BALINT

Jeff Balint

10 11 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR

DE KOCH

De Koch

10 16 91

PAC 4900895

# UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.2. Page 1  
of 1Information in the shaded areas  
is not required by Federal law  
but is required by State law.

## 3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDLER  
1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN

4. Generator's Phone (313) 285-1200

88183

5. Transporter 1 Company Name

6. US EPA ID Number

V&D INDUSTRIAL SERVICES MID072790710

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

HORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PIANT, DELAWARE AVENUE  
PALMERTON, PA 18071

IPAD002395887

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

13. Total  
Quantity14. Unit  
Wt/Vol

15. Waste No.

a. AQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL  
DUST/SUDGE FROM PRIMARY PRODUCTION OF STEEL IN  
ELECTRIC FURNACES), CLASS 9, NA3077, PG III,  
(K061)

0010T40080P

b.

c.

d.

J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

K. Handling Codes for Wastes Listed Above

a.

S

c.

d.

e.

f.

b.

c.

d.

e.

f.

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER  
TRUCK # T-39  
SCALE TICKET # P60023  
PO. NUMBER HSX5094  
P60023

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

STEVE R. COMSTOCK

MONTH DAY YEAR  
10 17 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

JULIE L. GUN

MONTH DAY YEAR  
10 17 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR  
10 17 91

19. Discrepancy Indication Space

Generator please fill in Manifest Document No  
10302 in the 1. Discrepancy & Code 10/17/91

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

K. K. K.

MONTH DAY YEAR  
10 17 91



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form approved,  
OMB No. 2050-0039  
Expires 9-30-91

PA-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address MCLOUTH STEEL - ATTN: D. WINDLER 1650 W. JEFFERSON AVENUE TRENON, MICHIGAN 48183		6. US EPA ID Number		A. State of Michigan	
4. Generator's Phone (313)		8. US EPA ID Number		B. State of Michigan	
5. Transporter 1 Company Name 285-1200		10. US EPA ID Number		C. State of Michigan	
7. Transporter 2 Company Name 285-1200		12. Containers		D. State of Michigan	
9. Designated Facility Name and Site Address HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PLANT, DELAWARE AVENUE PALMISTON PA 15071		13. Total Quantity		E. State of Michigan	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. RG HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, NA 3077, BIII, (K061)		14. Containers		F. Transporter's Phone	
b.		15. Containers		G. State Facility's ID	
c.		16. Containers		H. Facility's Phone	
d.		17. Containers		I. Facility's Phone	
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State Lab Pack Physical State		K. Handling Codes for Wastes Listed Above		L. Facility's Phone	
a. [ ] [ ]		a. 503		b. [ ] [ ]	
b. [ ] [ ]		b. [ ] [ ]		c. [ ] [ ]	
15. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE No. 31 / 24 HWR EMERGENCY RESPONSE NUMBER TRUCK # 41201 SCALE TICKET # P60025 P.O. # HS-594		16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.		17. Transporter 1 Acknowledgement of Receipt of Materials	
17. Transporter 1 Acknowledgement of Receipt of Materials		18. Transporter 2 Acknowledgement of Receipt of Materials		19. Discrepancy Indication Space	
18. Transporter 2 Acknowledgement of Receipt of Materials		19. Discrepancy Indication Space		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.	
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		21. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		22. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.	

PAC 4900910

**PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES**  
**Bureau of Waste Management**  
**P. O. Box 8550**  
**Harrisburg, PA 17105-8550**  
**OFFICIAL PENNSYLVANIA MANIFEST FORM**

FOR SHIPMENT OF HAZARDOUS, INFECTIONOUS  
 AND CHEMOTHERAPEUTIC WASTE.  
 Form approved.  
 OMB No. 2050-0039  
 Expires 9-30-91

ER-WM-51 REV. 1/91

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>MD0174233041</b>		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law but is required by State law.					
3. Generator's Name and Mailing Address <b>McLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE, TRENTON, MICHIGAN 48183</b>						A. State of Origin <b>PA</b>							
4. Generator's Phone <b>(313) 295-1300</b>						B. State of Destination <b>PA</b>							
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES</b>				6. US EPA ID Number <b>10HD986974780</b>		C. State of Transfer <b>PA</b>							
7. Transporter 2 Company Name				8. US EPA ID Number		D. State of Transfer <b>PA</b>							
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST AUNT, DELAWARE AVENUE</b> <b>PALMESTON P.A. 18071</b>				10. US EPA ID Number <b>PA0002395887</b>		E. State of Transfer <b>PA</b>							
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>a. RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNANCES), CLASS 9, NA 3077, PG III (K061)</b>						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
						No. Type							
						001 DT		47640 P		V061			
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above							
Lab Pack		Physical State		Lab Pack		Physical State		a. <b>803</b>		c.			
a. <input type="checkbox"/>		<b>S</b>		c. <input type="checkbox"/>		<input type="checkbox"/>		b. <input type="checkbox"/>		d. <input type="checkbox"/>			
b. <input type="checkbox"/>		<input type="checkbox"/>		d. <input type="checkbox"/>		<input type="checkbox"/>							
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31 / 24 HOUR EMERGENCY RESPONSE NUMBER</b> <b>TRUCK # 39204</b> <b>SCALE TICKET # PG0022</b> <b>P.O. # HSX5094</b>													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations													
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name <b>STEVE R. COMSTOCK</b>						Signature <i>[Signature]</i>				MONTH DAY YEAR <b>10 17 91</b>			
17. Transporter 1 Acknowledgement of Receipt of Materials						Signature <i>[Signature]</i>				MONTH DAY YEAR <b>10 17 91</b>			
Printed/Typed Name <b>MERL HOFFMAN</b>						Signature <i>[Signature]</i>				MONTH DAY YEAR <b>10 17 91</b>			
18. Transporter 2 Acknowledgement of Receipt of Materials						Signature				MONTH DAY YEAR			
Printed/Typed Name													
19. Discrepancy Indication Space <b>(1700) Generator please fill in Manifest Document No</b> <b>11000 in the 1st column of Copy 1, 2, &amp; 3</b>													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						Signature <i>[Signature]</i>				MONTH DAY YEAR <b>10 18 91</b>			
Printed/Typed Name <b>DE KOUT</b>													

PAC4900921

Bureau of Waste Management

P. O. Box 8550

Harrisburg, PA 17105-8550

Form approved.

OMB No. 2050-0039

Expires 9-30-91

EA-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of		Information in the shaded areas is not required by Federal law but is required by State law.					
3. Generator's Name and Mailing Address MCGOUGH STEEL - ATTN: D. WINDELER 1650 W. JEFFERSON AVENUE, TROY MI 48183						A. State of Michigan							
4. Generator's Phone (313) 285-1200						B. State of Michigan							
5. Transporter 1 Company Name AUTUMN INDUSTRIES						C. State of Michigan							
6. US EPA ID Number 104D986974780						D. State of Michigan							
7. Transporter 2 Company Name						E. State of Michigan							
8. US EPA ID Number						F. Transporter's Phone							
9. Designated Facility Name and Site Address HORSE HEAD RESOURCE DEVELOPMENT CO. EAST PIANT, DELAWARE AVENUE PALMERTON PA. 18071						G. State Facility's ID							
10. US EPA ID Number PAD002395887						H. Facility's Phone (215) 826-2111							
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		Waste No.	
a. RG HAZARDOUS WASTE SOLID N.O.-3 (EMISSION CONTROL DUST/SUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNANCES), CLASS 9, NA 3077, PG II						001 DT		46800 P				4061	
b. (Kobal)													
c.													
d.													
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above							
Lab Pack		Physical State		Lab Pack		Physical State		a. SO3		b. (Kobal)		c. (Kobal)	
a. [ ]		[S]		c. [ ]		[ ]							
b. [ ]		[ ]		d. [ ]		[ ]		b. (Kobal)		c. (Kobal)			
15. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE NO. 31 / 24 HOUR EMERGENCY RESPONSE TRUCK # 41101 SCALE TICKET #60026 PO. NUMBER HST 509A													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name STEVE R. COMSTOCK						Signature [Signature]						MONTH DAY YEAR 10/17/91	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Mike Stewart						Signature [Signature]						MONTH DAY YEAR 10/17/91	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name						Signature						MONTH DAY YEAR	
19. Discrepancy Indication Space Generator, please fill in: Handled Document No. 2 16110 Ste. 1 Delaware & Cape 10/21/91													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name DE KOUT						Signature [Signature]						MONTH DAY YEAR 10/17/91	

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

Copy 5 - TSD Facility: Mail to Generator

Copy 3 - Generator: Retain This Copy

PA: 4900932



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

AND CHEMOTHERAPEUTIC WASTE.  
FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

ER-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address MCLOUTH STEEL - ATTN: D. WINDEIER 1650 W. JEFFERSON AVE. TRENTON MICH. 48183		4. Generator's Phone (313) 285-1200	5. Transporter 1 Company Name AUTUMN INDUSTRIES	6. US EPA ID Number 10HD986974780	A. State Manifest Document Number PAC 4900943
7. Transporter 2 Company Name		8. US EPA ID Number	B. State Generator ID SAME		
9. Designated Facility Name and Site Address HORSEHEAD RESOURCE DEVELOPMENT CO. EAST PIANT DELAWARE AVENUE PALMERTON PA. 18071		10. US EPA ID Number PAD002395887	C. State Transfer ID PA 14110267		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNANCES), CLASS 9, NA3077, PGIII (K061)		12. Containers No. Type	13. Total Quantity	14. Unit (Wt/Vol)	15. Waste No.
		001 DT 44360 P			K061
1. Additional Descriptions for Materials Listed Above Lab Pack Physical State		2. Lab Pack Physical State	K. Handling Codes for Wastes Listed Above		
a. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State		c. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State	a. S03		
b. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State		d. <input type="checkbox"/> Lab Pack <input type="checkbox"/> Physical State	b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>		
5. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE NO 31. / 24 HOUR EMERGENCY RESPONSE TRUCK # 43301 SCALE TICKET # P60024 P.O. NUMBER HSX5094					
6. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name STEVE R. COMSTOCK		Signature <i>Steve R. Comstock</i>		MONTH DAY YEAR 10/17/91	
7. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Mark Gorman		Signature <i>Mark Gorman</i>		MONTH DAY YEAR 10/17/91	
8. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space See water. please fill in Manifest form - 720 in item 1. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 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407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000. 1001. 1002. 1003. 1004. 1005. 1006. 1007. 1008. 1009. 1010. 1011. 1012. 1013. 1014. 1015. 1016. 1017. 1018. 1019. 1020. 1021. 1022. 1023. 1024. 1025. 1026. 1027. 1028. 1029. 1030. 1031. 1032. 1033. 1034. 1035. 1036. 1037. 1038. 1039. 1040. 1041. 1042. 1043. 1044. 1045. 1046. 1047. 1048. 1049. 1050. 1051. 1052. 1053. 1054. 1055. 1056. 1057. 1058. 1059. 1060. 1061. 1062. 1063. 1064. 1065. 1066. 1067. 1068. 1069. 1070. 1071. 1072. 1073. 1074. 1075. 1076. 1077. 1078. 1079. 1080. 1081. 1082. 1083. 1084. 1085. 1086. 1087. 1088. 1089. 1090. 1091. 1092. 1093. 1094. 1095. 1096. 1097. 1098. 1099. 1100. 1101. 1102. 1103. 1104. 1105. 1106. 1107. 1108. 1109. 1110. 1111. 1112. 1113. 1114. 1115. 1116. 1117. 1118. 1119. 1120. 1121. 1122. 1123. 1124. 1125. 1126. 1127. 1128. 1129. 1130. 1131. 1132. 1133. 1134. 1135. 1136. 1137. 1138. 1139. 1140. 1141. 1142. 1143. 1144. 1145. 1146. 1147. 1148. 1149. 1150. 1151. 1152. 1153. 1154. 1155. 1156. 1157. 1158. 1159. 1160. 1161. 1162. 1163. 1164. 1165. 1166. 1167. 1168. 1169. 1170. 1171. 1172. 1173. 1174. 1175. 1176. 1177. 1178. 1179. 1180. 1181. 1182. 1183. 1184. 1185. 1186. 1187. 1188. 1189. 1190. 1191. 1192. 1193. 1194. 1195. 1196. 1197. 1198. 1199. 1200. 1201. 1202. 1203. 1204. 1205. 1206. 1207. 1208. 1209. 1210. 1211. 1212. 1213. 1214. 1215. 1216. 1217. 1218. 1219. 1220. 1221. 1222. 1223. 1224. 1225. 1226. 1227. 1228. 1229. 1230. 1231. 1232. 1233. 1234. 1235. 1236. 1237. 1238. 1239. 1240. 1241. 1242. 1243. 1244. 1245. 1246. 1247. 1248. 1249. 1250. 1251. 1252. 1253. 1254. 1255. 1256. 1257. 1258. 1259. 1260. 1261. 1262. 1263. 1264. 1265. 1266. 1267. 1268. 1269. 1270. 1271. 1272. 1273. 1274. 1275. 1276. 1277. 1278. 1279. 1280. 1281. 1282. 1283. 1284. 1285. 1286. 1287. 1288. 1289. 1290. 1291. 1292. 1293. 1294. 1295. 1296. 1297. 1298. 1299. 1300. 1301. 1302. 1303. 1304. 1305. 1306. 1307. 1308. 1309. 1310. 1311. 1312. 1313. 1314. 1315. 1316. 1317. 1318. 1319. 1320. 1321. 1322. 1323. 1324. 1325. 1326. 1327. 1328. 1329. 1330. 1331. 1332. 1333. 1334. 1335. 1336. 1337. 1338. 1339. 1340. 1341. 1342. 1343. 1344. 1345. 1346. 1347. 1348. 1349. 1350. 1351. 1352. 1353. 1354. 1355. 1356. 1357. 1358. 1359. 1360. 1361. 1362. 1363. 1364. 1365. 1366. 1367. 1368. 1369. 1370. 1371. 1372. 1373. 1374. 1375. 1376. 1377. 1378. 1379. 1380. 1381. 1382. 1383. 1384. 1385. 1386. 1387. 1388. 1389. 1390. 1391. 1392. 1393. 1394. 1395. 1396. 1397. 1398. 1399. 1400. 1401. 1402. 1403. 1404. 1405. 1406. 1407. 1408. 1409. 1410. 1411. 1412. 1413. 1414. 1415. 1416. 1417. 1418. 1419. 1420. 1421. 1422. 1423. 1424. 1425. 1426. 1427. 1428. 1429. 1430. 1431. 1432. 1433. 1434. 1435. 1436. 1437. 1438. 1439. 1440. 1441. 1442. 1443. 1444. 1445. 1446. 1447. 1448. 1449. 1450. 1451. 1452. 1453. 1454. 1455. 1456. 1457. 1458. 1459. 1460. 1461. 1462. 1463. 1464. 1465. 1466. 1467. 1468. 1469. 1470. 1471. 1472. 1473. 1474. 1475. 1476. 1477. 1478. 1479. 1480. 1481. 1482. 1483. 1484. 1485. 1486. 1487. 1488. 1489. 1490. 1491. 1492. 1493. 1494. 1495. 1496. 1497. 1498. 1499. 1500. 1501. 1502. 1503. 1504. 1505. 1506. 1507. 1508. 1509. 1510. 1511. 1512. 1513. 1514. 1515. 1516. 1517. 1518. 1519. 1520. 1521. 1522. 1523. 1524. 1525. 1526. 1527. 1528. 1529. 1530. 1531. 1532. 1533. 1534. 1535. 1536. 1537. 1538. 1539. 1540. 1541. 1542. 1543. 1544. 1545. 1546. 1547. 1548. 1549. 1550. 1551. 1552. 1553. 1554. 1555. 1556. 1557. 1558. 1559. 1560. 1561. 1562. 1563. 1564. 1565. 1566. 1567. 1568. 1569. 1570. 1571. 1572. 1573. 1574. 1575. 1576. 1577. 1578. 1579. 1580. 1581. 1582. 1583. 1584. 1585. 1586. 1587. 1588. 1589. 1590. 1591. 1592. 1593. 1594. 1595. 1596. 1597. 1598. 1599. 1600. 1601. 1602. 1603. 1604. 1605. 1606. 1607. 1608. 1609. 1610. 1611. 1612. 1613. 1614. 1615. 1616. 1617. 1618. 1619. 1620. 1621. 1622. 1623. 1624. 1625. 1626. 1627. 1628. 1629. 1630. 1631. 1632. 1633. 1634. 1635. 1636. 1637. 1638. 1639. 1640. 1641. 1642. 1643. 1644. 1645. 1646. 1647. 1648. 1649. 1650. 1651. 1652. 1653. 1654. 1655. 1656. 1657. 1658. 1659. 1660. 1661. 1662. 1663. 1664. 1665. 1666. 1667. 1668. 1669. 1670. 1671. 1672. 1673. 1674. 1675. 1676. 1677. 1678. 1679. 1680. 1681. 1682. 1683. 1684. 1685. 1686. 1687. 1688. 1689. 1690. 1691. 1692. 1693. 1694. 1695. 1696. 1697. 1698. 1699. 1700. 1701. 1702. 1703. 1704. 1705. 1706. 1707. 1708. 1709. 1710. 1711. 1712. 1713. 1714. 1715. 1716. 1717. 1718. 1719. 1720. 1721. 1722. 1723. 1724. 1725. 1726. 1727. 1728. 1729. 1730. 1731. 1732. 1733. 1734. 1735. 1736. 1737. 1738. 1739. 1740. 1741. 1742. 1743. 1744. 1745. 1746. 1747. 1748. 1749. 1750. 1751. 1752. 1753. 1754. 1755. 1756. 1757. 1758. 1759. 1760. 1761. 1762. 1763. 1764. 1765. 1766. 1767. 1768. 1769. 1770. 1771. 1772. 1773. 1774. 1775. 1776. 1777. 1778. 1779. 1780. 1781. 1782. 1783. 1784. 1785. 1786. 1787. 1788. 1789. 1790. 1791. 1792. 1793. 1794. 1795. 1796. 1797. 1798. 1799. 1800. 1801. 1802. 1803. 1804. 1805. 1806. 1807. 1808. 1809. 1810. 1811. 1812. 1813. 1814. 1815. 1816. 1817. 1818. 1819. 1820. 1821. 1822. 1823. 1824. 1825. 1826. 1827. 1828. 1829. 1830. 1831. 1832. 1833. 1834. 1835. 1836. 1837. 1838. 1839. 1840. 1841. 1842. 1843. 1844. 1845. 1846. 1847. 1848. 1849. 1850. 1851. 1852. 1853. 1854. 1855. 1856. 1857. 1858. 1859. 1860. 1861. 1862. 1863. 1864. 1865. 1866. 1867. 1868. 1869. 1870. 1871. 1872. 1873. 1874. 1875. 1876. 1877. 1878. 1879. 1880. 1881. 1882. 1883. 1884. 1885. 1886. 1887. 1888. 1889. 1890. 1891. 1892. 1893. 1894. 1895. 1896. 1897. 1898. 1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923. 1924. 1925. 1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. 1936. 1937. 1938. 1939. 1940. 1941. 1942. 1943. 1944. 1945. 1946. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979					



Bureau of Waste Management

P. O. Box 8550

Harrisburg, PA 17105-8550

Form approved.

OMB No. 2050-0039

Expires 9-30-91

EPA-WM-51 REV. 1/91

## OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS  
WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest  
Document No.2. Page 1  
ofInformation in the shaded areas  
is not required by Federal law  
but is required by State law.

3. Generator's Name and Mailing Address

MCLOUTH STEEL - ATTN: D. WINDLER  
1630 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183

4. Generator's Phone (313) 285-1200

5. Transporter 1 Company Name

6. US EPA ID Number

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

MORSEHEAD RESOURCE DEVELOPMENT CO.  
EAST PLANT, DELAWARE AVENUE  
PALMERTON, PA 18071

A D O O 2 3 9 5 8 8 7

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

No.

Type

13. Total  
Quantity14. Unit  
Wt/Vol

15. Waste No.

HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/  
SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC  
FURNACES), CLASS 9, HA3077, PGIII, (K061)

0 0 1 D T 41060 P

J. Additional Descriptions for Materials Listed Above

Lab Pack

Physical State

Lab Pack

Physical State

K. Handling Codes for Wastes Listed Above

a. ☐

S

c. ☐

S

a. ☐

503

c. ☐b. ☐

S

d. ☐

S

b. ☐

S

d. ☐

S

15. Special Handling Instructions and Additional Information

EMERGENCY RESPONSE GUIDE NO. 31

BOOK # 42901

SCALE TICKET #

P.O. NUMBER - HSK5094

24 HOUR EMERGENCY RESPONSE NUMBER  
1-313-727-3350

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

MONTH DAY YEAR

10 22 91

17. Transporter's Acknowledgment of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

11 22 91

18. Transporter's Acknowledgment of Receipt of Materials

Printed/Typed Name

Signature

MONTH DAY YEAR

11 22 91

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

MONTH DAY YEAR

10 22 91

PAC 4900954



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550  
OFFICIAL PENNSYLVANIA MANIFEST FORM

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDELER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>		6. US EPA ID Number <b>104D986974780</b>		A. State Manifest Document No. <b>PAC 4900965</b>	
4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		8. US EPA ID Number		B. State Generator's ID No.	
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES</b>		6. US EPA ID Number		C. State Transporter's ID No. <b>PA 102671</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone ( )	
9. Designated Facility Name and Site Address <b>NORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PAD002395887</b>		E. State Facility's ID No. <b>PA</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) <b>a. RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, HA3077, PGIII, (K061)</b>		12. Containers No. Type <b>001 BT</b>		13. Total Quantity <b>45860 P</b>	14. Unit Wt/Vol <b>P</b>
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State <b>a. [ ] [S]</b>		Lab Pack Physical State <b>c. [ ] [ ]</b>		K. Handling Codes for Wastes Listed Above <b>a. S03</b>	
b. [ ] [ ]		d. [ ] [ ]		b. [ ] [ ]	
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO.31 24 HOUR EMERGENCY RESPONSE NUMBER 1-313-729-3350</b> <b>TRUCK # 41201</b> <b>SCALE TICKET #</b> <b>P.O. NUMBER - HSX5094</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		MONTH DAY YEAR <b>10 22 91</b>	
Printed/Typed Name		Signature		MONTH DAY YEAR <b>10 22 91</b>	
Printed/Typed Name		Signature		MONTH DAY YEAR <b>10 23 91</b>	
18. Discrepancy Indication Space <b>45710</b>					
Printed/Typed Name		Signature		MONTH DAY YEAR <b>10 23 91</b>	

PAC 4900965





PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 1/91

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <b>MI D 0 1 7 4 2 3 3 0 4</b>	Manifest Document No. <b>CE 913</b>	2. Page 1 1 of	Information in the shaded areas is not required by Federal law but is required by State law.	
3. Generator's Name and Mailing Address <b>McLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48183</b>				A. State: <b>MI</b>		
4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>				B. State: <b>MI</b>		
5. Transporter 1 Company Name <b>AUTUMN INDUSTRIES</b>				C. State: <b>PA</b>		
6. US EPA ID Number <b>10HD986974780</b>				D. State: <b>PA</b>		
7. Transporter 2 Company Name				E. State: <b>PA</b>		
8. US EPA ID Number				F. Transporter's Phone		
9. Designated Facility Name and Site Address <b>HORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>				G. State Facility ID		
10. US EPA ID Number <b>PAD002395887</b>				H. Facility's Phone		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. <b>HQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, WA3077, PGIII, (K061)</b>			<b>001</b> <b>DT</b>	<b>41380</b>	<b>P</b>	<b>1001</b>
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State			K. Handling Codes for Wastes Listed Above a. <b>503</b>			
a. <b>S</b>			b.			
b.			c.			
c.			d.			
d.			e.			
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>24 HOUR EMERGENCY RESPONSE NUMBER</b> <b>TRUCK # 39106</b> <b>1-313-729-3350</b> <b>SCALE TICKET #</b> <b>P.O. NUMBER - H5X5094</b>						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name <b>STEVE R. CONSTOCK</b>			Signature <i>[Signature]</i>		MONTH DAY YEAR <b>10 22 91</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>William Fox</b>			Signature <i>[Signature]</i>		MONTH DAY YEAR <b>10 22 91</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature		MONTH DAY YEAR	
19. Discrepancy Indication Space <b>41100</b>						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>DE KACH</b>			Signature <i>[Signature]</i>		MONTH DAY YEAR <b>10 23 91</b>	

PAC4900980



ER-WM-51 REV. 1/91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law but is required by State law.	
3. Generator's Name and Mailing Address <b>MCLOUTH STEEL - ATTN: D. WINDLER</b> <b>1650 W. JEFFERSON AVENUE TRENTON, MICHIGAN 48103</b>		4. Generator's Phone ( <b>313</b> ) <b>285-1200</b>		5. Transporter 1 Company Name <b>KED INDUSTRIAL SERVICES</b>		6. US EPA ID Number <b>MID072790710</b>
7. Transporter 2 Company Name		8. US EPA ID Number		9. Designated Facility Name and Site Address <b>NORSEHEAD RESOURCE DEVELOPMENT CO.</b> <b>EAST PLANT, DELAWARE AVENUE</b> <b>PALMERTON, PA 18071</b>		10. US EPA ID Number <b>PAD002395887</b>
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. <b>RQ HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST/SLUDGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES), CLASS 9, HA3077, PGIII, (K061)</b>		No. <b>001</b> Type <b>D</b>		<b>39</b>	<b>500</b>	<b>P</b>
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above				
Lab Pack Physical State		Lab Pack Physical State				
a. <b>S</b>		c. <b>S</b>				
b. <b>S</b>		d. <b>S</b>				
15. Special Handling Instructions and Additional Information <b>EMERGENCY RESPONSE GUIDE NO. 31</b> <b>TRUCK # T-19 DTR-3</b> <b>SCALE TICKET #</b> <b>P.O. NUMBER - H515094</b> <b>24HR EMERGENCY RESPONSE NUMBER</b> <b>1-313-729-3350</b>						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name		Signature		MONTH DAY YEAR		
17. Transporter 1 Acknowledgment of Receipt of Materials		Signature		MONTH DAY YEAR		
Printed/Typed Name		Signature		MONTH DAY YEAR		
18. Transporter 2 Acknowledgment of Receipt of Materials		Signature		MONTH DAY YEAR		
Printed/Typed Name		Signature		MONTH DAY YEAR		
19. Discrepancy Indication Space <b>Weight discrepancy resolved by company of gross weights (72,880 - HRB, 75,040 - MSF. Dabco lab. 4/1/91)</b>						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name		Signature		MONTH DAY YEAR		

PAC 4900991



PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
Bureau of Waste Management  
P. O. Box 8550  
Harrisburg, PA 17105-8550

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS  
AND CHEMOTHERAPEUTIC WASTE.

Form approved.  
OMB No. 2050-0039  
Expires 9-30-91

ER-WM-51 REV. 11/89

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law but is required by State law.
3. Generator's Name and Mailing Address MCLOUTH STEEL - ATTN: D. W. NDEIER 1650 WEST JEFFERSON AVE. TRENTON NJ 08613		6. US EPA ID Number MID072790710		A. State Manifest ID PAC 4078141	
4. Generator's Phone (313) 285-1200		8. US EPA ID Number		B. State Gen. ID SAME	
5. Transporter 1 Company Name V&D INDUSTRIAL SERVICES INC		10. US EPA ID Number		C. State Trans. ID PA 1A H 103201	
7. Transporter 2 Company Name		12. Containers		D. Transporter's Phone ( )	
9. Designated Facility Name and Site Address HORSE HEAD RESOURCE DEVELOPMENT CO EAST PIANT, DELAWARE AVE. PALMERTON PA. 18071		13. Total Quantity		E. State Trans. ID	
10. US EPA ID Number IPAD002395887		14. Unit Wt/Vol		F. Transporter's Phone ( )	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. RQ, HAZARDOUS WASTE SOLID N.O.S. (EMISSION CONTROL DUST) SLODGE FROM PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES, CLASS 9, NA3077, PG II, (K061)		15. Special Handling Instructions and Additional Information EMERGENCY RESPONSE GUIDE NO. 31 24 HOUR EMERGENCY RESPONSE NUMBER 1-313-729-3350 TRUCK # SCALE TICKET # DTR-3 P.O. # HSX5094		G. State Facility's ID	
J. Additional Descriptions for Materials Listed Above Lab Pack Physical State		K. Handling Codes for Wastes Listed Above S03		H. Facility's Phone (215) 826-2111	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.		17. Transporter 1 Acknowledgement of Receipt of Materials		18. Transporter 2 Acknowledgement of Receipt of Materials	
19. Discrepancy Indication Space (24000) in item 1 and please fill in item 2, Deborah L. Gye and/or copies		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.		21. Facility's Phone ( )	

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete.

Copy 5 - TSD Facility Manifest Generator

REPLACEMENT COPY 8 - GENERATOR: RETAIN THIS COPY

PAC 4078141

**APPENDIX E**  
**LABORATORY ANALYSIS REPORTS - TECHNA BACKGROUND ASSESSMENT**



# Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Drive, Suite 222 East Lansing, MI 48823  
Phone (517) 332-0167 Fax (517) 332-6333

August 12, 1997

Attention: Mr. James Harless

Techna Corporation  
44808 Helm Street  
Plymouth, MI 48170-6026

## Analytical Laboratory Report

**FECL #(s): AA49652-AA49660**

**Project: 000738-09A-001**

Samples collected by: UNKNOWN

Date/Time Submitted: 07/30/97 08:00

PO #: Verbal

**FECL #: AA49652**

Tag: TBG-A

Date/Time Collected: 07/28/97 08:22

Matrix: Soil

Container(s): 2-Glass

Preservation: Refrigeration/None

**FECL #: AA49653**

Tag: TBG-B (0-1)

Date/Time Collected: 07/28/97 08:35

Matrix: Soil

Container(s): 2-Glass

Preservation: Refrigeration/None

**FECL #: AA49654**

Tag: TBG-B (2-3)

Date/Time Collected: 07/28/97 08:40

Matrix: Soil

Container(s): 2-Glass

Preservation: Refrigeration/None



Analytical Laboratory Report  
Techna Corporation  
August 12, 1997

**FECL #: AA49655**

Tag: TBG-C  
Date/Time Collected: 07/28/97 08:55  
Matrix: Soil  
Container(s): 2-Glass  
Preservation: Refrigeration/None

**FECL #: AA49656**

Tag: TBG-D (1-2)  
Date/Time Collected: 07/28/97 09:07  
Matrix: Soil  
Container(s): 2-Glass  
Preservation: Refrigeration/None

**FECL #: AA49657**

Tag: TBG-D (3-4)  
Date/Time Collected: 07/28/97 09:17  
Matrix: Soil  
Container(s): 2-Glass  
Preservation: Refrigeration/None

**FECL #: AA49658**

Tag: TTest Pile A  
Date/Time Collected: 07/28/97 07:06  
Matrix: Soil  
Container(s): 2-Glass  
Preservation: Refrigeration/None

**FECL #: AA49659**

Tag: TTest Pile B  
Date/Time Collected: 07/28/97 07:10  
Matrix: Soil  
Container(s): 2-Glass  
Preservation: Refrigeration/None

**FECL #: AA49660**

Tag: TBG-H  
Date/Time Collected: 07/28/97 07:18  
Matrix: Soil  
Container(s): 2-Glass  
Preservation: Refrigeration/None



Analytical Laboratory Report  
Techna Corporation  
August 12, 1997

**FECL #: AA49652**

**Tag: TBG-A**

**Date/Time Collected: 07/28/97 08:22**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b><i>Inorganics</i></b>						
Total Solids	94.4	%	1	160.3	I M	08/08/97
<b><i>Metals</i></b>						
Cadmium	0.82	mg/kg	0.05	6020	P R	08/06/97
Chromium	561	mg/kg	1.0	6020	P R	08/06/97
Lead	41.3	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49653**

**Tag: TBG-B (0-1)**

**Date/Time Collected: 07/28/97 08:35**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b><i>Inorganics</i></b>						
Total Solids	91.7	%	1	160.3	I M	08/08/97
<b><i>Metals</i></b>						
Cadmium	1.83	mg/kg	0.05	6020	P R	08/06/97
Chromium	200	mg/kg	1.0	6020	P R	08/06/97
Lead	191	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49654**

**Tag: TBG-B (2-3)**

**Date/Time Collected: 07/28/97 08:40**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b><i>Inorganics</i></b>						
Total Solids	93.3	%	1	160.3	I M	08/08/97



Analytical Laboratory Report  
Techna Corporation  
August 12, 1997

**FECL #: AA49654 (Continued)**  
**Tag: TBG-B (2-3)**  
**Date/Time Collected: 07/28/97 08:40**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<i><b>Metals</b></i>						
Cadmium	1.38	mg/kg	0.05	6020	P R	08/06/97
Chromium	197	mg/kg	1.0	6020	P R	08/06/97
Lead	96.6	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49655**  
**Tag: TBG-C**  
**Date/Time Collected: 07/28/97 08:55**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<i><b>Inorganics</b></i>						
Total Solids	90.0	%	1	160.3	I M	08/08/97
<i><b>Metals</b></i>						
Cadmium	5.00	mg/kg	0.05	6020	P R	08/06/97
Chromium	429	mg/kg	1.0	6020	P R	08/06/97
Lead	406	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49656**  
**Tag: TBG-D (1-2)**  
**Date/Time Collected: 07/28/97 09:07**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<i><b>Inorganics</b></i>						
Total Solids	91.2	%	1	160.3	I M	08/08/97
<i><b>Metals</b></i>						
Cadmium	1.42	mg/kg	0.05	6020	P R	08/06/97
Chromium	488	mg/kg	1.0	6020	P R	08/06/97
Lead	273	mg/kg	1.0	6020	P R	08/06/97





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FECL #: AA49657

Tag: TBG-D (3-4)

Date/Time Collected: 07/28/97 09:17

Matrix: Soil

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<i>Inorganics</i>						
Total Solids	87.3	%	1	160.3	I M	08/08/97
<i>Metals</i>						
Cadmium	1.58	mg/kg	0.05	6020	P R	08/06/97
Chromium	39.1	mg/kg	1.0	6020	P R	08/06/97
Lead	73.1	mg/kg	1.0	6020	P R	08/06/97

FECL #: AA49658

Tag: TTest Pile A

Date/Time Collected: 07/28/97 07:06

Matrix: Soil

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<i>Inorganics</i>						
Total Solids	97.8	%	1	160.3	I M	08/08/97
<i>Metals</i>						
Arsenic	6.93	mg/kg	0.50	6020	P R	08/09/97
Barium	69.7	mg/kg	1.0	6020	P R	08/09/97
Cadmium	0.30	mg/kg	0.05	6020	P R	08/09/97
Chromium	31.9	mg/kg	1.0	6020	P R	08/09/97
Copper	63.0	mg/kg	1.0	6020	P R	08/09/97
Lead	24.5	mg/kg	1.0	6020	P R	08/09/97
Mercury	Not detected	mg/kg	0.10	7471	E B	08/11/97
Selenium	Not detected	mg/kg	0.50	6020	P R	08/09/97
Silver	0.33	mg/kg	0.20	6020	P R	08/09/97
Zinc	90.7	mg/kg	1.0	6020	P R	08/09/97
Arsenic	0.011	mg/L	0.001	200.8	P R	08/09/97
Barium	1.45	mg/L	0.01	200.8	P R	08/09/97
Cadmium	Not detected	mg/L	0.0002	200.8	P R	08/09/97
Chromium	0.01	mg/L	0.01	200.8	P R	08/09/97
Copper	0.06	mg/L	0.01	200.8	P R	08/09/97



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**FECL #: AA49658 (Continued)**

**Tag: TTest Pile A**

**Date/Time Collected: 07/28/97 07:06**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Metals (Continued)</b>						
Lead	Not detected	mg/L	0.003	200.8	P R	08/09/97
Mercury	Not detected	mg/L	0.0002	245.1	E B	08/11/97
Selenium	Not detected	mg/L	0.005	200.8	P R	08/09/97
Silver	Not detected	mg/L	0.0005	200.8	P R	08/09/97
Zinc	0.76	mg/L	0.01	200.8	P R	08/09/97
<b>TCLP Extraction</b>						
% Solids	100			1311	I M	08/06/97
Sample used g	100			1311	I M	08/06/97
Final Volume ml	2,000			1311	I M	08/06/97
Final Extract pH	6.61			1311	I M	08/06/97

**FECL #: AA49659**

**Tag: TTest Pile B**

**Date/Time Collected: 07/28/97 07:10**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	96.6	%	1	160.3	I M	08/08/97
<b>Metals</b>						
Arsenic	5.38	mg/kg	0.50	6020	P R	08/09/97
Barium	37.7	mg/kg	1.0	6020	P R	08/09/97
Cadmium	0.58	mg/kg	0.05	6020	P R	08/09/97
Chromium	189	mg/kg	1.0	6020	P R	08/09/97
Copper	43.5	mg/kg	1.0	6020	P R	08/09/97
Lead	62.5	mg/kg	1.0	6020	P R	08/09/97
Mercury	Not detected	mg/kg	0.10	7471	E B	08/11/97
Mercury	Not detected	mg/L	0.0002	245.1	E B	08/11/97
Selenium	Not detected	mg/kg	0.50	6020	P R	08/09/97
Silver	0.83	mg/kg	0.20	6020	P R	08/09/97



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**FECL #: AA49659 (Continued)**

**Tag: TTest Pile B**

**Date/Time Collected: 07/28/97 07:10**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Metals (Continued)</b>						
Zinc	877	mg/kg	1.0	6020	P R	08/09/97
Arsenic	0.008	mg/L	0.001	200.8	P R	08/09/97
Barium	1.24	mg/L	0.01	200.8	P R	08/09/97
Cadmium	Not detected	mg/L	0.0002	200.8	P R	08/09/97
Chromium	0.02	mg/L	0.01	200.8	P R	08/09/97
Copper	Not detected	mg/L	0.01	200.8	P R	08/09/97
Lead	Not detected	mg/L	0.003	200.8	P R	08/09/97
Selenium	Not detected	mg/L	0.005	200.8	P R	08/09/97
Silver	Not detected	mg/L	0.0005	200.8	P R	08/09/97
Zinc	4.82	mg/L	0.01	200.8	P R	08/09/97
<b>TCLP Extraction</b>						
% Solids	100			1311	I M	08/06/97
Sample used g	100			1311	I M	08/06/97
Final Volume ml	2,000			1311	I M	08/06/97
Final Extract pH	6.30			1311	I M	08/06/97

**FECL #: AA49660**

**Tag: TBG-H**

**Date/Time Collected: 07/28/97 07:18**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	93.1	%	1	160.3	I M	08/08/97
<b>Metals</b>						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/06/97
Chromium	906	mg/kg	1.0	6020	P R	08/06/97
Lead	2.2	mg/kg	1.0	6020	P R	08/06/97



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Note: Methods may be modified for improved performance.  
Results reported on a dry weight basis, where applicable.  
Results relate only to items tested.  
Report shall not be reproduced except in full, without the written approval of FECL.

*Violetta F. Murshak*

**Violetta F. Murshak**  
**Laboratory Director**

TECHNA CORPORATION  
44808 Helm Street  
Plymouth, MI 48170-6026

Telephone Numbers:  
(313) 454-1100  
(313) 454-1233 (FAX)

# CHAIN OF CUSTODY

Send report to: <b>JAMES HARLEST TECHNA CORP</b>		Project: <b>00738-09A 001</b>		Lab: <b>FELL</b>		Due Date:		Parameters						
Sample ID	Date	Time	Grab(G)/ Composite(C)	# Containers	Matrix*	Preservative**		CHROMIUM AND LEAD	NI 10 METALS	SPLP NI 10 METALS	TCLP NI 10 METALS			
VBG-A	7/28/97	8:22	G	2	S	6		X				49652		
VBG-B(0-1)		8:35		2				X				49653		
VBG-B(2-3)		8:40		1				X				49654		
VBG-C		8:55		2				X				49655		
VBG-D(1-2)		9:07						X				49656		
VBG-D(3-4)		9:17						X				49657		
TEST PILE-A		7:06						X				49658		
TEST PILE-B		7:10						X				49659		
TEST PILE-BLANK		5:30												
VBG-H	7/28/97	7:18	G	2	S	6		X				49660		
Collected by:	<i>[Signature]</i>													
Relinquished by:	<i>[Signature]</i>													
Relinquished by:	<i>[Signature]</i>													
Relinquished by:														
Relinquished by:														
Relinquished by:														
Relinquished by Lab:														

Remarks: ACT 451, PART 201 LIMITS, QA/QC, and FAX RESULTS  
NOTE: PLEASE RUN SPLP SAMPLES

(6) Indicate Preservative Used: 2°C

\*Matrix: S = Solid L = Liquid  
\*\*Preservatives: (1) H<sub>2</sub>SO<sub>4</sub> to pH < 2 (2) 10N NaOH to pH ≥ 12 (3) HNO<sub>3</sub> to pH < 2 (4) 1:1 HCl  
W = Water GW = Groundwater SL = Sludge  
WW = Wastewater (5) Zinc Acetate  
O = Other (6) See Remarks  
COCform.1c

TECHNA CORPORATION  
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(313) 454-1233 (FAX)

# CHAIN OF CUSTODY

Send report to: <b>JAMES HARLESS</b> <b>TECHNA CORP</b>	Project: <b>00738-09A</b> <b>001</b>	Lab: <b>FELL</b>	Due Date: <b>8/4/97</b>	Parameters								
Sample ID	Date	Time	Grab(G)/Composite(C)	# Containers	Matrix*	Preservative**	CHROMIUM AND LEAD	AR 10	ME TALS	SPL: ME TALS	TCLP ME TALS	
<del>YBG-A</del>	<del>7/28/97</del>	<del>8:22</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>YBG-B(0-1)</del>	<del>8:35</del>	<del>8:35</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>YBG-B(2-3)</del>	<del>8:40</del>	<del>8:40</del>	<del>G</del>	<del>1</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>YBG-C</del>	<del>8:55</del>	<del>8:55</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>YBG-D(1-2)</del>	<del>9:07</del>	<del>9:07</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>YBG-D(3-4)</del>	<del>9:17</del>	<del>9:17</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>TEST PILE-A</del>	<del>7:06</del>	<del>7:06</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>TEST PILE-B</del>	<del>7:10</del>	<del>7:10</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>TEST PILE-C</del>	<del>5:30</del>	<del>5:30</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
<del>TEST PILE-D</del>	<del>7:18</del>	<del>7:18</del>	<del>G</del>	<del>2</del>	<del>S</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	
Collected by: <i>[Signature]</i>	Date: <b>7/28/97</b>	Time: <b>9:30</b>										
Relinquished by: <i>[Signature]</i>	Date: <b>7/28/97</b>	Time: <b>18:00</b>	Received by: <i>[Signature]</i> <b>Techna Storage</b>									
Relinquished by: <i>[Signature]</i>	Date: <b>7/28/97</b>	Time: <b>1650</b>	Received by: <i>[Signature]</i> <b>Isaia</b>									
Relinquished by:	Date:	Time:	Received by:									
Relinquished by:	Date:	Time:	Received by:									
Relinquished by:	Date:	Time:	Received by:									
Relinquished by:	Date:	Time:	Received by:									
Relinquished by:	Date:	Time:	Received by:									

Remarks: **ACT 451, PART 201 LIMITS: 9A/9C; and FAX RESULTS**  
**NOTE: PLEASE RUN SPLP SAMPLES**

(6) Indicate Preservative Used: **2°C**

\*Matrix: S = Solid L = Liquid W = Water GW = Groundwater SL = Sludge WW = Wastewater O = Other  
 \*\*Preservatives: (1) H<sub>2</sub>SO<sub>4</sub> to pH < 2 (2) 10N NaOH to pH ≥ 12 (3) HNO<sub>3</sub> to pH < 2 (4) 1:1 HCl (5) Zinc Acetate (6) See Remarks COC6



# Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Drive, Suite 222 East Lansing, MI 48823  
Phone (517) 332-0167 Fax (517) 332-6333

August 06, 1997

Attention: Mr. James Harless

Techna Corporation  
44808 Helm Street  
Plymouth, MI 48170-6026

## Analytical Laboratory Report

**FECL #(s): AA49566-AA49575**

**Project: 00738-09A-003**

Samples collected by: UNKNOWN

Date/Time Submitted: 07/29/97 08:00

PO #: Verbal

**FECL #: AA49566**

Tag: TTrip Blank

Date/Time Collected: 07/24/97 17:15

Matrix: Liquid

Container(s): 2-40 mL VOA

Preservation: Refrigeration/HCl

**FECL #: AA49567**

Tag: TB11-A

Date/Time Collected: 07/25/97 17:45

Matrix: Soil

Container(s): 2-4 oz Glass

Preservation: Refrigeration/None

**FECL #: AA49568**

Tag: TB11-B

Date/Time Collected: 07/25/97 07:50

Matrix: Soil

Container(s): 2-4 oz Glass

Preservation: Refrigeration/None



Analytical Laboratory Report  
Techna Corporation  
August 06, 1997

**FECL #: AA49569**

Tag: TB11-C  
Date/Time Collected: 07/25/97 08:00  
Matrix: Soil  
Container(s): 2-4 oz Glass  
Preservation: Refrigeration/None

**FECL #: AA49570**

Tag: TB11-D  
Date/Time Collected: 07/25/97 08:10  
Matrix: Soil  
Container(s): 2-4 oz Glass  
Preservation: Refrigeration/None

**FECL #: AA49571**

Tag: TDup  
Date/Time Collected: 07/25/97  
Matrix: Soil  
Container(s): 2-4 oz Glass  
Preservation: Refrigeration/None

**FECL #: AA49572**

Tag: TBG-G  
Date/Time Collected: 07/25/97 15:18  
Matrix: Soil  
Container(s): 2-4 oz Glass  
Preservation: Refrigeration/None

**FECL #: AA49573**

Tag: TBG-F  
Date/Time Collected: 07/25/97 15:30  
Matrix: Soil  
Container(s): 2-4 oz Glass  
Preservation: Refrigeration/None

**FECL #: AA49574**

Tag: TBG-E (1-2)  
Date/Time Collected: 07/25/97 16:15  
Matrix: Soil  
Container(s): 2-4 oz Glass  
Preservation: Refrigeration/None



TECHNA CORPORATION  
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Telephone Numbers:  
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# CHAIN OF CUSTODY

Send report to: <b>JAMES HARLESS</b> <b>TECHNA CORP</b>		Project: <b>00738-09A-003</b>		Lab: <b>FEC</b>		Due Date: <b>Aug 4, 1997</b>	
Sample ID	Date	Time	Grab(G)/Composite(C)	# Containers	Matrix*	Preservative**	
TREP BLANK	7/24/97	17:15	G	2	W	48200	
TB11-A	7/25/97	7:45			S	200	
TB11-B		9:50					
TB11-C		8:00					
TB11-D		8:10					
TREP							
TB11-G		15:30					
TB11-F		15:30					
TB11-E (1-2)		16:15					
TB11-E (3-4)		16:25					

Remarks: **ACT 451, PART 201 LIMITS**  
**9A/9C; FAX RESULTS**  
**\* NOTE: SAMPLES B11-B, B11-C, AND B11-D in preserved zone**



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**FECL #: AA49575**

Tag: TBG-E (3-4)

Date/Time Collected: 07/25/97 16:25

Matrix: Soil

Container(s): 1-4 oz Glass

Preservation: Refrigeration/None



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Techna Corporation  
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FECL #: AA49566

Tag: TTrip Blank

Date/Time Collected: 07/24/97 17:15

Matrix: Liquid

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics</b>						
<b>Volatile Organics</b>						
Benzene	Not detected	mg/L	0.001	8260	VFM	07/31/97
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
Bromoform	Not detected	mg/L	0.001	8260	VFM	07/31/97
Bromomethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	07/31/97
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	07/31/97
Chloroethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
2-Chloroethylvinyl ether	Not detected	mg/L	0.001	8260	VFM	07/31/97
Chloroform	Not detected	mg/L	0.001	8260	VFM	07/31/97
Chloromethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	07/31/97
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	07/31/97
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	07/31/97
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	07/31/97
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	07/31/97
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	07/31/97
Methylene Chloride	Not detected	mg/L	0.001	8260	VFM	07/31/97
Styrene	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	07/31/97
Toluene	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	07/31/97
Trichlorofluoromethane	Not detected	mg/L	0.001	8260	VFM	07/31/97
Vinyl Chloride	Not detected	mg/L	0.001	8260	VFM	07/31/97
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	07/31/97
o-Xylene	Not detected	mg/L	0.001	8260	VFM	07/31/97



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Techna Corporation  
August 06, 1997

**FECL #: AA49566 (Continued)**  
**Tag: TTrip Blank**  
**Date/Time Collected: 07/24/97 17:15**  
**Matrix: Liquid**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>Volatile Organics (Continued)</b>						
Acetone	Not detected	mg/L	0.05	8260	VFM	07/31/97
2-Butanone	Not detected	mg/L	0.05	8260	VFM	07/31/97
Carbon disulfide	Not detected	mg/L	0.05	8260	VFM	07/31/97
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	07/31/97
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	07/31/97

**FECL #: AA49567**  
**Tag: TB11-A**  
**Date/Time Collected: 07/25/97 17:45**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	89.1	%	1	160.3	JH	08/01/97

<b>Organics</b>						
PNA Extraction	Completed				JKB	07/31/97

**GC/MS for Volatile Organics**

Benzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromochloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromodichloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromoform	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromomethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
n-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
sec-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
tert-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Carbon tetrachloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloroform	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97



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**FECL #: AA49567 (Continued)**

**Tag: TB11-A**

**Date/Time Collected: 07/25/97 17:45**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
2-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
4-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dibromochloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dibromoethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dibromomethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,4-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dichlorodifluoromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
cis-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
trans-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
2,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Ethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Hexachlorobutadiene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Isopropylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
p-Isopropyltoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Methylene chloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Naphthalene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
n-Propylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Styrene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Tetrachloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Toluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,1-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,2-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97



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**FECL #: AA49567 (Continued)**

**Tag: TB11-A**

**Date/Time Collected: 07/25/97 17:45**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
Trichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Trichlorofluoromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,3-Trichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Vinyl chloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
o-Xylene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
p,m-Xylene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
cis-1,3-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
<b>Polynuclear Aromatics</b>						
Acenaphthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Acenaphthylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(b)fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(k)fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(ghi)perylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Chrysene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Dibenzo(ah)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluorene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Naphthalene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Phenanthrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
2-Methylnaphthalene	Not detected	mg/kg	0.33	8270	JB	08/01/97



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**FECL #: AA49568**

**Tag: TB11-B**

**Date/Time Collected: 07/25/97 07:50**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	81.9	%	1	160.3	JH	08/01/97
<b>Organics</b>						
PNA Extraction	Completed				JKB	07/31/97
<b>GC/MS for Volatile Organics</b>						
Benzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Bromobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Bromochloromethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Bromodichloromethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Bromoform	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Bromomethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
n-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
sec-Butylbenzene	0.6	mg/kg	* 0.1	8260	VFM	08/02/97
tert-Butylbenzene	0.2	mg/kg	* 0.1	8260	VFM	08/02/97
Carbon tetrachloride	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Chlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Chloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Chloroform	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Chloromethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
2-Chlorotoluene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
4-Chlorotoluene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Dibromochloromethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2-Dibromoethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Dibromomethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,3-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,4-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Dichlorodifluoromethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
cis-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
trans-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2-Dichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97

\* Higher detection limits due to matrix interference and/or high target concentrations.



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**FECL #: AA49568 (Continued)**

**Tag: TB11-B**

**Date/Time Collected: 07/25/97 07:50**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
1,3-Dichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
2,2-Dichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Ethylbenzene	0.3	mg/kg	* 0.1	8260	VFM	08/02/97
Hexachlorobutadiene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Isopropylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
p-Isopropyltoluene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Methylene chloride	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Naphthalene	0.1	mg/kg	* 0.1	8260	VFM	08/02/97
n-Propylbenzene	1.3	mg/kg	* 0.1	8260	VFM	08/02/97
Styrene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Tetrachloroethene	0.2	mg/kg	* 0.1	8260	VFM	08/02/97
Toluene	0.2	mg/kg	* 0.1	8260	VFM	08/02/97
1,2,3-Trichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2,4-Trichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1,1-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,1,2-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Trichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
Trichlorofluoromethane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2,3-Trichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
1,2,4-Trimethylbenzene	1.7	mg/kg	* 0.1	8260	VFM	08/02/97
1,3,5-Trimethylbenzene	1.3	mg/kg	* 0.1	8260	VFM	08/02/97
Vinyl chloride	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
o-Xylene	0.4	mg/kg	* 0.1	8260	VFM	08/02/97
p,m-Xylene	1.0	mg/kg	* 0.1	8260	VFM	08/02/97
cis-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	08/02/97
<b>Polynuclear Aromatics</b>						
Acenaphthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Acenaphthylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)anthracene	0.59	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)pyrene	0.47	mg/kg	0.33	8270	JB	08/01/97

\* Higher detection limits due to matrix interference and/or high target concentrations.





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**FECL #: AA49568 (Continued)**  
**Tag: TB11-B**  
**Date/Time Collected: 07/25/97 07:50**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>Polynuclear Aromatics (Continued)</b>						
Benzo(b)fluoranthene	0.42	mg/kg	0.33	8270	JB	08/01/97
Benzo(k)fluoranthene	0.42	mg/kg	0.33	8270	JB	08/01/97
Benzo(ghi)perylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Chrysene	0.92	mg/kg	0.33	8270	JB	08/01/97
Dibenzo(ah)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluoranthene	0.83	mg/kg	0.33	8270	JB	08/01/97
Fluorene	0.55	mg/kg	0.33	8270	JB	08/01/97
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Naphthalene	0.99	mg/kg	0.33	8270	JB	08/01/97
Phenanthrene	1.67	mg/kg	0.33	8270	JB	08/01/97
Pyrene	1.56	mg/kg	0.33	8270	JB	08/01/97
2-Methylnaphthalene	2.92	mg/kg	0.33	8270	JB	08/01/97

**FECL #: AA49569**  
**Tag: TB11-C**  
**Date/Time Collected: 07/25/97 08:00**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	68.3	%	1	160.3	JH	08/01/97
<b>Organics</b>						
PNA Extraction	Completed				JKB	07/31/97
<b>GC/MS for Volatile Organics</b>						
Benzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Bromobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Bromochloromethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Bromodichloromethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Bromoform	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Bromomethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
n-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97



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FECL #: AA49569 (Continued)

Tag: TB11-C

Date/Time Collected: 07/25/97 08:00

Matrix: Soil

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
sec-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
tert-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Carbon tetrachloride	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Chlorobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Chloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Chloroform	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Chloromethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
2-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
4-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Dibromochloromethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2-Dibromoethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Dibromomethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,3-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,4-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Dichlorodifluoromethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,1-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,1-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
cis-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
trans-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,3-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
2,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,1-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Ethylbenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Hexachlorobutadiene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Isopropylbenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
p-Isopropyltoluene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Methylene chloride	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Naphthalene	0.03	mg/kg	0.01	8260	VFM	08/02/97
n-Propylbenzene	0.02	mg/kg	0.01	8260	VFM	08/02/97
Styrene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97



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**FECL #: AA49569 (Continued)**

**Tag: TB11-C**

**Date/Time Collected: 07/25/97 08:00**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Tetrachloroethene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Toluene	0.04	mg/kg	0.01	8260	VFM	08/02/97
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,1,1-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,1,2-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Trichloroethene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Trichlorofluoromethane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2,3-Trichloropropane	Not detected	mg/kg	0.01	8260	VFM	08/02/97
1,2,4-Trimethylbenzene	0.06	mg/kg	0.01	8260	VFM	08/02/97
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
Vinyl chloride	Not detected	mg/kg	0.01	8260	VFM	08/02/97
o-Xylene	0.01	mg/kg	0.01	8260	VFM	08/02/97
p,m-Xylene	0.03	mg/kg	0.01	8260	VFM	08/02/97
cis-1,3-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	08/02/97
<b>Polynuclear Aromatics</b>						
Acenaphthene	0.71	mg/kg	0.33	8270	JB	08/01/97
Acenaphthylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Anthracene	0.34	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)anthracene	0.53	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(b)fluoranthene	0.39	mg/kg	0.33	8270	JB	08/01/97
Benzo(k)fluoranthene	0.39	mg/kg	0.33	8270	JB	08/01/97
Benzo(ghi)perylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Chrysene	0.83	mg/kg	0.33	8270	JB	08/01/97
Dibenzo(ah)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluoranthene	2.11	mg/kg	0.33	8270	JB	08/01/97
Fluorene	0.84	mg/kg	0.33	8270	JB	08/01/97
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Naphthalene	1.68	mg/kg	0.33	8270	JB	08/01/97
Phenanthrene	3.07	mg/kg	0.33	8270	JB	08/01/97
Pyrene	1.99	mg/kg	0.33	8270	JB	08/01/97
2-Methylnaphthalene	1.80	mg/kg	0.33	8270	JB	08/01/97



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**FECL #: AA49570**

**Tag: TB11-D**

**Date/Time Collected: 07/25/97 08:10**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	80.5	%	1	160.3	JH	08/01/97
<b>Organics</b>						
PNA Extraction	Completed				JKB	07/31/97
<b>GC/MS for Volatile Organics</b>						
Benzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromochloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromodichloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromoform	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromomethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
n-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
sec-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
tert-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Carbon tetrachloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloroform	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
2-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
4-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dibromochloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dibromoethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dibromomethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,4-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dichlorodifluoromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
cis-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
trans-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97



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FECL #: AA49570 (Continued)

Tag: TB11-D

Date/Time Collected: 07/25/97 08:10

Matrix: Soil

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
1,3-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
2,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Ethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Hexachlorobutadiene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Isopropylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
p-Isopropyltoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Methylene chloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Naphthalene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
n-Propylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Styrene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Tetrachloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Toluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,1-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,2-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Trichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Trichlorofluoromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,3-Trichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,4-Trimethylbenzene	0.01	mg/kg	0.01	8260	VFM	07/31/97
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Vinyl chloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
o-Xylene	0.03	mg/kg	0.01	8260	VFM	07/31/97
p,m-Xylene	0.04	mg/kg	0.01	8260	VFM	07/31/97
cis-1,3-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
<b>Polynuclear Aromatics</b>						
Acenaphthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Acenaphthylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97



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**FECL #: AA49570 (Continued)**

**Tag: TB11-D**

**Date/Time Collected: 07/25/97 08:10**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>Polynuclear Aromatics (Continued)</b>						
Benzo(b)fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(k)fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(ghi)perylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Chrysene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Dibenzo(ah)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluorene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Naphthalene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Phenanthrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
2-Methylnaphthalene	Not detected	mg/kg	0.33	8270	JB	08/01/97

**FECL #: AA49571**

**Tag: TDup**

**Date/Time Collected: 07/25/97**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	89.6	%	1	160.3	JH	08/01/97
<b>Organics</b>						
PNA Extraction	Completed				JKB	07/31/97
<b>GC/MS for Volatile Organics</b>						
Benzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromochloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromodichloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromoform	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Bromomethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
n-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97



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**FECL #: AA49571 (Continued)**

**Tag: TDup**

**Date/Time Collected: 07/25/97**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
sec-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
tert-Butylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Carbon tetrachloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloroform	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Chloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
2-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
4-Chlorotoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dibromochloromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dibromoethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dibromomethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,4-Dichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Dichlorodifluoromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
cis-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
trans-1,2-Dichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
2,2-Dichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Ethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Hexachlorobutadiene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Isopropylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
p-Isopropyltoluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Methylene chloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Naphthalene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
n-Propylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Styrene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97



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**FECL #: AA49571 (Continued)**

**Tag: TDup**

**Date/Time Collected: 07/25/97**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Organics (Continued)</b>						
<b>GC/MS for Volatile Organics (Continued)</b>						
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Tetrachloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Toluene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,1-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,1,2-Trichloroethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Trichloroethene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Trichlorofluoromethane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,3-Trichloropropane	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
Vinyl chloride	Not detected	mg/kg	0.01	8260	VFM	07/31/97
o-Xylene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
p,m-Xylene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
cis-1,3-Dichloropropene	Not detected	mg/kg	0.01	8260	VFM	07/31/97
<b>Polynuclear Aromatics</b>						
Acenaphthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Acenaphthylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(a)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(b)fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(k)fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Benzo(ghi)perylene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Chrysene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Dibenzo(ah)anthracene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluoranthene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Fluorene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Naphthalene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Phenanthrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
Pyrene	Not detected	mg/kg	0.33	8270	JB	08/01/97
2-Methylnaphthalene	Not detected	mg/kg	0.33	8270	JB	08/01/97





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**FECL #: AA49572**

**Tag: TBG-G**

**Date/Time Collected: 07/25/97 15:18**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b><i>Inorganics</i></b>						
Total Solids	95.2	%	1	160.3	JH	08/01/97
<b><i>Metals</i></b>						
Cadmium	2.38	mg/kg	0.05	6020	P R	08/06/97
Chromium	145	mg/kg	1.0	6020	P R	08/06/97
Lead	185	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49573**

**Tag: TBG-F**

**Date/Time Collected: 07/25/97 15:30**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b><i>Inorganics</i></b>						
Total Solids	90.0	%	1	160.3	JH	08/01/97
<b><i>Metals</i></b>						
Cadmium	2.05	mg/kg	0.05	6020	P R	08/06/97
Chromium	302	mg/kg	1.0	6020	P R	08/06/97
Lead	399	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49574**

**Tag: TBG-E (1-2)**

**Date/Time Collected: 07/25/97 16:15**

**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b><i>Inorganics</i></b>						
Total Solids	85.0	%	1	160.3	JH	08/01/97



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**FECL #: AA49574 (Continued)**  
**Tag: TBG-E (1-2)**  
**Date/Time Collected: 07/25/97 16:15**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Metals</b>						
Cadmium	7.19	mg/kg	0.05	6020	P R	08/06/97
Chromium	3,770	mg/kg	1.0	6020	P R	08/06/97
Lead	612	mg/kg	1.0	6020	P R	08/06/97

**FECL #: AA49575**  
**Tag: TBG-E (3-4)**  
**Date/Time Collected: 07/25/97 16:25**  
**Matrix: Soil**

Analysis	Results	Units	MRL	Method	Analyst	Date Run
<b>Inorganics</b>						
Total Solids	94.3	%	1	160.3	JH	08/01/97
<b>Metals</b>						
Cadmium	9.18	mg/kg	0.05	6020	P R	08/06/97
Chromium	208	mg/kg	1.0	6020	P R	08/06/97
Lead	1,110	mg/kg	1.0	6020	P R	08/06/97

Note: Methods may be modified for improved performance.  
Results reported on a dry weight basis, where applicable.  
Results relate only to items tested.  
Report shall not be reproduced except in full, without the written approval of FECL.

*Violetta F. Murshak*

**Violetta F. Murshak**  
**Laboratory Director**

TECHNA CORPORATION  
44808 Helm Street  
Plymouth, MI 48170-6026

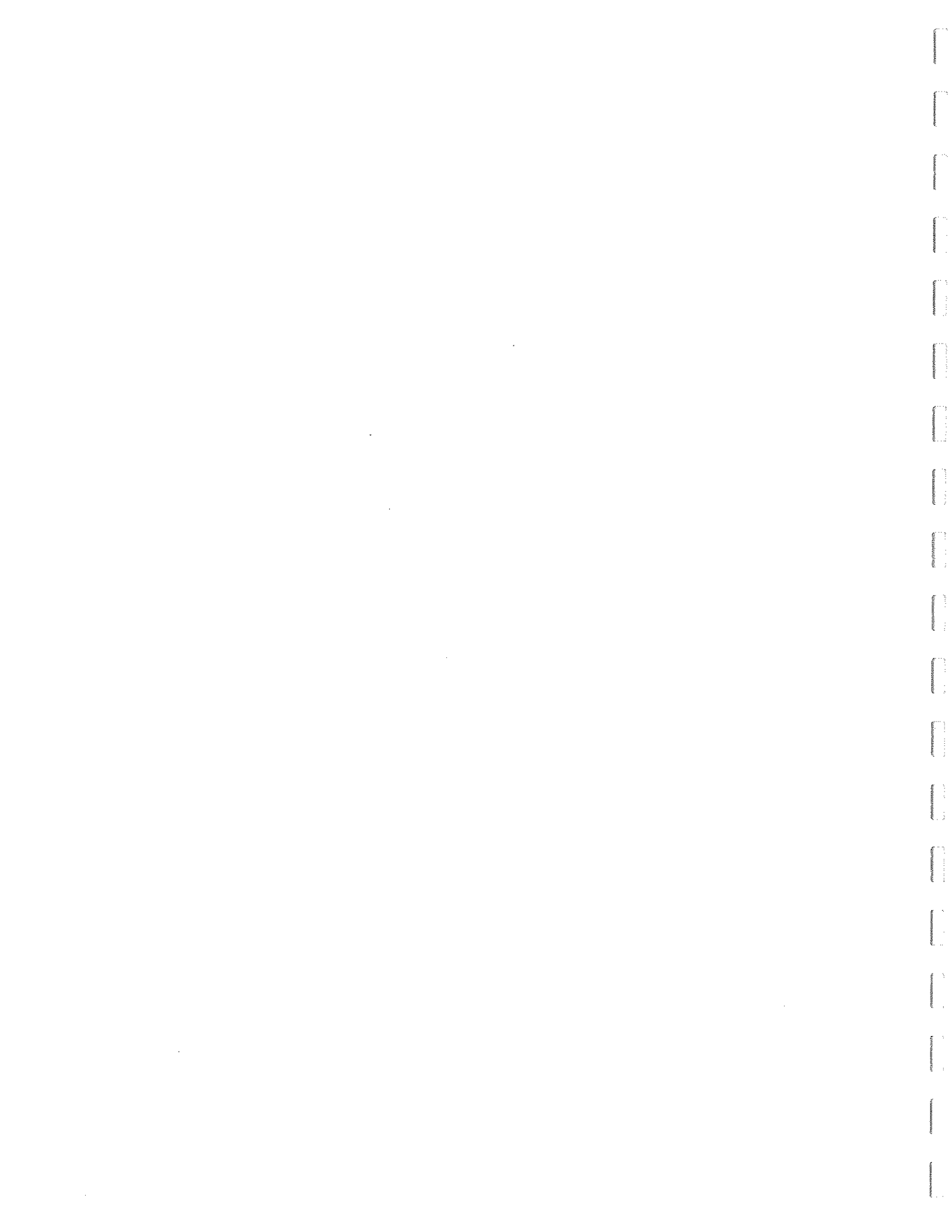
Telephone Numbers:  
(313) 454-1100  
(313) 454-1233 (FAX)

# CHAIN OF CUSTODY

Send report to:		Project:		Lab:		Due Date:		Parameters					
JAMES HARLESS		00738-09A-003		FEC L		Aug 4, 1997							
TECHNA CORP													
Sample ID	Date	Time	Grab(G)/Composite(C)	# Containers	Matrix*	Preservative**	VOCs	PH	LAB USE ONLY				
TRIP BLANK	7/24/97	12:15	G	2	W	4820C	X						
B11-A	7/25/97	7:45			S	20C	X	X					49566
B11-B		7:50					X	X					49567
B11-C		8:00					X	X					49568
B11-D		8:10					X	X					49569
DUP							X	X					49570
BG-G		15:30 <sup>pm</sup>					X	X					49571
BG-F		15:30					X	X					49572
BG-E (1-2)		16:15					X	X					49573
BG-E (3-4)		16:25					X	X					49574
							X	X					49575
Collected by:													
Relinquished by:													
Relinquished by:													
Relinquished by:													
Relinquished by:													
Relinquished by:													
Relinquished by:													

Remarks: ACT 451 LIMITS, PART 201 LIMITS  
9A/9C; FAX RESULTS  
\* NOTE: SAMPLES B11-B, B11-C, AND B11-D in "survived" zone

**APPENDIX F**  
**SUPPLEMENTAL GUIDANCE TO RAGS:**  
**CALCULATING THE CONCENTRATION TERM**



PB92-963373



United States  
Environmental Protection  
Agency

Office of Solid Waste and  
Emergency Response  
Washington, D.C. 20460

Publication #285.7-081  
May 1992

## Supplemental Guidance to RAGS: Calculating the Concentration Term

Office of Emergency and Remedial Response  
Hazardous Site Evaluation Division, OS-230

Intermittent Bulletin  
Volume 1 Number 1

The overarching mandate of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is to protect human health and the environment from current and potential threats posed by uncontrolled releases of hazardous substances. To help meet this mandate, the U.S. Environmental Protection Agency's (EPA's) Office of Emergency and Remedial Response has developed a human health risk assessment process as part of its remedial response program. This process is described in *Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (RAGS/HHEM)*. Part A of RAGS/HHEM addresses the baseline risk assessment, and describes a general approach for estimating exposure to individuals from hazardous substance releases at Superfund sites.

This bulletin explains the concentration term in the exposure/intake equation to remedial project managers (RPMs), risk assessors, statisticians, and other personnel. This bulletin presents the general intake equation as presented in RAGS/HHEM Part A, discusses basic concepts concerning the concentration term, describes generally how to calculate the concentration term, presents examples to illustrate several important points, and, lastly, identifies where to get additional help.

### THE CONCENTRATION TERM

How is the concentration term used?

RAGS/HHEM Part A presents the Superfund risk assessment process in four "steps": (1) data collection and evaluation; (2) exposure assessment; (3) toxicity assessment; and (4) risk characterization. The concentration term is calculated for use in the exposure assessment step. Highlight 1 presents the general equation Superfund uses for calculating exposure, and illustrates that the concentration term (C) is one of several parameters needed to estimate contaminant intake for an individual.

For Superfund assessments, the concentration term (C) in the intake equation is an estimate of the arithmetic average concentration for a contaminant based on a set of site sampling results. Because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable. The 95 percent UCL provides reasonable confidence that the true site average will not be underestimated.

Why use an average value for the concentration term?

An estimate of average concentration is used because:

*Supplemental Guidance to RAGS* is a bulletin series on risk assessment of Superfund sites. These bulletins serve as supplements to *Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual*. The information presented is intended as guidance to EPA and other government employees. It does not constitute rulemaking by the Agency, and may not be relied on to create a substantive or procedural right enforceable by any other person. The Government may take action that is at variance with these bulletins.

Highlight 1  
GENERAL EQUATION FOR ESTIMATING EXPOSURE  
TO A SITE CONTAMINANT

$$I = C \times \frac{CR \times EFD}{BW} \times \frac{1}{AT}$$

where:

- I = intake (i.e., the quantitative measure of exposure in RAGS/HHEM)
- C = contaminant concentration
- CR = contact (intake) rate
- EFD = exposure frequency and duration
- BW = body weight
- AT = averaging time

- (1) carcinogenic and chronic noncarcinogenic toxicity criteria<sup>1</sup> are based on lifetime average exposures; and
- (2) average concentration is most representative of the concentration that would be contacted at a site over time.

For example, if you assume that an exposed individual moves randomly across an exposure area, then the spatially averaged soil concentration can be used to estimate the true average concentration contacted over time. In this example, the average concentration contacted over time would equal the spatially averaged concentration over the exposure area. While an individual may not actually exhibit a truly random pattern of movement across an exposure area, the assumption of equal time spent in different parts of the area is a simple but reasonable approach.

When should an average concentration be used?

The two types of exposure estimates now being required for Superfund risk assessments, a reasonable maximum exposure (RME) and an average, should both use an average concentration. To be protective, the overall estimate of intake (see Highlight 1) used as a basis for action at

Superfund sites should be an estimate in the high end of the intake/dose distribution. One high-end option is the RME used in the Superfund program. The ~~RME~~, which is defined as the highest exposure that could reasonably be expected to occur for a given exposure pathway at a site, is ~~intended to account for both uncertainty in the contaminant concentration and variability in exposure parameters~~ (e.g., exposure frequency, averaging time). For comparative purposes, Agency guidance (U.S. EPA, *Guidance on Risk Characterization for Risk Managers and Risk Assessors*, February 26, 1992) states that an average estimate of exposure also should be presented in risk assessments. For decision-making purposes in the Superfund program, however, RME is used to estimate risk.<sup>2</sup>

Why use an estimate of the arithmetic mean rather than the geometric mean?

The choice of the arithmetic mean concentration as the appropriate measure for estimating exposure derives from the need to estimate an individual's long-term average exposure. Most Agency health criteria are based on the long-term average daily dose, which is simply the sum of all daily doses divided by the total number of days in the averaging period. This is the definition of an arithmetic mean. The

<sup>1</sup> When acute toxicity is of most concern, a long-term average concentration generally should not be used for risk assessment purposes, as the focus should be to estimate short-term, peak concentrations.

<sup>2</sup> For additional information on RME, see RAGS/HHEM Part A and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 55 *Federal Register* 8710, March 8, 1990.

arithmetic mean is appropriate regardless of the pattern of daily exposures over time or the type of statistical distribution that might best describe the sampling data. The geometric mean of a set of sampling results, however, bears no logical connection to the cumulative intake that would result from long-term contact with site contaminants, and it may differ appreciably from — and be much lower than — the arithmetic mean. Although the geometric mean is a convenient parameter for describing central tendencies of lognormal distributions, it is not an appropriate basis for estimating the concentration term used in Superfund exposure assessments. The following simple example may help clarify the difference between the arithmetic and geometric mean when used for an exposure assessment:

Assume the daily exposure for a trespasser subject to random exposure at a site is 1.0, 0.01, 1.0, 0.01, 1.0, 0.01, 1.0, and 0.01 units/day over an 8-day period. Given these values, the cumulative exposure is simply their summation, or 4.04 units. Dividing this by 8 days of exposure results in an arithmetic mean of 0.505 units/day. This is the value we would want to use in a risk assessment for this individual, not the geometric mean of 0.1 units/day. Viewed another way, multiplication of the geometric mean by the number of days equals 0.8 units, considerably lower than the known cumulative exposure of 4.04 units.

## UCL AS AN ESTIMATE OF THE AVERAGE CONCENTRATION

What is a 95 percent UCL?

The 95 percent UCL of a mean is defined as a value that, when calculated repeatedly for randomly drawn subsets of site data, equals or exceeds the true mean 95 percent of the time. Although the 95 percent UCL of the mean provides a conservative estimate of the average (or mean) concentration, it should not be confused with a 95<sup>th</sup> percentile of site concentration data (as shown in Highlight 2).

Why use the UCL as the average concentration?

Statistical confidence limits are the classical tool for addressing uncertainties of a distribution average. The 95 percent UCL of the arithmetic

mean concentration is used as the average concentration because it is not possible to know the true mean. The 95 percent UCL therefore accounts for uncertainties due to limited sampling data at Superfund sites. As sampling data become less limited at a site, uncertainties decrease, the UCL moves closer to the true mean, and exposure evaluations using either the mean or the UCL produce similar results. This concept is illustrated in Highlight 2.

Should a value other than the 95 percent UCL be used for the concentration?

A value other than the 95 percent UCL can be used provided the risk assessor can document that high coverage of the true population mean occurs (i.e., the value equals or exceeds the true population mean with high probability). For exposure areas with limited amounts of data or extreme variability in measured or modeled data, the UCL can be greater than the highest measured or modeled concentration. In these cases, if additional data cannot practically be obtained, the highest measured or modeled value could be used as the concentration term. Note, however, that the true mean still may be higher than this maximum value (i.e., the 95 percent UCL indicates a higher mean is possible), especially if the most contaminated portion of the site has not been sampled.

## CALCULATING THE UCL

How many samples are necessary to calculate the 95 percent UCL?

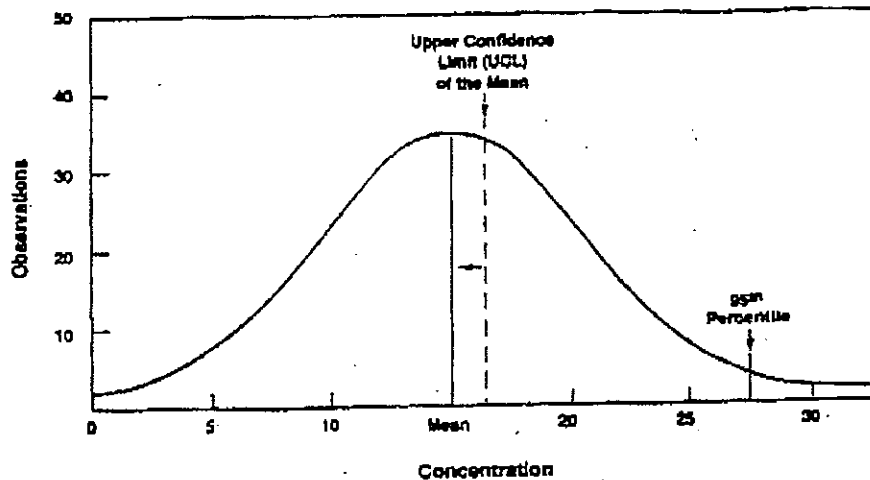
Sampling data from Superfund sites have shown that data sets with fewer than 10 samples per exposure area provide poor estimates of the mean concentration (i.e., there is a large difference between the sample mean and the 95 percent UCL), while data sets with 10 to 20 samples per exposure area provide somewhat better estimates of the mean, and data sets with 20 to 30 samples provide fairly consistent estimates of the mean (i.e., the 95 percent UCL is close to the sample mean). Remember that, in general, the UCL approaches the true mean as more samples are included in the calculation.

Should the data be transformed?

EPA's experience shows that most large or "complete" environmental contaminant data sets



### Highlight 2 COMPARISON OF UCL AND 95<sup>th</sup> PERCENTILE



As sample size increases, the UCL of the mean moves closer to the true mean, while the 95<sup>th</sup> percentile of the distribution remains at the upper end of the distribution.

from soil sampling are lognormally distributed rather than normally distributed (see Highlights 3 and 4 for illustrations of lognormal and normal distributions). In most cases, it is reasonable to assume that Superfund soil sampling data are lognormally distributed. Because transformation is a necessary step in calculating the UCL of the arithmetic mean for a lognormal distribution, the data should be transformed by using the natural logarithm function (i.e., calculate  $\ln(x)$ , where  $x$  is the value from the data set). However, in cases where there is a question about the distribution of the data set, a statistical test should be used to identify the best distributional assumption for the data set. The W-test (Gilbert 1987) is one statistical method that can be used to determine if a data set is consistent with a normal or lognormal distribution. In all cases, it is valuable to plot the data to better understand the contaminant distribution at the site.

How do you calculate the UCL for a lognormal distribution?

To calculate the 95 percent UCL of the arithmetic mean for a lognormally distributed data

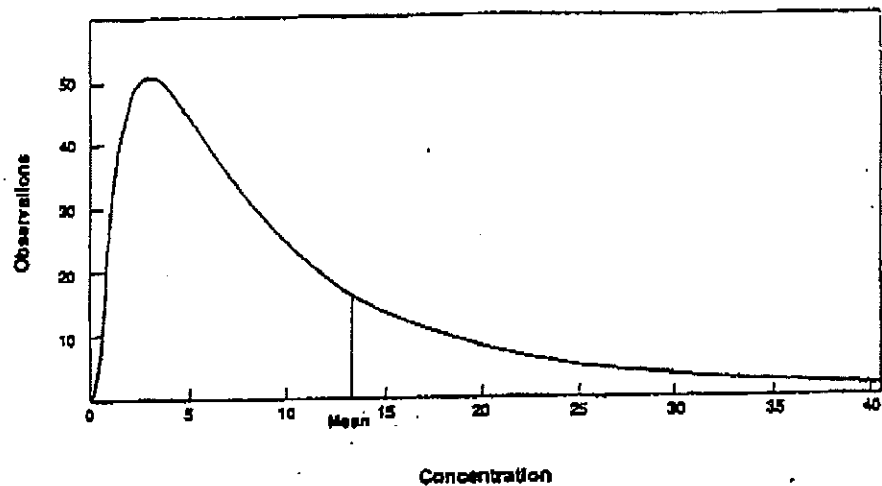
set, first transform the data using the natural logarithm function as discussed previously (i.e., calculate  $\ln(x)$ ). After transforming the data, determine the 95 percent UCL for the data set by completing the following four steps:

- (1) Calculate the arithmetic mean of the transformed data (which is also the log of the geometric mean);
- (2) Calculate the standard deviation of the transformed data;
- (3) Determine the H-statistic (e.g., see Gilbert 1987); and
- (4) Calculate the UCL using the equation shown in Highlight 5.

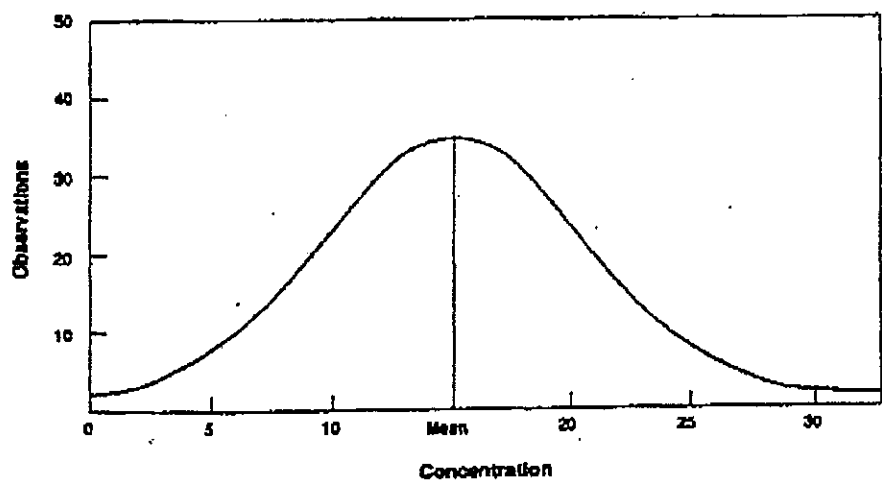
How do you calculate the UCL for a normal distribution?

If a statistical test supports the assumption that the data set is normally distributed, calculate the 95 percent UCL by completing the following four steps:

**Highlight 3**  
**EXAMPLE OF A LOGNORMAL DISTRIBUTION**



**Highlight 4**  
**EXAMPLE OF A NORMAL DISTRIBUTION**



**Highlight 5**  
**CALCULATING THE UCL OF THE ARITHMETIC MEAN**  
**FOR A LOGNORMAL DISTRIBUTION**

$$UCL = e^{\left(\bar{x} + 0.5s^2 + zH/\sqrt{n-1}\right)}$$

(?)

where:

UCL	=	upper confidence limit
e	=	constant (base of the natural log, equal to 2.718)
$\bar{x}$	=	mean of the transformed data
s	=	standard deviation of the transformed data
H	=	H-statistic (e.g., from table published in Gilbert 1987)
n	=	number of samples

**Highlight 6**  
**CALCULATING THE UCL OF THE ARITHMETIC MEAN FOR A NORMAL DISTRIBUTION**

$$UCL = \bar{x} + t(s/\sqrt{n})$$

where:

UCL	=	upper confidence limit
$\bar{x}$	=	mean of the untransformed data
s	=	standard deviation of the untransformed data
t	=	Student-t statistic (e.g., from table published in Gilbert 1987)
n	=	number of samples

- (1) Calculate the arithmetic mean of the untransformed data;
- (2) Calculate the standard deviation of the untransformed data;
- (3) Determine the one-tailed t-statistic (e.g., see Gilbert 1987); and
- (4) Calculate the UCL using the equation presented in Highlight 6.

Use caution when applying normal distribution calculations if there is a possibility that heavily contaminated portions of the site have not been adequately sampled. In such cases, a UCL from normal distribution calculations could fall below the true mean, even if a limited data set at a site appears normally distributed.

**EXAMPLES**

The examples shown in Highlights 7 and 8 address the exposure scenario where an individual at a Superfund site has equal opportunity to contact soil in any sector of the contaminated area over time. Even though the examples address only soil exposures, the UCL approach is applicable to all exposure pathways. Guidance and examples for other exposure pathways will be presented in forthcoming bulletins.

\*

Highlight 7 presents a simple data set and provides a stepwise demonstration of transforming the data — assuming a lognormal distribution — and calculating the UCL. Highlight 8 uses the same data set to show the difference between the UCLs that would result from assuming normal and lognormal distribution of the data. These

**Highlight 7****EXAMPLE OF DATA TRANSFORMATION AND CALCULATION OF UCL**

This example shows the calculation of a 95 percent UCL of the arithmetic mean concentration for chromium in soil at a Superfund site. This example is applicable only to a scenario in which a spatially random exposure pattern is assumed. The concentrations of chromium obtained from random sampling in soil at this site (in mg/kg) are 10, 13, 20, 36, 41, 59, 67, 110, 110, 136, 140, 160, 200, 230, and 1300. Using these data, the following steps are taken to calculate a concentration term for the intake equation:

- (1) Plot the data and inspect the graph. (You may need the help of a statistician for this part [as well as other parts] of the calculation of the UCL.) The plot (not shown, but similar to Highlight 3) shows a skew to the right, consistent with a lognormal distribution.
- (2) Transform the data by taking the natural log of the values (i.e., determine  $\ln(x)$ ). For this data set, the transformed values are: 2.30, 2.56, 3.00, 3.58, 3.71, 4.08, 4.20, 4.70, 4.70, 4.91, 4.94, 5.08, 5.30, 5.44, and 7.17.
- (3) Apply the UCL equation in Highlight 5, where:

$$\begin{aligned}\bar{x} &= 4.38 \\ s &= 1.25 \\ H &= 3.163 \text{ (based on 95 percent)} \\ n &= 15\end{aligned}$$

The resulting 95 percent UCL of the arithmetic mean is thus found to equal  $e^{(6.218)}$ , or 502 mg/kg.

**Highlight 8****COMPARING UCLS OF THE ARITHMETIC MEAN ASSUMING DIFFERENT DISTRIBUTIONS**

In this example, the data presented in Highlight 7 are used to demonstrate the difference in the UCL that is seen if the normal distribution approach were inappropriately applied to this data set (i.e., if, in this example, a normal distribution is assumed).

ASSUMED DISTRIBUTION:	Normal	Lognormal
TEST STATISTIC:	Student-t	H-statistic
95 PERCENT UCL (mg/kg):	325	502

## Statistical Tables 265

**Table A12** Values of  $H_{1-\alpha} = H_{0.95}$  for Computing a One-Sided Upper 95% Confidence Limit on a Lognormal Mean

$h_y$	$n$									
	3	5	7	10	12	15	21	31	51	101
0.10	2.750	2.035	1.886	1.802	1.775	1.749	1.722	1.701	1.684	1.670
0.20	3.295	2.198	1.992	1.881	1.843	1.809	1.771	1.742	1.718	1.697
0.30	4.109	2.402	2.125	1.977	1.927	1.882	1.833	1.793	1.761	1.733
0.40	5.220	2.651	2.282	2.089	2.026	1.968	1.905	1.856	1.813	1.777
0.50	6.495	2.947	2.465	2.220	2.141	2.068	1.989	1.928	1.876	1.830
0.60	7.807	3.287	2.673	2.368	2.271	2.181	2.085	2.010	1.946	1.891
0.70	9.120	3.662	2.904	2.532	2.414	2.306	2.191	2.102	2.025	1.960
0.80	10.43	4.062	3.155	2.710	2.570	2.443	2.307	2.202	2.112	2.035
0.90	11.74	4.478	3.420	2.902	2.738	2.589	2.432	2.310	2.206	2.117
1.00	13.05	4.905	3.698	3.103	2.915	2.744	2.564	2.423	2.306	2.205
1.25	16.33	6.001	4.426	3.639	3.389	3.163	2.923	2.737	2.580	2.447
1.50	19.60	7.120	5.184	4.207	3.896	3.612	3.311	3.077	2.881	2.713
1.75	22.87	8.250	5.960	4.795	4.422	4.081	3.719	3.437	3.200	2.997
2.00	26.14	9.387	6.747	5.396	4.962	4.564	4.141	3.812	3.533	3.295
2.50	32.69	11.67	8.339	6.621	6.067	5.557	5.013	4.588	4.228	3.920
3.00	39.23	13.97	9.945	7.864	7.191	6.570	5.907	5.388	4.947	4.569
3.50	45.77	16.27	11.56	9.118	8.326	7.596	6.815	6.201	5.681	5.233
4.00	52.31	18.58	13.18	10.38	9.469	8.630	7.731	7.024	6.424	5.908
4.50	58.85	20.88	14.80	11.64	10.62	9.669	8.652	7.854	7.174	6.590
5.00	65.39	23.19	16.43	12.91	11.77	10.71	9.579	8.688	7.929	7.277
6.00	78.47	27.81	19.68	15.45	14.08	12.81	11.44	10.36	9.449	8.661
7.00	91.55	32.43	22.94	18.00	16.39	14.90	13.31	12.05	10.98	10.05
8.00	104.6	37.06	26.20	20.55	18.71	17.01	15.18	13.74	12.51	11.45
9.00	117.7	41.68	29.46	23.10	21.03	19.11	17.05	15.43	14.05	12.85
10.00	130.8	46.31	32.73	25.66	23.35	21.22	18.93	17.13	15.59	14.26

Source: After Land, 1975.

This table is used in Section 13.2.

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**RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.**

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- **GIS MAPPING**
- **HAZARD MITIGATION PLANNING**
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- **WATERSHED AND STORMWATER MANAGEMENT PROGRAMS**
- **WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING**

**Attachment G**

**WMU-31 Concrete Investigation Report**

# Addendum 1 - Waste Management Unit 31 Concrete Investigation Report

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

April 5, 2021

ASTI ENVIRONMENTAL





# Addendum 1 - Waste Management Unit 31 Concrete Investigation Report

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

April 5, 2021

**Prepared For:**

Riverview-Trenton Railroad Company  
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(810) 225-2800

**ASTI Project No. 10860**

Report Prepared by:

Report Reviewed by:



---

Greg S. Oslosky, P.G.  
Director – Grand Rapids Office



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Allison J. Rogowski, E.P.  
Environmental Scientist



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Table 2A – Summary of Concrete TCLP Analytical Results

### **Figures**

Figure 1A - WMU-31 Site Plan

### **Attachments**

Attachment A – EGLE Work Plan Approval Letter, February 19, 2021  
Attachment B – Laboratory Analytical Reports

**Addendum 1 - Waste Management Unit 31 Concrete Investigation Report  
Riverview-Trenton Railroad Company  
Former McLouth Steel Site  
18251 West Jefferson Avenue  
Riverview, Michigan**

## **1.0 Introduction**

In accordance with the Corrective Action Consent Order (“CACO”) dated November 1, 2018 between the Riverview-Trenton Rail Road Company (“RTRR”) and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), ASTI Environmental (“ASTI”) prepared this Addendum to the Waste Management Unit (“WMU”) 31 Concrete Investigation Report for the property located at 18251 West Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The portion of the Subject Property located south of Sibley Road is located in the City of Trenton. ASTI submitted the WMU-31 Concrete Investigation Report (“WMU-31 Investigation Report”) to EGLE on January 22, 2021.

The WMU-31 Investigation Report was prepared in accordance with the CACO and the WMU Investigation Work Plan (“WMU Work Plan”), prepared by ASTI and dated June 28, 2019. The WMU Work Plan was approved by EGLE in a letter dated July 29, 2019.

## **2.0 Background**

Background information for the Subject Property and WMU-31 are included in the WMU-31 Investigation Report. In accordance with the WMU Investigation Work Plan, ASTI collected 12 concrete samples and one duplicate sample from the WMU-31 concrete pad on July 7, 2020 for laboratory analysis of the Michigan 10 Metals (arsenic, barium, cadmium, total chromium, copper, lead, mercury, selenium, silver, and zinc) for comparison to the EGLE Generic Nonresidential Cleanup Criteria (“GNRCC”) for Groundwater Surface Water Interface Protection (“GSIP”) under Part 201 of Michigan’s *Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended* (“Part 201”). The sample collection procedure is described in the WMU-31 Concrete Investigation Report.

Based on laboratory analysis, metals were detected in each of the 12 concrete samples and the duplicate sample. The only metals to exceed the EGLE GNRCC for GSIP were arsenic (all samples), total chromium (all samples), and selenium (one sample and its duplicate sample). A WMU-31 Site Plan, including the sample grids and sample locations, is provided as Figure 1A.

Based on exceedances of total chromium in each sample, ASTI recommended collection of additional samples from the same locations as the previous samples for laboratory analysis of hexavalent chromium and, pending those results, additional analysis of toxicity characteristic leaching procedures (“TCLP”) chromium (if hexavalent chromium exceeds criteria), TCLP arsenic, and TCLP selenium in samples which exceeded the EGLE GNRCC for GSIP.

EGLE provided verbal comments on the WMU-31 Concrete Investigation Report and agreed with the recommendation to collect additional samples for the suite of analysis described

above. EGLE required that a work plan be completed and submitted for review and approval before completing the additional investigation.

### **3.0 WMU-30 Additional Concrete Investigation**

#### **3.1 WMU-31 Additional Investigation Work Plan**

ASTI prepared and submitted to EGLE the Work Plan – Additional Concrete Investigation - WMU-31 on February 9, 2021 (“Work Plan”). The Work Plan described the sample methodology to be used for collection of additional concrete samples from WMU-31 and the laboratory suite for analysis. EGLE provided their approval of the Work Plan in a letter dated February 19, 2021. EGLE’s letter providing approval of the Work Plan is included as Attachment A to this Addendum.

#### **3.2 March 5, 2021 Concrete Sample Collection**

In accordance with the approved Work Plan, ASTI collected one concrete sample from each of the 12 grid areas described in the WMU-31 Concrete Investigation Report and shown on Figure 1A. The samples were collected adjacent to the samples collected previously; whose locations resulted from generation of random sample locations as described in the WMU-31 Concrete Investigation Report. ASTI collected two eight-ounce jars of concrete per sample using the same procedures used to collect the July 7, 2020 samples. Each sample was labeled with a unique identification number similar to those used in the previous sampling event, including the area (A1, A2, or A3), the collection date, and the grid number (i.e. the sample collected from Area 1, Grid 1 was identified as A1-3521-1). After collection, the samples were placed on ice and kept cold until delivery to Fibertec Environmental Services (“Fibertec”) in Holt, Michigan for analysis. Sample handling and transfer were conducted using standard chain-of-custody procedures. The samples were initially analyzed by Fibertec for hexavalent chromium. The remaining sample volume was held by the laboratory pending ASTI’s instruction for TCLP analysis after review of the hexavalent chromium results.

#### **3.3 Laboratory Analytical Results – Hexavalent Chromium**

Laboratory analytical results reported detection of hexavalent chromium in one concrete sample. The sample collected from Area 2 – Grid 1 (sample ID: A2-3521-1) contained a hexavalent chromium concentration of 750 micrograms per kilogram ( $\mu\text{g/L}$  or parts per billion). The remaining samples, including the duplicate sample did not contain hexavalent chromium at concentrations exceeding the laboratory reporting limit of 400  $\mu\text{g/L}$ . The maximum detected hexavalent chromium concentration is below the EGLE GNRCC for GSIP of 3,300  $\mu\text{g/L}$ . Therefore, chromium, including hexavalent chromium, does not exceed the EGLE GNRCC for GSIP in concrete at WMU-31 and the samples were not analyzed for TCLP chromium. Figure 1A depicts the sample locations. Table 1A provides a summary of the laboratory analytical results for the July 7, 2020 concrete samples and the hexavalent chromium results for the March 5, 2021 concrete samples. Attachment B provides the laboratory analytical report for the March 5, 2021 concrete samples (the laboratory analytical report for the concrete samples collected in July 7, 2020 is included with the WMU-31 Concrete Investigation Report).

### **3.4 Laboratory Analytical Results – TCLP Arsenic and TCLP Selenium**

Each sample collected on March 5, 2021 was analyzed for TCLP arsenic and sample A1-3521-3 was also analyzed for TCLP selenium. Laboratory analytical results did not report TCLP lead or TCLP selenium concentrations above the laboratory detection limit. Table 2A provides a summary of the laboratory analytical results for the TCLP lead and TCLP selenium analysis. Attachment B provides the laboratory analytical report for the TCLP analysis.

## **4.0 Conclusions**

In accordance with the CACO and the Work Plan, ASTI collected additional concrete samples from the concrete pad in WMU-31. On March 5, 2021, ASTI collected 12 additional concrete samples (plus one QA/QC sample) for analysis of hexavalent chromium, TCLP lead and TCLP selenium (one location). Hexavalent chromium was not detected at concentrations in exceedance of the GNRCC for the Groundwater Surface Water Interface (GSI). Concentrations of the Michigan 10 metals hexavalent chromium did not exceed the GNRCC for GSIP and TCLP lead and TCLP selenium did not exceed the GNRCC for GSI. Therefore, the contaminants of concern (Michigan 10 Metals) in the concrete pad test at WMU-31 do not pose a risk to surface water adjacent to the Subject Property and no further investigation is required as by the CACO.

## **5.0 RCRA Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



---

Greg S. Oslosky, P.G.  
Director – Grand Rapids

## **Tables**

### **Addendum - Waste Management Unit 31 Concrete Investigation**

**Table 1A - Summary of Concrete Sample Analytical Results**  
**Riverview Trenton Rail Road Company**  
**WMU-31 - Former EAF Dust and Sludge Storage Tanks**  
**Addendum to the WMU-31 Concrete Investigation Report**  
**ASTI File No.10860**

Parameters	Groundwater	Sample Area and Grid	Area 1 - 1		Area 1 - 2		Area 1 - 3			Area 1 - 4		Area 1 - 5		Area 2 - 1		Area 2 - 2		
	Surface Water		Sample ID	A1-7720-1	A1-3521-1	A1-7720-2	A1-3521-2	A1-7720-3	Dup-WMU31 <sup>(1)</sup>	A1-3521-3	A1-7720-4	A1-3521-4	A1-7720-5	A1-3521-5	A2-7720-1	A2-3521-1	A2-7720-2	A2-3521-2
	Interface Protection Criteria <sup>(1)</sup>			Date	Units	7/7/2020	3/5/2021	7/7/2020	3/5/2021	7/7/2020	7/7/2020	3/5/2021	7/7/2020	3/5/2021	7/7/2020	3/5/2021	7/7/2020	3/5/2021
<b>MI 10 Metals</b>																		
Arsenic	4,600	µg/kg	<b>6,300</b>	NA <sup>(3)</sup>	<b>13,000</b>	NA	<b>6,800</b>	<b>7,300</b>	NA	<b>5,600</b>	NA	<b>6,000</b>	NA	<b>4,700</b>	NA	<b>6,300</b>	NA	
Barium	(G)	µg/kg	190,000	NA	220,000	NA	220,000	200,000	NA	180,000	NA	200,000	NA	150,000	NA	160,000	NA	
Cadmium	(G,X)	µg/kg	150	NA	160	NA	200	160	NA	110	NA	160	NA	100	NA	160	NA	
Chromium, Total	3,300 <sup>(2)</sup>	µg/kg	<b>13,000</b>	NA	<b>12,000</b>	NA	<b>15,000</b>	<b>13,000</b>	NA	<b>15,000</b>	NA	<b>12,000</b>	NA	<b>8,300</b>	NA	<b>13,000</b>	NA	
Chromium VI	3,300	µg/kg	NA	<400	NA	<400	NA	NA	<400	NA	<400	NA	<400	NA	750	NA	<400	
Copper	(G)	µg/kg	15,000	NA	14,000	NA	14,000	15,000	NA	11,000	NA	14,000	NA	10,000	NA	12,000	NA	
Lead	(G,X)	µg/kg	3,500	NA	4,800	NA	5,300	4,500	NA	3,800	NA	3,400	NA	2,900	NA	3,100	NA	
Mercury, Total	50 (M); 1.2	µg/kg	<50	NA	<50	NA	<50	<50	NA	<50	NA	<50	NA	<50	NA	<50	NA	
Selenium	400	µg/kg	390	NA	360	NA	<b>510</b>	<b>520</b>	NA	360	NA	310	NA	280	NA	390	NA	
Silver	100 (M); 27	µg/kg	<100	NA	<100	NA	<100	<100	NA	<100	NA	<100	NA	<100	NA	<100	NA	
Zinc	(G)	µg/kg	24,000	NA	40,000	NA	43,000	44,000	NA	22,000	NA	24,000	NA	16,000	NA	25,000	NA	

µg/kg - micrograms per kilogram or parts per billion

(1) Per R299.46, June 25, 2018

(2) Listed criteria is for hexavalent chromium.

(3) "NA" Not analyzed

(4) "DUP" refers to duplicate sample.

**BOLD** indicates a concentration in exceedance of the cleanup criteria.

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.

generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

**Table 1A - Summary of Concrete Sample Analytical Results**  
**Riverview Trenton Rail Road Company**  
**WMU-31 - Former EAF Dust and Sludge Storage Tanks**  
**Addendum to the WMU-31 Concrete Investigation Report**  
**ASTI File No.10860**

Parameters	Groundwater	Sample Area and Grid	Area 3 - 1			Area 3 - 2		Area 3 - 3		Area 3 - 4		Area 3 - 5		
	Surface Water		Sample ID	A3-7720-1	A3-3521-1	Dup-WMU-31 <sup>(4)</sup>	A3-7720-2	A3-3521-2	A3-7720-3	A3-3521-3	A3-7720-4	A3-3521-4	A3-7720-5	A3-3521-5
	Interface													
	Protection Criteria <sup>(1)</sup>	Units												
MI 10 Metals														
Arsenic	4,600	µg/kg	5,100	NA	NA	6,700	NA	6,500	NA	7,100	NA	7,400	NA	
Barium	(G)	µg/kg	160,000	NA	NA	200,000	NA	200,000	NA	180,000	NA	200,000	NA	
Cadmium	(G,X)	µg/kg	140	NA	NA	140	NA	130	NA	130	NA	130	NA	
Chromium, Total	3,300 <sup>(2)</sup>	µg/kg	12,000	NA	NA	13,000	NA	14,000	NA	14,000	NA	15,000	NA	
Chromium VI	3,300	µg/kg	NA	<400	<400	NA	<400	NA	<400	NA	<400	NA	<400	
Copper	(G)	µg/kg	10,000	NA	NA	14,000	NA	12,000	NA	11,000	NA	14,000	NA	
Lead	(G,X)	µg/kg	2,900	NA	NA	3,500	NA	3,300	NA	3,300	NA	3,700	NA	
Mercury, Total	50 (M); 1.2	µg/kg	<50	NA	NA	<50	NA	<50	NA	<50	NA	<50	NA	
Selenium	400	µg/kg	390	NA	NA	360	NA	310	NA	300	NA	390	NA	
Silver	100 (M); 27	µg/kg	<100	NA	NA	<100	NA	<100	NA	<100	NA	<100	NA	
Zinc	(G)	µg/kg	24,000	NA	NA	21,000	NA	21,000	NA	19,000	NA	22,000	NA	

µg/kg - micrograms per kilogram or parts per billion

(1) Per R299.46, June 25, 2018

(2) Listed criteria is for hexavalent chromium.

(3) "NA" Not analyzed

(4) "DUP" refers to duplicate sample.

**BOLD** indicates a concentration in exceedance of the cleanup criteria.

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.

generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.



**Table 2A - Summary of Concrete Sample Analytical Results**  
**TCLP Analysis**  
**Riverview Trenton Rail Road Company**  
**WMU-31 - Former EAF Dust and Sludge Storage Tanks**  
**Addendum to the WMU-31 Concrete Investigation Report**  
**ASTI File No.10860**

Parameters	Non-residential Groundwater Surface Water Interface Criteria <sup>(1)</sup>	Sample Grid Sample ID Date Units	Area 1 - 1	Area 1 - 2	Area 1 - 3	Area 1 - 4	Area 1 - 5	Area 2 - 1	Area 2 - 2	Area 3 - 1		Area 3 - 2	Area 3 - 3	Area 3 - 4	Area 3 - 5
			A1-3521-1 3/5/2021	A1-3521-2 3/5/2021	A1-3521-3 3/5/2021	A1-3521-4 3/5/2021	A1-3521-5 3/5/2021	A2-3521-1 3/5/2021	A2-3521-2 3/5/2021	A3-3521-1 3/5/2021	Dup-WMU-31 <sup>(2)</sup> 3/5/2021	A3-3521-2 3/5/2021	A3-3521-3 3/5/2021	A3-3521-4 3/5/2021	A3-3521-5 3/5/2021
TCLP Arsenic	10	µg/L	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
TCLP Selenium	5	µg/L	NA <sup>(3)</sup>	NA	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

µg/L - micrograms per liter or parts per billion

(1) Per R299.46, June 25, 2018

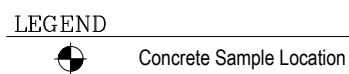
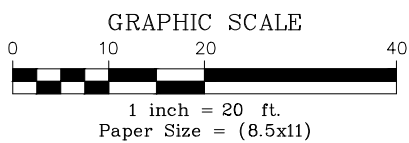
(2) "DUP" refers to duplicate sample.

(3) "NA" Not analyzed

**Figure 1A**  
**WMU-31 Site Plan**

**Addendum - Waste Management Unit 31 Concrete Investigation**

Y:\Project Files\Current and Closed\1000-10999\10860-McLouth RTRR Property\CAO\10860 RTRR.dwg: 3/14/2021 9:36 PM;



# RTRR - WMU-31 Investigation

18251 West Jefferson, Riverview, MI

Created for: Riverview-Trenton Railroad Company  
ASTI Project 10860, JRN, March 14, 2021



Figure 1A - WMU-31  
Sample Location Map

**Attachment A**  
**EGL E Work Plan Approval Letter, February 19, 2021**

**Addendum - Waste Management Unit 31 Concrete Investigation**



GRETCHEN WHITMER  
GOVERNOR

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



LIESL EICHLER CLARK  
DIRECTOR

February 19, 2021

VIA E-MAIL AND U.S. MAIL

Mr. Greg Oslosky, Director  
Western Great Lakes Office  
ASTI Environmental  
660 Cascade West Parkway SE, Suite 210  
Grand Rapids, Michigan 49546

Dear Mr. Oslosky:

SUBJECT: Approval of Work Plan pursuant to Corrective Action Consent  
Order No. 111-06-2018 (CACO); Riverview Trenton Railroad  
Company (RTRR), Riverview, Michigan, and Trenton, Michigan;  
MIK 420 024 889; Waste Data System Number 497352

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), has completed its review of the Additional Concrete Investigation for Waste Management Unit 31 (Work Plan) at the RTRR site, submitted by ASTI Environmental on February 10, 2021. The Work Plan was reviewed for compliance with the applicable sections of Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and its administrative rules, as well as the site's current CACO. Based on the review, the Work Plan is approved.

If you have any questions, please contact me at 517-242-8496; RungeJ@Michigan.gov; or EGLE, MMD, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Jacob Runge, Environmental Engineer  
Management and Tracking Unit  
Hazardous Waste Section  
Materials Management Division

cc: Mr. Tom Wackerman, President, ASTI Environmental  
Mr. Dennis Schreibeis, Director, Crown Enterprises, Inc.  
Mr. Richard Conforti, EGLE  
Mr. John McCabe, EGLE  
Ms. Jennifer Hazelton, EGLE  
Mr. Nathan Erber, EGLE  
Corrective Action File

**Attachment B**  
**Laboratory Analytical Reports**

**Addendum - Waste Management Unit 31 Concrete Investigation**



Wednesday, March 17, 2021

Fibertec Project Number: A00639  
Project Identification: RTRR (10860) /10860  
Submittal Date: 03/10/2021

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation Dr.  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Sue Ricketts". The signature is fluid and cursive.

*By Sue Ricketts at 10:37 AM, Mar 17, 2021*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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11766 E. Grand River  
8660 S. Mackinaw Trail

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F: (231) 775-8584



Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-001

Order: A00639  
Page: 2 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	09:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-001	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A1-3521-1	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-002

Order: A00639  
Page: 3 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	09:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-002	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A1-3521-2	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-003

Order: A00639  
Page: 4 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-3	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	10:13

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-003	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A1-3521-3	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-004

Order: A00639  
Page: 5 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-4	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent Aliquot ID: A00639-004 Matrix: Other (Solid)  
Method: EPA 3060A/EPA 7196A Description: A1-3521-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-005

Order: A00639  
Page: 6 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-5	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-005	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A1-3521-5	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U	F-	µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-006

Order: A00639  
Page: 7 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A2-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	11:26

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-006	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A2-3521-1	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	750		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-007

Order: A00639  
Page: 8 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A2-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent  
Method: EPA 3060A/EPA 7196A

Aliquot ID: A00639-007  
Description: A2-3521-2  
Matrix: Other (Solid)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-008

Order: A00639  
Page: 9 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	14:03

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-008	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A3-3521-1	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-009

Order: A00639  
Page: 10 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	13:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent Aliquot ID: A00639-009 Matrix: Other (Solid)  
Method: EPA 3060A/EPA 7196A Description: A3-3521-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-010

Order: A00639  
Page: 11 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-3	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	13:08

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-010	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A3-3521-3	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-011

Order: A00639  
Page: 12 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-4	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-011	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A3-3521-4	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-012

Order: A00639  
Page: 13 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-5	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:32

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent	Aliquot ID: A00639-012	Matrix: Other (Solid)
Method: EPA 3060A/EPA 7196A	Description: A3-3521-5	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-013

Order: A00639  
Page: 14 of 15  
Date: 03/17/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-WMU31	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chromium, Hexavalent Aliquot ID: A00639-013 Matrix: Other (Solid)  
Method: EPA 3060A/EPA 7196A Description: Dup-WMU31

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chromium VI	U		µg/kg	400	1.0	03/12/21	W321C12A	03/16/21	W321C12A	JMK

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

---

**Exception Summary:**

- F-** : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Client Name: <b>ASTI Environmental</b>				MATRIX (SEE RIGHT CORNER FOR CODE) # OF CONTAINERS <b>Hexavalent Chromium</b>		PARAMETERS												Matrix Code				Deliverables Level 2 Level 3 Level 4 EDD	
Contact Person: <b>Greg Oslosky</b>						HOLD SAMPLE												S Soil      GW Ground Water A Air      SW Surface Water O Oil      WW Waste Water P Wipe      X Other: Specify					
Project Name/ Number: <b>RTRR / 10860</b>																		X = concrete powder					
Email distribution list: <b>goslosky@asti-env.com    mdykha@asti-env.com</b>																							
Quote#																							
Purchase Order#				Remarks: <b>"Hold pending further instruction after Hex. Chrom. analysis"</b>  <div style="text-align: right;"> <b>Received By Lab</b>  <b>MAR 10 2021</b>  <b>Initials: CI</b> </div>																			
Date	Time	Sample #	Client Sample Descriptor																				
3-5-21	928		A1-3521-1																				
	950		A1-3521-2																				
	1013		A1-3521-3																				
	1035		A1-3521-4																				
	1105		A1-3521-5																				
	1126		A2-3521-1																				
	1215		A2-3521-2																				
	1403		A3-3521-1																				
	1328		A3-3521-2																				
✓	1308		A3-3521-3																				
Comments:																							
Sampled/Relinquished By: <b>[Signature]</b>				Date/Time: <b>3/5/21 1600</b>				Received By: <b>ASTI Cold Storage</b>															
Relinquished By: <b>ASTI Cold Storage</b>				Date/Time:				Received By: <b>[Signature]</b>															
Relinquished By: <b>[Signature]</b>				Date/Time: <b>3/10/21 3:30</b>				Received By Laboratory: <b>[Signature]</b>															
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																				<b>LAB USE ONLY</b>			
_____ 1 bus. day    _____ 2 bus. days    _____ 3 bus. days    _____ 4 bus. days <b>X</b> 5-7 bus. days (standard)    Other (specify time/date requirement): _____																				Fibertec project number: <b>A00639</b> Temperature upon receipt at Lab: <b>3.4°C</b>			
Please see back for terms and conditions																							

Received  
On Ice



## Analytical Laboratory

1914 Holloway Drive

Holt, MI 48842

**Phone: 517 699 0345**

**Fax: 517 699 0388**

email: [lab@fibertec.us](mailto:lab@fibertec.us)

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Cadillac, MI 49601

**Phone: 231 775 8368**

**Fax: 231 775 8584**

## Geoprobe

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Brighton, MI 48116

**Phone: 810 220 3300**

**Fax: 810 220 3311**

Chain of Custody #

194833

PAGE 2 of 2

[illegible]



Monday, March 29, 2021

Fibertec Project Number: A00639 Supplemental  
Project Identification: RTRR (10860) /10860  
Submittal Date: 03/10/2021

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation Dr.  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Cheri Hanson". The signature is written in a cursive, flowing style.

*By Cheri Hanson at 1:29 PM, Mar 29, 2021*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-001

Order: A00639  
Page: 2 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	09:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-001

Matrix: Other (Solid)

Description: A1-3521-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-001

Order: A00639  
Page: 3 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	09:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-001A

Matrix: TCLP Extract

Description: A1-3521-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-002

Order: A00639  
Page: 4 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	09:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-002

Matrix: Other (Solid)

Description: A1-3521-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-002

Order: A00639  
Page: 5 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	09:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-002A

Matrix: TCLP Extract

Description: A1-3521-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-003

Order: A00639  
Page: 6 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A1-3521-3</b>	Chain of Custody:	<b>192677</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>10:13</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-003

Matrix: Other (Solid)

Description: A1-3521-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-003

Order: A00639  
Page: 7 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-3	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	10:13

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Aliquot ID: A00639-003A

Matrix: TCLP Extract

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Description: A1-3521-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA
2. Selenium	U		mg/L	0.20	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-004

Order: A00639  
Page: 8 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-4	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-004

Matrix: Other (Solid)

Description: A1-3521-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-004

Order: A00639  
Page: 9 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A1-3521-4</b>	Chain of Custody:	<b>192677</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>10:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-004A

Matrix: TCLP Extract

Description: A1-3521-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-005

Order: A00639  
Page: 10 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A1-3521-5</b>	Chain of Custody:	<b>192677</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>11:05</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-005

Matrix: Other (Solid)

Description: A1-3521-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-005

Order: A00639  
Page: 11 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A1-3521-5	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-005A

Matrix: TCLP Extract

Description: A1-3521-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-006

Order: A00639  
Page: 12 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A2-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	11:26

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-006

Matrix: Other (Solid)

Description: A2-3521-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-006

Order: A00639  
Page: 13 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A2-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	11:26

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-006A

Matrix: TCLP Extract

Description: A2-3521-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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F: (231) 775-8584



Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-007

Order: A00639  
Page: 14 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A2-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)  
Method: EPA 1311

Aliquot ID: A00639-007  
Description: A2-3521-2  
Matrix: Other (Solid)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-007

Order: A00639  
Page: 15 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A2-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-007A

Matrix: TCLP Extract

Description: A2-3521-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-008

Order: A00639  
Page: 16 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-1	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	14:03

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)  
Method: EPA 1311

Aliquot ID: A00639-008  
Description: A3-3521-1  
Matrix: Other (Solid)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-008

Order: A00639  
Page: 17 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A3-3521-1</b>	Chain of Custody:	<b>192677</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>14:03</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-008A

Matrix: TCLP Extract

Description: A3-3521-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-009

Order: A00639  
Page: 18 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	13:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-009

Matrix: Other (Solid)

Description: A3-3521-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-009

Order: A00639  
Page: 19 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-2	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	13:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-009A

Matrix: TCLP Extract

Description: A3-3521-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-010

Order: A00639  
Page: 20 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A3-3521-3</b>	Chain of Custody:	<b>192677</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>13:08</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)  
Method: EPA 1311

Aliquot ID: A00639-010 Matrix: Other (Solid)  
Description: A3-3521-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-010

Order: A00639  
Page: 21 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-3	Chain of Custody:	192677
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	13:08

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-010A

Matrix: TCLP Extract

Description: A3-3521-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-011

Order: A00639  
Page: 22 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-4	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)  
Method: EPA 1311

Aliquot ID: A00639-011 Matrix: Other (Solid)  
Description: A3-3521-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-011

Order: A00639  
Page: 23 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A3-3521-4</b>	Chain of Custody:	<b>194833</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>12:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-011A

Matrix: TCLP Extract

Description: A3-3521-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-012

Order: A00639  
Page: 24 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	A3-3521-5	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	12:32

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-012

Matrix: Other (Solid)

Description: A3-3521-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-012

Order: A00639  
Page: 25 of 28  
Date: 03/29/21

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>A3-3521-5</b>	Chain of Custody:	<b>194833</b>
Client Project Name:	<b>RTRR (10860)</b>	Sample No:		Collect Date:	<b>03/05/21</b>
Client Project No:	<b>10860</b>	Sample Matrix:	<b>Other (Solid)</b>	Collect Time:	<b>12:32</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-012A

Matrix: TCLP Extract

Description: A3-3521-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/24/21	PT21C24A	03/24/21	T421C24A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-013

Order: A00639  
Page: 26 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-WMU31	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Toxicity Characteristic Leaching Procedure (TCLP)

Method: EPA 1311

Aliquot ID: A00639-013

Matrix: Other (Solid)

Description: Dup-WMU31

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. TCLP Date	3/23/2021		NA	NA	1.0	NA	NA	03/23/21	NA	CJA

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Analytical Laboratory Report  
Laboratory Project Number: A00639  
Laboratory Sample Number: A00639-013

Order: A00639  
Page: 27 of 28  
Date: 03/29/21

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-WMU31	Chain of Custody:	194833
Client Project Name:	RTRR (10860)	Sample No:		Collect Date:	03/05/21
Client Project No:	10860	Sample Matrix:	Other (Solid)	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TCLP Metals by ICP/MS

Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A00639-013A

Matrix: TCLP Extract

Description: Dup-WMU31

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		mg/L	1.0	20	03/25/21	PT21C25C	03/25/21	T421C25A	CJA

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Analytical Laboratory

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Suite 9B  
Lansing, MI 48911  
Phone: 517 999 6020  
email: asbestos@fiber-tech.com

**Geoprobe**  
11766 E. Grand River Rd.  
Brighton, MI 48116  
Phone: 810 220 3300  
Fax: 810 220 3311

Chain of Custody #  
**192677**  
PAGE 1 of 2

Client Name: ASTI Environmental			PARAMETERS										Matrix Code			Deliverables			
Contact Person: Greg Oslosky													S Soil A Air O Oil P Wipe			GW Ground Water SW Surface Water WW Waste Water X Other: Specify		Level 2 Level 3 Level 4 EDD	
Project Name/ Number: RTRR / 10860													HOLD SAMPLE			X = concrete powder			
Email distribution list: goslosky@asti-env.com mdykhal@asti-env.com																			
Quote#																			
Purchase Order#																			
Date	Time	Sample #	Client Sample Descriptor		MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	Hexavalent Chromium	TCLP Arsenic	TCLP Selenium									Remarks:	
3-5-21	928	01	A1-3521-1		X	2	X	X										Hold pending further instruction after Hex. Chrom. analysis "	
	950	02	A1-3521-2					X											
	1013	03	A1-3521-3					X	X										
	1035		A1-3521-4					X											
	1105		A1-3521-5					X											
	1126		A2-3521-1					X									Received By Lab		
	1215		A2-3521-2					X									MAR 10 2021		
	1403		A3-3521-1					X											
	1328		A3-3521-2					X									Initials: CI		
	1308		A3-3521-3					X											
Comments: TCLP analysis update: GSO 3/17/2021																			
Sampled/Relinquished By: [Signature]					Date/ Time: 3/5/21 1600					Received By: ASTI Cold Storage									
Relinquished By: [Signature]					Date/ Time: 3/10/21 3:30					Received By: [Signature]									
Relinquished By: [Signature]					Date/ Time: 3/10/21 3:30					Received By: [Signature]									
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																			
LAB USE ONLY																			
Fiberlec project number: A00639																			
Temperature upon receipt at Lab: 3.4°C																			
Received On Ice																			
Please see back for terms and conditions																			

*Revised  
COC  
3/19/21*

Client Name: <b>ASTI Environmental</b>			PARAMETERS										Matrix Code			Deliverables			
Contact Person: <b>Greg Oslowsky</b>			MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	<b>Hexavalent Chromium</b>	<b>TCLP Arsenic</b>											S Soil A Air O Oil P Wipe X = concrete powder	GW Ground Water SW Surface Water WW Waste Water X Other: Specify	Level 2 Level 3 Level 4 EDD
Project Name/ Number: <b>RTRR / 10860</b>																			
Email distribution list: <b>goslosky@asti-env.com mdykta@asti-env.com</b>																			
Quote #																			
Purchase Order#																			
Date	Time	Sample #	Client Sample Descriptor															Remarks:	
<b>3-5-21</b>	<b>1250</b>		<b>A3-3521-4</b>															"Hold pending further instruction after Hex Chrom. analysis" ↓	
↓	<b>1232</b>		<b>A3-3521-5</b>																
↓			<b>Dup-WMU31</b>																
																		Received By Lab	
																		MAR 10 2021	
																		Initials: <b>CI</b>	
Comments:																			
Sampled/Relinquished By: <b>Methyl</b>			Date/ Time: <b>3/5/21 1600</b>			Received By: <b>ASTI cold storage</b>													
Relinquished By: <b>ASTI Cold Storage</b>			Date/ Time:			Received By: <b>Robt. Stange 3/10/21 8:50</b>													
Relinquished By: <b>Robt. Stange</b>			Date/ Time: <b>3/10/21 3:30</b>			Received By Laboratory:													
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY _____ 1 bus. day    _____ 2 bus. days    _____ 3 bus. days    _____ 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard)    Other (specify time/date requirement): _____																			
Fibertec project number: <b>A00639</b> Temperature upon receipt at Lab: <b>3.4°C</b>															Received On Ice				
Please see back for terms and conditions																			

**ASTI ENVIRONMENTAL**  
**ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND**  
**RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.**

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- **BROWNFIELD/GREYFIELD REDEVELOPMENT ASSISTANCE**
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- **STORAGE TANK COMPLIANCE AND CLOSURE**
- **THREATENED AND ENDANGERED SPECIES SURVEYS**
- **WATERSHED AND STORMWATER MANAGEMENT PROGRAMS**
- **WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING**

## **Attachment H**

### **Stormwater Management Options Report**



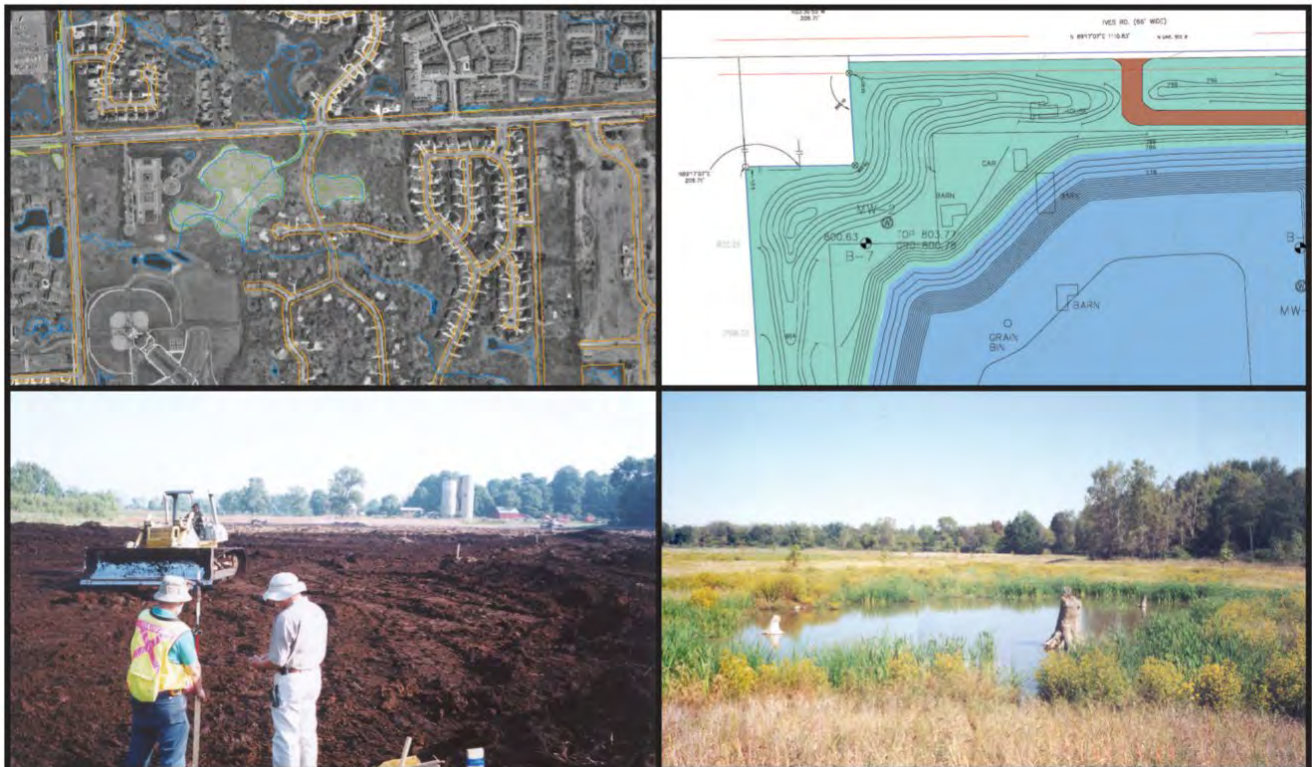
# Stormwater Options Report

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

March 3, 2021

ASTI ENVIRONMENTAL





Stormwater Options Report  
RTRR Property  
18251 West Jefferson  
Riverview, Michigan

March 3, 2021

**Report Prepared For:**

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

**Report Prepared By:**

ASTI Environmental  
10448 Citation Drive, Suite 100  
Brighton, Michigan 48116  
810-225-2800

**ASTI Project No. 10860**

Report Prepared by:



---

Greg S. Oslosky  
Director – Grand Rapids Office

Report Reviewed by:



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Bruce Bawkon  
Director – Industrial Compliance

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### **Figures**

Figure 1	Site Location Map
Figure 2	Site Features Map

### **Attachments**

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**Stormwater Management Options Report  
Riverview-Trenton Railroad Property  
18251 West Jefferson Avenue, Riverview, Michigan**

## **1.0 INTRODUCTION**

ASTI Environmental (ASTI) has prepared this Storm Water Report for the approximately 76.2 acre portion of the former McLouth Steel site commonly known as the Riverview-Trenton Railroad ("RTRR") Property (Parcel Numbers: 51009030001000, 54001010082300, and 54001990006704) located at 18251 West Jefferson Avenue in Riverview and Trenton, Wayne County, Michigan ("Subject Property"). Additionally, a portion of Parcel Number 54001990007701 lies within the Subject Property. A Site Location Map is provided as Figure 1 and the Subject Property is depicted on Figure 2, including each parcel.

## **2.0 BACKGROUND**

The McLouth Steel Company (McLouth Steel) operated a steel manufacturing facility on the property south of the Subject Property and acquired the Subject Property between 1956 and 1961. McLouth Steel used the Subject Property for storage of raw materials, waste, and product to support steel production between the time they acquired the property until about 1975. A large slag processing operation operated by E. C. Levy Company was also located on the Subject Property. After about 1975, production decreased at the McLouth Facility and McLouth Steel ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection in September of 1995. Hamlin Holdings, Inc. acquired the Subject Property in July of 1996. The Detroit Steel Company ("DSC") obtained title for the Subject Property in August of 1996 and used it for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998. Those operations closed in 2005. On June 2, 2000, Crown Enterprises purchased the Subject Property but did not use it for any activities and conveyed the property to RTRR in November of 2000. All structures have been removed from the Subject Property and only two concrete pads remain.

McLouth Steel operated stormwater and wastewater discharges under a National Pollution Discharge Elimination System ("NPDES") permit during operations as a steel mill, but there is no evidence that a stormwater collection system or a point source discharge exists for the Subject Property.

## **3.0 OBJECTIVE**

ASTI prepared the Stormwater Management Work Plan, dated June 28, 2019 ("Work Plan") to implement portions of the Statement of Work ("SOW") described in Attachment A of the Corrective Action and Consent Order ("CACO") dated November 1, 2018 for the Subject Property. The purpose of the Stormwater Management Work Plan was to provide an outline for preparing a feasibility analysis of stormwater management options to eliminate sheet flow to the Trenton Channel and Monguagon Creek (Figure 2). Unless otherwise provided herein, all terms used in this Stormwater Options Report are defined as provided in the CACO. The purpose of this report is to provide details for potential stormwater management options. Stormwater management options for the Subject Property include:

- Grade the Subject Property to collect stormwater. Grading would require future site development plans (future development is undetermined at this time),
- On-site retention,
- Discharge under a general permit,
- Discharge to the Trenton Channel under a National Pollutant Discharge Elimination System (NPDES), or
- Discharge to the City of Wyandotte or the City of Trenton Publicly Owned Treatment System (POTW).

**Stormwater Management Options Report**  
**Riverview-Trenton Railroad Property**  
**18251 West Jefferson Avenue, Riverview, Michigan**

This Stormwater Management Options Report is based on information from available site maps, topographical map, and ALTA survey, as well as site observations made in the field during site visits, to determine if sheet flow runoff occurs. Stormwater runoff sampling was not included as part of this evaluation.

#### **4.0 STORMWATER MANAGEMENT OPTIONS**

The following sections provide the potential stormwater management options and a description of each option.

##### **4.1 Property Topography and On-site Retention**

The site topographic plan in Attachment A shows the drainage pattern and storm water flow direction is depicted with arrows. Catch basins, constructed and natural drainage channels are not located on the property. Storm water is not retained after major storm events. The surface consists a sand and gravel layer which, was logged as the surface layer in many of the locations for the groundwater monitoring wells installed in October of 2019. Based on the topographic map, the east side of the site is sloped toward the Trenton Channel and the west side of the site is sloped toward the west. Construction of a berm along the Trenton Channel would assure that storm water does not leave the site and enter the Trenton Channel or Monguagon Creek.

Infiltration tests should be performed to determine the quantity of storm water that will be retained and the quantity of storm water that will infiltrate. The infiltration rate will also affect the height of the berm. Typically, the Standard Test Method for Infiltration of Soils in Field Using Double-Ring Infiltrometer (*ASTM D 3385-03*) is performed to determine infiltrations rates. The test is performed at the location and elevation of the bottom of the proposed detention pond.

##### **4.2 Discharge Under General Permit**

The Subject Property does not have a point source discharge, drainage channel or storm water discharge pipe which drains storm water from the Subject Property. A regional discharge pipe is located near the bank of the Trenton Channel which discharges storm water from West Jefferson Road and the area west of the Subject Property. The discharge pipe was not inspected during this evaluation. Discharge of non-contact storm water from a site does not require an NPDES permit unless the site is subject to the following rule contained in Part 21 Wastewater Discharge Permits:

Rule 323.2104(u)"Storm water discharge associated with industrial activity" means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the national permits program under 40 C.F.R. §122.3 and §122.27 (2000). For the categories of industries identified in this subdivision, the term includes, but is not limited to, storm water discharges from all of the following.

(xi) Areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

If surface water is discharged from the Subject Property after development of the Subject Property, storm water samples should be collected and sent to an analytical laboratory for characterization to determine if a permit is required.

**Stormwater Management Options Report  
Riverview-Trenton Railroad Property  
18251 West Jefferson Avenue, Riverview, Michigan**

**4.3 Discharge to the Trenton Channel Under a National Pollutant Discharge Elimination System (NPDES)**

If, after development, a discharge of surface water occurs, storm water sample collection and analysis would be required. The storm water analysis would be based on what could reasonably be expected to be present based on historical use and current surface material. The permit criteria for discharge are based on the Water Quality Based Standards. The discharge will be compared to the Part 4 Water Quality Standards (Rule 323.1041 to R 323.1117) and the Part 8 Water Quality-Based Effluent Limit Development for Toxic Substances (Rule 323.1201 to 323.1221).

**4.4 Discharge to the City of Wyandotte or the City of Trenton Publicly Owned Treatment System (POTW)**

Discharge to the City of Wyandotte or the City of Trenton Publicly Owned Treatment System (POTW) is available if the storm water meets the pretreatment criteria for the POTW. Currently, storm water collection for offsite disposal is not available, there are no collection or storage structures. Construction of a berm along the Trenton Channel could create a storm water retention area. Conveyance of detained storm water to the POTW would require pumps, an onsite manhole and a new connection to a manhole in the existing wastewater collection system.

**5.0 CONCLUSIONS**

This Storm Water Options Report provides a summary of potential options to manage stormwater runoff at the Subject Property. Future development plans have not been completed at the time of this submittal. Stormwater management will depend on future use of the Subject Property and site design. The options presented above will be addressed during redevelopment planning to provide protection of stormwater runoff to the Trenton Channel and the Monguagon Creek.

**6.0 RCRA CERTIFICATION STATEMENT**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Greg S. Oslosky, P.G.  
Director – Grand Rapids

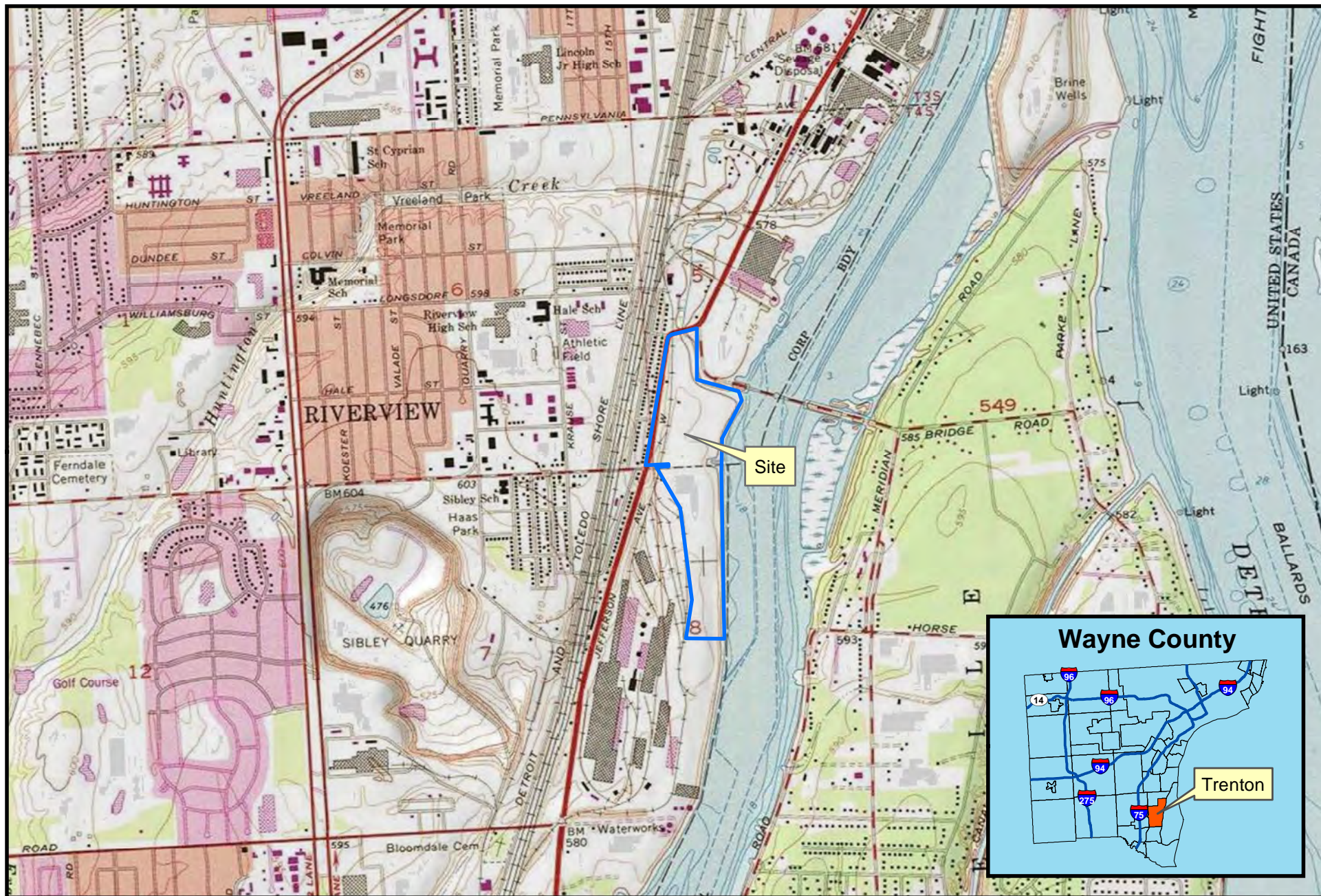
**Stormwater Management Options Report  
Riverview-Trenton Railroad Property  
18251 West Jefferson Avenue, Riverview, Michigan**

**Figures**

Figure 1 - Site Location Map

Figure 2 - Site Features Map





Former McLouth Steel Trenton Plant

1491 West Jefferson Avenue  
Trenton, MI

2,000 1,000 0 2,000  
Feet



**ASTI**  
ENVIRONMENTAL

Created for: MCS Land Company, LLC  
Created by: BJG, January 17, 2018, ASTI Project 10391

Figure 1 - Site Location Map



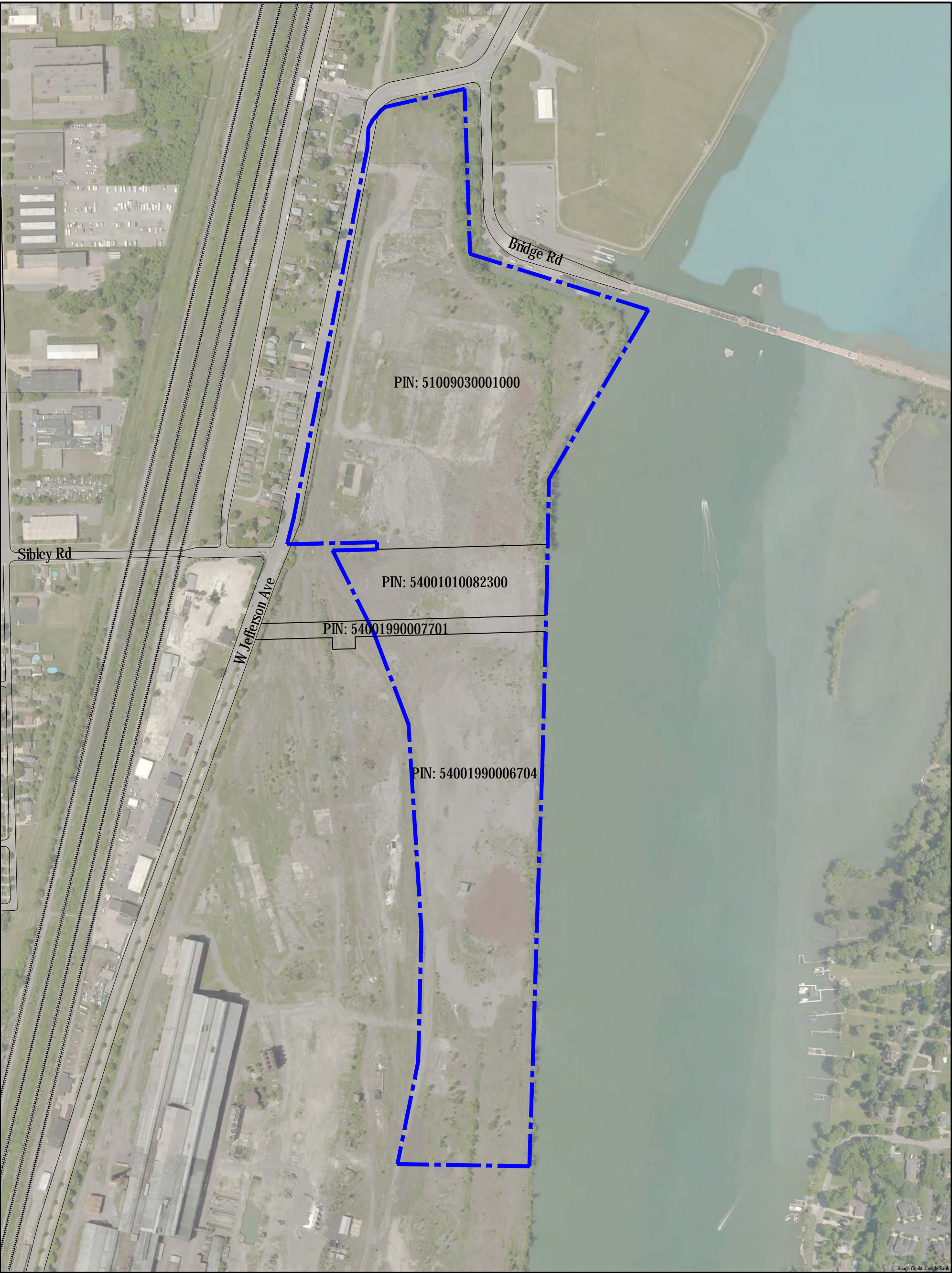


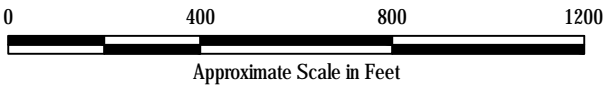


Image Credit: Google Earth

**LEGEND**

-  Subject Property
-  Approx. Parcel Boundary





**Stormwater Management Options Report  
Riverview-Trenton Railroad Property  
18251 West Jefferson Avenue, Riverview, Michigan**

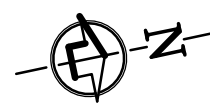
**Attachment A**

Topographic Survey North  
Topographic Survey South



MATCHLINE

MATCHLINE

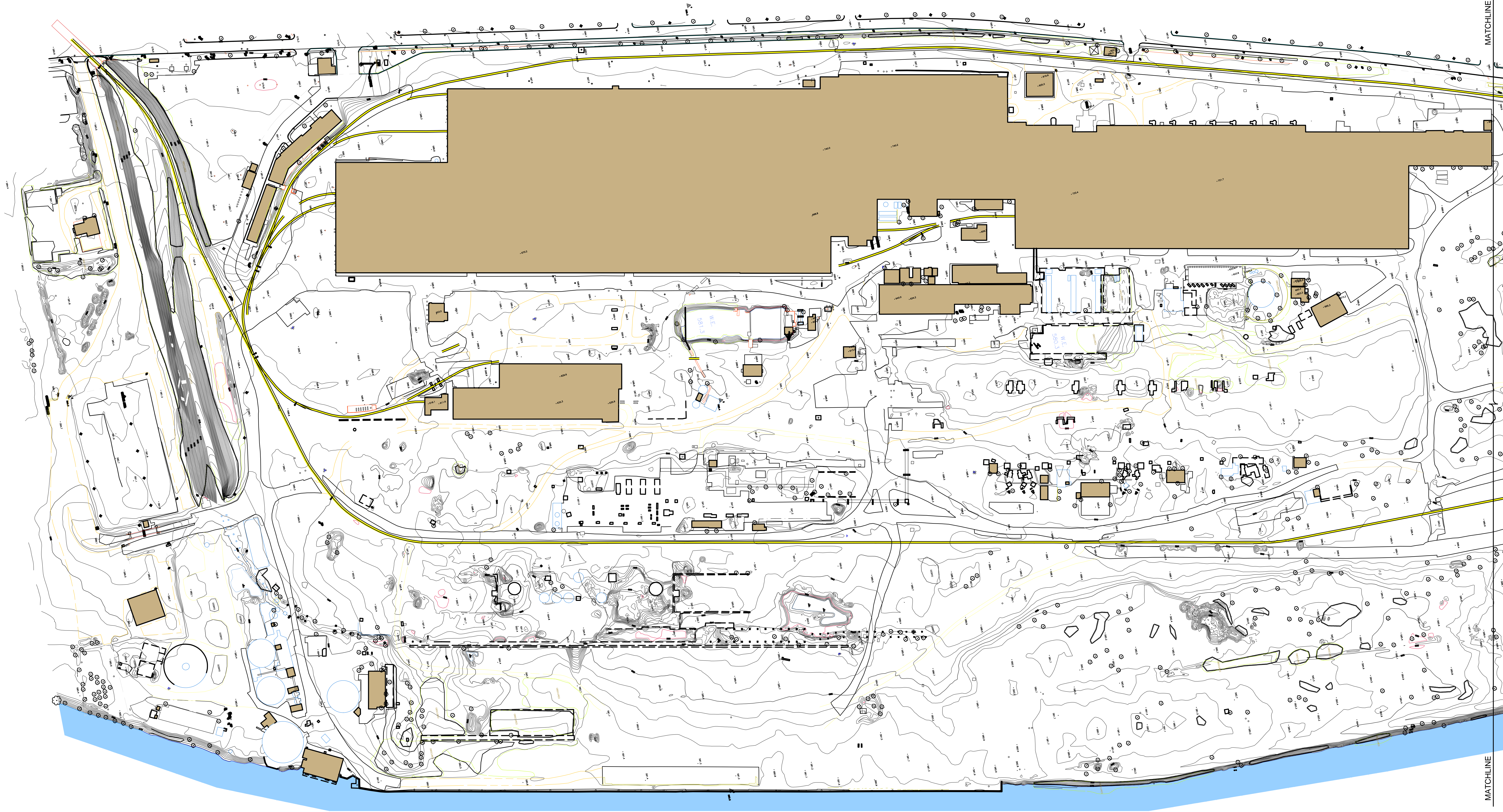


**MCLOUTH RTRR TOPO SURVEY**

SCALE: 1" = 120'

DATE		REVISION	
McLouth RTRR		RIVERVIEW TRENTON	
JEFFERSON AVE			
Crown Enterprises, Inc.		Warren, Michigan	
12225 Stephens			
Topo Survey		P1	





**MCLOUTH RTRR TOPO SURVEY**  
SCALE: 1" = 120'

DATE		REVISION	
		<b>McLouth RTRR</b>	
JEFFERSON AVE		RIVERVIEW TRENTON	
Crown Enterprises, Inc.		DATE	
12225 Stephens		2-7-18	
Warren, Michigan			
Topo Survey			P2



**ASTI ENVIRONMENTAL**  
**ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND**  
**RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.**

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- **STORAGE TANK COMPLIANCE AND CLOSURE**
- **THREATENED AND ENDANGERED SPECIES SURVEYS**
- **WATERSHED AND STORMWATER MANAGEMENT PROGRAMS**
- **WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING**

**Attachment I**  
**Groundwater Investigation Report**

# Groundwater Investigation Report

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

Riverview-Trenton Railroad Company

April 12, 2021

ASTI ENVIRONMENTAL



# Groundwater Investigation Report

RTRR Property  
18251 West Jefferson  
Riverview, Michigan

April 12, 2021

**Prepared For:**

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

**Prepared By:**

ASTI Environmental  
10448 Citation Drive, Suite 100  
Brighton, Michigan 48116  
(810) 225-2800

**ASTI Project No. 10860**

Report Prepared by:



---

Greg S. Oslosky, P.G.  
Director – Grand Rapids

Report Reviewed by:



---

Allison J. Rogowski, EP  
Environmental Scientist



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- 5 Shallow Groundwater Elevation Contour Map – July 7, 2020
- 6 Shallow Groundwater Elevation Contour Map – July 29, 2020
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- 2 Groundwater Elevation Summary
- 3 Summary of Slug Test Data
- 4 Summary of Groundwater Analytical Data
- 5 Groundwater Flow Calculations
- 6 Representative Groundwater Concentrations – Chemicals Exceeding the GSIP
- 7a Chemical Mass Loading – Northern Flow Zone
- 7b Chemical Mass Loading – Southern Flow Zone

**ATTACHMENTS**

- A Soil Boring and Well Construction Logs
- B August 4, 2020 Slug Test Files
- C Laboratory Analytical Reports and Chain-of-Custody Forms
- D ProUCL Output Files

## 1. INTRODUCTION

In accordance with the Corrective Action Consent Order (“CACO”) dated November 1, 2018 between the Riverview-Trenton Rail Road Company (“RTRR”) and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), ASTI Environmental (“ASTI”) conducted a groundwater investigation at the property located at 18251 West Jefferson Avenue in the City of Riverview, Wayne County, Michigan (“Subject Property”). The portion of the Subject Property which lies south of Sibley Road, is located in the City of Trenton, Michigan. The 75.8-acre Subject Property lies west of the Trenton Channel, south of the Grosse Ile Toll Bridge and Monguagon Creek, east of railroad tracks, West Jefferson Avenue, and the Sibley Quarry, and north of the Former McLouth Steel Facility. Figure 1 provides a Site Location Map and Figure 2 provides a Site Features Map for the Subject Property.

The Subject Property is surrounded by a fence on the north, west, and south. The Subject Property remains unused and no structures exist. Overhead power lines are present, but power has been disconnected. The only known underground utility on the Subject Property is the regional storm drain which runs from Sibley Avenue, east below the Subject Property and daylights at the Trenton Channel. The Subject Property is unpaved except for a parking lot (approximately 0.4 acres) on the northern portion and asphalt millings comprise roadways through the Subject Property.

The investigation was completed in accordance with the Statement of Work included as Attachment A of the CACO for the Subject Property and with the Work Plan – Groundwater Investigation prepared by ASTI dated June 28, 2019 (“Work Plan”).

The CACO Statement of Work for the groundwater investigation included the following tasks:

1. An evaluation of groundwater flow direction and hydrogeologic conductivity across the Subject Property,
2. An evaluation of groundwater impacts beneath the Subject Property, including an assessment of the nature of any off-site sources and an assessment of the nature and extent of groundwater impacts at the Subject Property, and
3. A determination of groundwater flow (including volume and contaminant composition) from the Subject Property to the Detroit River and Monguagon Creek.

EGLE provided approval of the Work Plan in a letter dated July 29, 2019.

## 2. BACKGROUND

### 2.1. Site History

The Subject Property originally consisted of wetland and open water with some uplands in the northwestern portion of the property. The Monguagon Creek formerly bisected the property; flowing north to south and emptied into the Trenton Channel of the Detroit River at about Sibley Road. By 1952, much of the Subject Property had been filled to the current bank of the Trenton Channel but open water remained in the original Monguagon Creek Channel. By 1954, the mouth of the Monguagon Creek had been enlarged for docking and at least five above ground storage tanks (“ASTs”) were located to the north of the mouth (on the Subject Property). The ASTs were associated with a former bulk oil storage facility located on the Subject Property. By 1964, the original Monguagon Creek channel had been filled and the creek was redirected along the northern extent of the Subject Property and no open water

remained on the Subject Property<sup>1</sup>. Figure 2 - Site Features Map shows the locations of these features.

The McLouth Steel Company ("McLouth Steel") operated a steel manufacturing facility on the property south of the Subject Property and acquired the Subject Property between 1956 and 1961. McLouth Steel used the Subject Property for storage of raw materials, waste, and product to support steel production between the time they acquired the property until about 1975. A large slag processing operation operated by E.C. Levy Company was also located on the Subject Property. After about 1975, production decreased at the McLouth Facility and McLouth Steel ceased operations in April of 1996 after filing for Chapter 11 bankruptcy protection in September of 1995. Hamlin Holdings, Inc. acquired the Subject Property in July of 1996. The Detroit Steel Company ("DSC") obtained title for the Subject Property in August of 1996 and used it for storage and conducted removal activities. DSC resumed pickling of strip steel at the McLouth Facility in July 1998, but those operations closed in 2005. On June 2, 2000, Crown Enterprises purchased the Subject Property and used it for container storage. Crown Enterprises conveyed the property to RTRR in November of 2000. All structures have been removed from the Subject Property and only two concrete pads remain.

## **2.2. Waste Management Units**

In connection with a Consent Order issued by the Michigan Department of Environmental Quality ("MDEQ", now EGLE) to DSC in 1999, MDEQ identified Waste Management Units ("WMU") on the Subject Property. A WMU was defined as "any discernible unit ... at which a Contaminant has been or may have been placed at any time irrespective of whether or not the unit was intended for managing waste, or any area at a facility subject to MCL 324.11115(a) at which a Contaminant has been routinely or systematically released". The following five WMUs were identified on the Subject Property, as illustrated on Figure 2.

### **WMU-26 – Former North Debris Piles**

WMU-26 was an approximately 20-acre area located in the central portion of the Subject Property that McLouth Steel used to accumulate various debris from its steel-making activities for reclamation. Based on historical documents, materials placed in the debris piles may have included, but not limited to, refractory material, slag, air pollution control solids (from bag houses), basic oxygen furnace ("BOF") scrubber sludge, scale pit sludges, lime handling dust, and air pollution dusts and sludges.

Waste streams designated for reclamation were not segregated, but randomly mixed in the former piles. Reclaimed steel-containing materials were recycled in the steel-making process and processed debris residuals were transferred to new piles in the same area or directly into trucks for transfer to the landfill.

DSC began processing the debris for recovery of recyclable steel scrap in June of 1997<sup>2</sup>. In July of 2000, DSC began transporting the remaining debris pile material to the Countywide Landfill for disposal. Removal activities continued into late 2002. As a result, no visibly identifiable pile remains.

---

<sup>1</sup> North Area Characterization Plan, Revised, ESC, November 2, 2000

<sup>2</sup> Debris Pile Characterization Plan, Techna Corporation, June 8, 1998

### **WMU-27 – Former Equipment Storage Yard**

WMU-27 was a fenced area of approximately 1.2 acres on the northern portion of the Subject Property that was used for secure storage of valuable surplus electrical and mechanical equipment. The area is identified as a WMU because it may have been used to store surplus transformers before construction of the Toxic Substance Control Act (“TSCA”) Storage Building in 1980. A small (approximately 1,000 square feet) building was located in the northwest corner of the storage yard. The building was not known to have been used for equipment storage; therefore, it is not considered part of the WMU<sup>3</sup>. The primary equipment stored in this area was blast furnace equipment. The chain-link fence around the former Equipment Storage Yard has been removed.

In the third quarter of 2001, DSC excavated and loaded approximately 10 cubic yards of soil impacted with polychlorinated biphenyls (“PCBs”) from the WMU-27 area. The soil was removed from the site and disposed as non-hazardous waste. Soil verification samples, collected after soil removal, indicated that the impacted soil had been removed.

### **WMU-29 – Former TSCA Waste Storage Building**

WMU-29 was a concrete block building constructed around 1980 which measured approximately 46 feet (“ft”) by 20 ft. The building was used to store containers of PCB transformers and materials in compliance with TSCA regulations. The sealed concrete floor was constructed with secondary containment curbs that served as footings for the block walls. The building was demolished in late 2000 or early 2001 and only the concrete pad and secondary containment curbs remain.

### **WMU-30 - Former Electronic Arc Furnace Dust Pile**

McLouth Steel used both BOF and electronic arc furnaces (“EAF”) for steel production. The waste emission control dust generated from the EAF air pollution control systems was designated as a listed hazardous waste (K061) by RCRA. Sludge was accumulated in a concrete sump and transferred to the interim status EAF Dust Pile storage area located in the western portion of the Subject Property, across from Sibley Road. WMU-30 was a roughly 25,000 square ft, triangular-shaped area with an earthen berm.

Part B of McLouth’s RCRA storage permit application was called in by the United States Environmental Protection Agency (“USEPA”) in 1984. McLouth made various submissions, resulting in a final RCRA/Act 64 permit application dated February 27, 1988. After rejection of that permit, McLouth decided to close the EAF Dust Pile and accumulate EAF dust for no longer than 90 days<sup>4</sup>.

McLouth operated WMU-30 continuously until early 1989, when new concrete accumulation tanks (WMU-31) were constructed and placed into use. Final removal of waste took place in 1991. Approximately 980 tons of EAF dust were transported to Horsehead Resource Development Company in Palmerton, Pennsylvania. As a result, no visibly identifiable pile remains.

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<sup>3</sup> Corrective Measures Work Plan – Equipment Storage Yard (WMU-27), TSCA Storage Yard (WMU-29), ESC, July 27, 2000

<sup>4</sup> Final Closure Report and Certification – Interim Status Hazardous Waste Storage Unit, Techna Corporation, March 31, 1998

### **WMU-31 - Former EAF Emission Control Sludge/Dust Storage Tanks**

The EAF Emission Control Sludge/Dust Storage Tanks were reinforced concrete tanks used to accumulate EAF air pollution control sludge and baghouse dust. Two tanks were used to store the material for less than 90 days before shipment off-site for disposal or reclamation at RCRA permitted hazardous waste facility as K061 waste. The tanks and concrete secondary containment structure were constructed in late 1988 to early 1989 and were used until steel-making operations ceased. No releases to the interstitial space or surrounding ground were reported. McLouth reportedly removed all wastes and cleaned the unit in 1996, after EAF operations ceased. After removal of the tanks, the cavity was backfilled to grade and the concrete pad remains in place.

### **2.3. Areas of Concern**

Under the same Consent Order, MDEQ identified Areas of Concern ("AOC"). AOCs were defined as "any area, place, or property where a release or threat of release, within the meaning of Sections 20101(bb) and 20101(ii) of Part 201 of the NREPA, of a hazardous substance in excess of the concentrations which satisfy the requirements of Section 20101 a(1)(a) or (17) or the cleanup criteria for unrestricted residential use under Part 213 of the NREPA has occurred", that may require additional investigation to determine if these locations were a source of contamination that require action to eliminate contaminants. Five AOCs were identified on the Subject Property, as illustrated in Figure 2. The AOCs on the Subject Property were not identified as requiring further action at that time. The five AOCs are described below.

#### **Former Coke Storage Area**

The Former Coke Storage Area was located in the northwestern portion of the Subject Property. The area was used to store piles of coke used in the blast furnace.

#### **Former Monguagon Creek Channel**

Prior to 1964, the Monguagon Creek flowed south through the Subject Property from the northern portion of the Subject Property. The creek bed was located west of the Former Oil Terminal (Figure 2). South of the Former Oil Terminal, the creek turned east and emptied into the Trenton Channel. After 1964, the Monguagon Creek bed on the Subject Property was filled and the creek was rerouted to its present-day channel (Figure 2).

#### **Possible Fill Area**

The Possible Fill Area was depicted in the 1999 Consent Order in the northern portion of the Subject Property, east of WMU-29 (Figure 2). The area was reportedly filled prior to McLouth's occupation of the Subject Property. The area appears to be located in the former wetlands.

#### **Former Oil Terminal**

The Former Oil Terminal was located in the central portion of the Subject Property. The Former Oil Terminal included five above ground storage tanks ("ASTs") and was removed from the Subject Property by 1964.

#### **Former Slag Processing Plant – North**

The Former Slag Processing Plant – North was located in the southern portion of the Subject Property. This AOC was reportedly a process area operated by the E.C. Levy Company to reclaim and store slag product for later sale.

### 3. SITE GEOLOGY AND HYDROGEOLOGY

The Subject Property is in the Eastern Lowlands Physiographic Region of Michigan. This region is located near the coast in the southeastern part of Michigan and extends north to the tip of the Lower Peninsula. The lowlands were deposited under large glacial lakes and rose when the lakes lowered. This region is defined by its flat topography and poorly drained soils<sup>5</sup>.

The Subject Property is underlain by the Dundee Limestone formation which overlies the Detroit River Group<sup>6</sup>. The Middle Devonian Dundee Limestone underlies most of the Southern Peninsula and averages a thickness of approximately 100 ft in the southeastern portion of Michigan's Southern Peninsula. The Dundee Limestone is a gray to buff cherty, crystalline limestone of high purity which was formerly mined at the Sibley Quarry located south of Sibley Road and approximately 3,600 ft west of the Subject Property. Bedrock was encountered in four soil borings (MW-104, MW-108, MW-109, and MW-110) during the groundwater investigation at elevations between approximately 535.5 ft above mean sea level ("AMSL") and 588 ft AMSL. Bedrock was encountered at a higher elevation in borings in the southern portion of the Subject Property. Limestone was visually confirmed at two of the four locations (MW-104 and MW-110) during drilling. Bedrock cuttings were not returned in the other two borings and the determination of bedrock was based on the driller's opinion due to change in subsurface characteristics.

The confined deep aquifer lies above the bedrock and below the basal clay unit. The deep aquifer which, consists of clayey sand and gravel, was not present at each location during the groundwater investigation. Two groundwater monitoring wells (MW-102D and MW-107D) were installed into the deep aquifer during the groundwater investigation. Groundwater elevations in the deep aquifer were lower than those in the shallow aquifer. Based on the presence and thickness of the clay unit and groundwater elevations, the deep aquifer does not appear to be hydraulically connected to the shallow aquifer.

A clay layer overlies the deep aquifer (where present) beneath the Subject Property and the thickness of the clay layer increases toward the northern portion of the Subject Property based on lithology encountered during the groundwater investigation. The clay layer was thinner in areas which were formerly open water; however, based on this investigation, the clay layer appears to be present below the entirety of the Subject Property and the top of the clay layer was encountered at elevations between 551 ft AMSL and 581 ft AMSL. The lowest elevation of the top of the clay layer was encountered in a boring (MW-100) drilled into the former Monguagon Creek bed in the northern portion of the Subject Property.

Regional groundwater flow is assumed to be controlled by the Detroit River. The Eastern Lowlands Physiographic Region is characterized by deposits of glacio-lacustrine clay and silt deposits. These deposits are not a significant source of groundwater due to their low permeability. The Dundee Limestone can yield significant quantities of groundwater; however, high mineral concentrations limit consumptive use.

Based on groundwater elevation data collected during the investigation, groundwater flow in the shallow aquifer beneath the Subject Property is toward the Trenton Channel in the

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<sup>5</sup> <http://geo.msu.edu/extra/geogmich/phy-regions.html>

<sup>6</sup> <https://www.deq.state.mi.us/GeoWebFace/>



southern portion of the Subject Property and toward the Monguagon Creek in the northern portion of the Subject Property. Based on lithology recorded during well installation, the shallow aquifer is underlain by the basal clay confining unit and groundwater in the shallow aquifer is within fill material. The Subject Property consisted of wetlands prior to about 1952.

#### **4. GROUNDWATER INVESTIGATION**

ASTI conducted the groundwater investigation in accordance with the CACO and Work Plan. Investigation activities consisted of an inspection of existing wells, groundwater monitoring well installation, well development, groundwater level gauging, four consecutive quarters of groundwater sample collection, and aquifer testing (slug testing).

##### **4.1. Assessment of Existing Monitoring Wells**

On September 4, 2019, ASTI mobilized to the Subject Property to assess the condition of existing groundwater monitoring wells. The objective was to determine which of the previously installed monitoring wells were still present, could be located and accessed, and to assess the well condition based on visible observation and depth sounding. ASTI collected total depth measurements and depth to water measurements from the wells which could be accessed. Total depth measurements were compared to available well logs.

In the Work Plan, ASTI proposed installation of shallow and deep monitoring wells in the vicinity of existing well TMW-27. However, based on the results of the assessment, ASTI determined that existing well TMW-27 could be used in the groundwater investigation in place of the proposed shallow well in that location. No additional existing wells were determined to be acceptable for further use during this investigation.

##### **4.2. Groundwater Monitoring Well Installation**

ASTI subcontracted licensed driller, Cascade Environmental ("Cascade") to install the wells proposed in the Work Plan. Between the dates of October 14 and October 22, 2019, ASTI provided oversight and direction while Cascade installed 15 groundwater monitoring wells at 11 locations on the Subject Property. Four well locations contained nested well pairs. Prior to drilling, ASTI contacted Michigan's MISS DIG system to provide a location of underground utilities.

Sonic drilling was utilized to install the 15 groundwater monitoring wells between depths of 10 ft below ground surface ("bgs") and 55 ft bgs. Well locations were designated as MW-100 through MW-110 and nested well pairs were installed at locations MW-100, MW-107, MW-109, and MW-110. Monitoring wells were installed at the approximate locations shown in the Work Plan, and as illustrated on Figure 3. Designations of relative depth were incorporated with the well identification number for nested well pairs (i.e. MW-100s and MW-100i screen the upper portion of the shallow aquifer and the lower portion of the shallow aquifer, respectively). Wells with the "D" in the identification were intended to be installed into the deep aquifer based on observations during well installation. ASTI later determined that wells MW-109D and MW-110D were installed into the lower portion of the shallow aquifer (based on groundwater elevations, lithology, and chemical profiles).

An ASTI field scientist logged soil cuttings and scanned the soil for the presence of volatile organic compounds ("VOCs") with the use of a photoionization detector ("PID"). The ASTI scientist logged the soil cuttings and recorded the PID readings in a field notebook or on designated forms. As described in the Work Plan, well depths were proposed to screen the

upper portion of the shallow aquifer, the lower portion of the shallow aquifer, or the second water bearing zone ("deep aquifer"). The ASTI field scientist used information collected during drilling (i.e. lithology, saturated zones, and/or depth to water) to determine the screen intervals. The soil boring and well construction logs are included as Attachment A.

Each well consists of two-inch diameter polyvinyl chloride ("PVC") riser with factory-slotted PVC well screen. The screen lengths varied between 5 ft and 20 ft. A sand filter pack was installed in the annulus around each screen to approximately two ft above the top of the screen. Bentonite chips were placed above the filter pack to near ground surface or between screen intervals in the nested well pairs. Each well was finished with a steel stick up protective cover and a concrete pad was installed around the protective cover with the exception of MW-106. A loss of sand occurred while placing the filter pack at shallow well MW-106. Borehole collapse at this location occurred later and provided a natural filter pack. Figure 3 provides a Site Features Map which shows the location of each groundwater monitoring well. Attachment A provides the soil boring logs and well completion diagrams for the new monitoring wells and existing well TMW-27, which, was installed by others during a previous investigation. Table 1 – Summary of Groundwater Monitoring Wells, provides a summary of well depths, top of PVC casing elevations, screen lengths, and surveyed locations. After installation, ASTI developed each of the newly installed wells and TMW-27 by over-pumping each well until the purge water appeared free of sediment.

The screen length varied based on the total well depth and the thickness of the saturated zone. Wells installed into the deep aquifer (wells designated with "D" in the well identification) were completed with five ft of well screen.

In the Work Plan, locations MW-101, MW-103, MW-105, and MW-106 were proposed to consist of a nested well pair to screen both the upper and lower portion of the shallow aquifer. Based on observations of the shallow saturated zone during drilling, one well was installed in each location with a screen length to intersect the water table and extending to the bottom of the shallow aquifer (Attachment A).

Monitoring well MW-110D was intended to screen the deep aquifer. During drilling the clay layer between the depth of 18 ft bgs and 19 ft bgs represented the basal clay unit. A five foot screen was installed below the clay layer. After a review of the well completion logs ASTI determined that the basal clay unit is located directly above the bedrock and the upper clay layer is likely a lens. The clay confining layer found in other portions of the Subject Property during this investigation was thicker than 1 ft. Groundwater elevation data and groundwater analytical concentrations supported the evidence that the screen for MW-110D is set in the shallow aquifer. Wells MW-102D and MW-107D screen the confined deep aquifer.

After installation, a licensed land surveyor provided a well elevation and location survey. Meridian Land Surveying of Flint, Michigan provided the top of PVC casing elevation and location for each of the new wells and existing well TMW-27, and a surface water elevation gauging location at the sea wall along the Trenton Channel (TC-1 [Figure 3]). The top of PVC casings served as the measuring point for depth to groundwater measurements and the top of casing elevations were measured to the nearest 0.01 ft. The well locations were provided using the Michigan State Plane South Coordinates. Table 1 provides a summary of the measuring point elevations and the well locations and Figure 3 depicts the location of the wells.



#### **4.3. Groundwater Sampling**

Once well installation and development were complete, ASTI conducted four consecutive quarterly groundwater gauging and sampling events, beginning in the fourth quarter of 2019, and ending in the third quarter of 2020. Groundwater sampling was conducted in accordance with the CACO and the Work Plan.

##### **4.3.1. Depth to Groundwater Measurements**

Prior to purging for groundwater sample collection, ASTI collected depth to water measurements at each well to be sampled. Groundwater gauging events took place before each quarterly groundwater sampling event on December 12, 2019, March 18, 2020, May 27, 2020, and July 29, 2020. Depth to water measurements collected during the first and third groundwater sampling events (December 10, 2019 and May 27, 2020, respectively) were collected as depth from ground surface by collecting the depth to water from the top of the steel casing and subtracting the height of the steel casing. Those measurements are not considered to be precise enough to determine the groundwater elevation. As a result, ASTI conducted an additional depth to groundwater gauging event on July 7, 2020. Groundwater elevations were calculated by subtracting the depth to groundwater from the measuring point (top of PVC casing) elevation. Table 2 – Groundwater Elevation Summary, provides a summary of the depth to water measurements and groundwater elevations. Groundwater elevation contour maps for the gauging events conducted on March 18, 2020, July 7, 2020, and July 29, 2020 are provided as Figure 3, Figure 4, and Figure 5, respectively.

Groundwater was not present in MW-109s during the gauging events. During well installation, the upper sand interval was believed to be the top of the shallow aquifer. Based on a review of the groundwater elevations in the shallow aquifer and the MW-109s screen elevation, the bottom of the screen was set above the shallow aquifer. ASTI determined that MW-109D was not set into the deeper aquifer but in the shallow aquifer because the deep aquifer was not present at the MW-109 location (Attachment A).

##### **4.3.2. Groundwater Sample Collection**

After collecting depth to water measurements at each of the wells to be sampled, ASTI began purging the wells for sample collection. Purging took place with the use of a peristaltic pump at each well; however, due to the depth to water at MW-102D, a bladder pump was used to purge and collect the groundwater sample at this location. Each well was purged at a flow rate low enough to eliminate or minimize groundwater drawdown to ensure that formation water was being collected. ASTI collected water quality readings during well purging on five-minute intervals. The water quality readings consisted of pH, turbidity, temperature, specific conductance, dissolved oxygen, and oxidation-reduction potential. After the water quality readings stabilized for three consecutive readings, ASTI collected groundwater samples into jars provided by the laboratory, appropriate for the specified analysis.

Each groundwater sample was given a unique sample identification consisting of the well name and a six-digit date. For example, the sample collected from MW-103 on December 12, 2019 was identified as “MW-103-121219”. Groundwater samples collected from TMW-27 were mistakenly labeled as “TMW-26” during each of the four quarterly sampling events, but ASTI confirmed that each sample labeled with “TMW-26” was collected from well TMW-27 (Figure 3), and no samples were collected from TMW-26 during this investigation. ASTI collected one duplicate sample during each groundwater sampling event. The duplicate samples were labeled as “DUPLICATE” or “DUP” without the well identification and the date

of collection. A trip blank was provided by the laboratory for each set of samples and resided in the sample cooler during each sampling event and during transportation.

Upon collection, ASTI placed the samples on ice and the samples were kept cold until delivery to Fibertec Environmental Service ("Fibertec") in Holt, Michigan using standard chain of custody procedures. In accordance with the CACO and the Work Plan, the groundwater samples (including duplicate and trip blank samples) were analyzed for the following parameters:

Analysis	Analytical Method
VOCs	5035 and 8260
Semi-volatile Organic Compounds ("SVOCs")	8270
Polychlorinated Biphenyls ("PCBs")	8082A
Metals <sup>(1)</sup>	6020
Total Mercury	7470
Cyanide, Free	9016
Chloride	9253
Ammonia	350.1
pH	9040B
Total Dissolved Solids	160.1

(1) Arsenic, barium, total chromium, copper, lead, manganese, nickel, selenium, silver, vanadium, and zinc.

Method detection limits for mercury were greater than the Generic Nonresidential Cleanup Criteria ("GNRCC") under Part 201 of Michigan's *Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended* ("Part 201") Groundwater to Surface Water Interface Criteria ("GSI"); therefore, the samples collected in the third and fourth sampling events (May 2020 and June 2020, respectively) were additionally analyzed for low-level mercury analysis by USEPA Method 1631E.

Sufficient quantities of groundwater were not present in MW-109s for sample collection during any of the four sampling events. Therefore, groundwater samples were not collected from MW-109s during this investigation.

#### **4.4. Aquifer Testing**

On August 4, 2020, ASTI conducted aquifer testing via slug testing at the Subject Property. ASTI chose a subset of wells which represent the shallow aquifer across the Subject Property. ASTI conducted slug tests at wells MW-100s, MW-100i, MW-101, MW-104, MW-107s, MW-108, MW-109D, and MW-110D; however, upon review of the data, the slug tests completed for MW-107, MW-108, and MW-110D did not produce reliable results due to likely movement of the level troll during slug insertion or removal. ASTI believes that the slug tests in this evaluation provide an accurate representation of the shallow aquifer at the Subject Property.

Prior to conducting a slug test, ASTI inserted a water level data logger into the test well and recorded the static depth to water with an electronic sounding probe. ASTI then completed slug testing by rapidly inserting a solid slug of a known volume into the well and observing water level data until it returned to within at least 90 percent of the static level. The test was repeated by removing the slug from the well and observing water levels. Slug tests were repeated when water levels recovered quickly and when field results were of uncertain quality

and hydraulic conductivity values for multiple tests in a single well were averaged (“representative value”) to determine the representative hydraulic conductivity for that well.

The calculated hydraulic conductivity values resulting from the slug tests completed in the shallow aquifer on August 4, 2020 ranged from 0.093 ft per day (“ft/day”) to 18 ft/day. The geometric mean of the representative values for each well is approximately 2.1 ft/day. This value is consistent with silty sand or fine sand which was logged in the screen interval of the logs for the tested wells. Table 3 – Summary of Slug Test Data, provides a summary of the hydraulic conductivity values calculated from the August 4, 2020 slug testing event. Slug test data files are included as Attachment B.

#### **4.5. Groundwater Analytical Results**

The groundwater laboratory analytical results for the quarterly sampling events were compared to the Part 201 GNRCC including, Nonresidential Drinking Water Criteria (“DW”), the GSI, and the Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (“GVIAI”). Laboratory analytical results indicated groundwater concentrations exceeded the GNRCC for DW and GSI for several parameters. Table 4 provides a summary of the groundwater analytical data and Attachment C includes the laboratory analytical reports and chain-of-custody forms for each sampling event conducted during this investigation.

##### **Metals**

Arsenic was detected at concentrations exceeding the GNRCC for DW in one or more samples collected from wells MW-101s, MW-101i, MW-104, and MW-105. Lead was detected at concentrations exceeding the GNRCC for DW in one or more samples collected from wells MW-101i, MW-101, MW-102D, MW-103, MW-105, and MW-106, MW-108, and MW-110D. Manganese was detected at concentrations exceeding the GNRCC for DW in one or more samples collected from wells MW-100i, MW-101, MW-102D, MW-103, MW-107D, and MW-109D.

Arsenic was detected at concentrations exceeding the GNRCC for GSI in one or more samples collected from wells MW-101s, MW-101i, MW-104, and MW-105. Total chromium was detected at concentrations exceeding the GNRCC for GSI in one or more samples collected from MW-101i, MW-106, MW-108, MW-110s, MW-110D, and TMW-27. Selenium was detected at concentrations exceeding the GNRCC for GSI on one occasion from MW-100s and MW-100i. Silver was detected at concentrations exceeding the GNRCC for GSI on one occasion from MW-101 and MW-104. Vanadium was detected on one occasion at a concentration exceeding the GNRCC for GSI in MW-105. Figure 7 depicts the groundwater sample locations and concentrations where metals exceeded the GNRCC.

##### **Mercury**

Mercury was not detected at concentrations exceeding the laboratory reporting limit during the first two quarterly sampling events; however, the laboratory detection limit was greater than the GNRCC for GSI. Therefore, low-level mercury analysis was conducted in addition to total mercury analysis for samples collected during the final two sampling events. Mercury was detected via low-level analysis and/or total mercury analysis at concentrations exceeding the GNRCC for GSI in one or more samples collected from each well during the final two sampling events with the exception of wells MW-106 and MW-107D.

Mercury concentrations in the groundwater samples collected during this investigation did not exceed the GVIAIC.

#### Semi-volatile Organic Compounds

The SVOCs aniline, carbazole, dibenzofuran, 2,4-dichlorophenol, 2,4-dimethylphenol, fluoranthene, 3- and 4-methylphenol, and phenanthrene were detected in one or more groundwater samples at concentrations exceeding the GNRCC for GSI. The compounds aniline, carbazole, and dibenzofuran were each detected on one occasion at concentrations exceeding criteria; each from samples collected from MW-100s or MW-100i. The SVOC 2,4-dimethylphenol was only detected on two occasions at concentrations exceeding criteria; each from samples collected at MW-104. Figure 8 depicts the locations and groundwater concentrations where SVOCs exceeded the GNRCC.

SVOC concentrations in the groundwater samples collected during this investigation did not exceed the GVIAIC.

#### Volatile Organic Compounds

The compounds benzene and vinyl chloride were detected in one or more samples collected from MW-100s and MW-100i at concentrations which exceeded the GNRCC for DW. Dibromochloropropane was detected on one occasion from MW-100i at a concentration exceeding the GNRCC for DW.

Naphthalene was detected at concentrations exceeding the GNRCC for GSI on two or more occasions from wells MW-100s, MW-100i, MW-103, and MW-107s. 1,2,4-trimethylbenzene was detected at concentrations exceeding the GNRCC for GSI in each sample collected from MW-101. Vinyl chloride was detected at concentrations exceeding the GNRCC for GSI in three or more samples collected from MW-100s and MW-100i. Total xylenes were detected on one occasion at a concentration exceeding the GNRCC for GSI in well MW-100s. VOCs were not detected at concentrations exceeding either criteria in samples collected from wells MW-102D, MW-104, MW-105, MW-106, MW-107D, MW-108, MW-109D, MW-110s, MW-110D, or TMW-27. Figure 8 depicts the locations and concentrations where VOCs exceeded the GNRCC.

VOC concentrations in the groundwater samples collected during this investigation did not exceed the GNRCC for GVIAI.

#### PCBs

PCBs were not detected above the laboratory reporting limit in any groundwater sample collected during this investigation.

#### Ammonia, Chloride, Total Dissolved Solids, and pH

Ammonia was detected at concentrations in exceedance of the GNRCC for DW in one or more samples collected from MW-100s, MW-100i, MW-104, and MW-107s. Chloride was detected at concentrations in exceedance of the GNRCC for DW in one sample collected from MW-100s (MW-100s-052720) and in three of the four samples collected from MW-104 and at concentrations in exceedance of the GNRCC for GSI in each of the four samples collected from MW-100s, MW-100i, MW-101, MW-104, and on one occasion in MW-110s.

Total dissolved solids were detected above the GNRCC for DW and the GSI in one or more samples collected from each well sampled with the exception of MW-102D and MW-107D. Laboratory pH readings indicated elevated readings (greater than 8.5 standard units ["S.U."]) in each groundwater sample collected except for MW-102D and MW-107D. Each sample collected from MW-102D contained pH readings within the acceptable range of 6.5 S.U. to

8.5 S.U. Only one of the four samples collected from MW-107D (MW-107D-121219) contained an elevated pH reading of 8.54 S.U. Figure 7 includes the locations and concentrations of ammonia, chloride, and total dissolved solids which exceeded GNRCC.

Ammonia concentrations in the groundwater samples collected during this investigation did not exceed the GVIAIC.

## **5. GROUNDWATER FLOW FROM THE SUBJECT PROPERTY**

ASTI calculated the groundwater flow from the Subject Property to the Trenton Channel and the Monguagon Creek. A 270-foot long steel sheet pile wall is located along the bank of the Trenton Channel in the northeastern portion of the Subject Property (Figure 2). The sheet pile wall creates a boundary which prevents groundwater flow from the Subject Property to the Trenton Channel along the wall; thus, diverting flow to the north and south of the sheet pile wall (Figures 4, 5, and 6).

Groundwater flow to the north of the sheet pile wall is designated the Northern Flow Zone and groundwater flow to the south of the sheet pile wall is designated the Southern Flow Zone. ASTI calculated groundwater flow to the Monguagon Creek ("Northern Flow Zone") and the Trenton Channel ("Southern Flow Zone") separately. ASTI calculated the groundwater flow from the Subject Property using the following equation:

$$Q = KAi$$

Where: Q = groundwater flow (ft<sup>3</sup>/day)  
K = hydraulic conductivity (ft/day),  
A = area of cross-sectional flow (height of saturated zone \* length of groundwater/surface water interface) (ft<sup>2</sup>)  
i = hydraulic gradient (unitless)

The height of the saturated zone represents the elevation of the top of the confining layer (clay layer) subtracted from the average groundwater elevation. The area of cross-sectional flow represents a vertical plane through which groundwater flows at the groundwater/surface water interface ("GSI"). The length of the GSI for the Northern Flow Zone was measured from the point where the Monguagon Creek enters the Subject Property to the northern end of the sheet-pile wall. The length of the Southern Flow Zone was measured from the southern end of the sheet-pile wall to the point where the southern property border meets the Trenton Channel. The hydraulic gradient is the difference in groundwater elevation between two wells in the groundwater flow path divided by the distance between the two wells.

### **5.1. Groundwater Flow to the Monguagon Creek (Northern Flow Zone)**

ASTI calculated the groundwater flow in the Northern Flow Zone using the hydraulic gradient between wells TMW-27 and MW-100s/i (MW-100s and MW-100i are both screened in the shallow aquifer). The hydraulic gradient for each groundwater elevation monitoring event was 0.01. As a conservative measure, ASTI used the maximum hydraulic conductivity calculated from slug tests conducted in the Northern Flow Zone, which was 1.8 ft/day (hydraulic conductivity calculated for MW-100s). The length of cross-sectional flow is 1,810 ft and an average saturated height of 24.3 ft (average saturated height in MW-100s and MW-100i) for a calculated area of 43,983 ft<sup>2</sup>. The calculated groundwater flow from the Northern Flow Zone to the adjacent stream was calculated to be approximately 790 cubic ft per day ("ft<sup>3</sup>/day") or



5,920 gallons per day (“gpd”). Assuming the GSI length of 1,810 ft, the groundwater flow is approximately 3.3 gpd/ft in the Northern Flow Zone. Table 5 provides a summary of the groundwater flow calculations.

## **5.2. Groundwater Flow to the Trenton Channel (Southern Flow Zone)**

ASTI calculated the groundwater flow in the Southern Flow Zone using the hydraulic gradient between wells MW-106 and MW-107s. The maximum hydraulic gradient was calculated to be 0.0005. As a conservative measure, ASTI used the maximum, per-well average hydraulic conductivity calculated from slug tests conducted at wells located in the Southern Flow Zone (MW-101, MW-104, and MW-109D). The hydraulic conductivity value used was 12.8 ft/day (average value for MW-109D). The length of cross-sectional flow is 3,230 ft and an average saturated height of 12.7 ft (average saturated height in wells MW-101, MW-107s, MW-108, MW-110s, and MW-110D) for a calculated area of 41,021 ft<sup>2</sup>. The calculated groundwater flow from the Southern Flow Zone to the Trenton Channel was calculated to be approximately 260 ft<sup>3</sup>/day or 1,960 gpd. Given a GSI length of 3,230 ft, the groundwater flow is approximately 0.61 gpd/ft in the Southern Flow Zone. Table 5 provides a summary of the groundwater flow calculations.

## **6. CONTAMINANT FLOW TO THE TRENTON CHANNEL**

ASTI calculated the mass of contaminants flowing from groundwater beneath the Subject Property in the Northern and Southern Flow Zones. ASTI used the calculated groundwater flow for each zone and a representative concentration of each constituent that exceeded the GNRCC for GSI in the GSI monitoring points. The GSI monitoring points are defined in Natural Resources and Environmental Protection Act 451 of 1994 Section 20120e(23)(d) as, *a vertical well installed in the saturated zone as close as practicable to surface water with a screened interval or intervals that are representative of the groundwater venting to the surface water.*

In the Northern Flow Zone, MW-100s and MW-100i represent the GSI monitoring points and in the Southern Flow Zone, MW-101, MW-107s, MW-108, MW-110s, and MW-110D represent the GSI monitoring points (MW-110D is installed in the shallow aquifer). MW-107D is not considered to be a GSI monitoring point because the deep aquifer is not considered to vent directly to surface water.

### **6.1. Contaminant Flow in the Northern Flow Zone**

Based on groundwater flow direction, ASTI determined that monitoring wells TMW-27, MW-102D, MW-100s, and MW-100i are in the Northern Flow Zone. Wells MW-100s and MW-100i represent the GSI monitoring points in the Northern Flow Zone.

ASTI developed representative concentrations for chemicals which exceeded the GNRCC for GSI in the GSI monitoring points using the USEPA ProUCL Software Version 5.1. A 95% UCL could not be calculated from the dataset for the chemicals, total chromium, aniline, carbazole, and dibenzofuran due to only one analytical concentration above the laboratory reporting limit each. As a conservative measure, ASTI used the maximum detected concentration as the representative concentration for these chemicals and the mass is likely an overestimation. The representative concentrations of chemicals which exceeded the GNRCC for GSI are presented in Table 6 and the ProUCL output files are included in Attachment D.

Mixing zone calculations are not included as part of this investigation however, ASTI calculated the approximate mass of contaminants flowing from the Northern Flow Zone to the

Monguagon Creek using the groundwater flow and the representative concentrations. Table 7a provides a summary of the Chemical Mass loading from the Northern Flow Zone presented in grams per day.

## **6.2. Contaminant Flow in the Southern Flow Zone**

Based on groundwater flow direction, ASTI determined that monitoring wells MW-101, MW-103, MW-104, MW-105, MW-106, MW-107s, MW-107D, MW-108, MW-109D, MW-110s, and MW-110D are in the Southern Flow Zone. Wells MW-101, MW-107s, MW-108, MW-110s, and MW-110D represent the GSI monitoring points in the Southern Flow Zone. Well MW-101 was chosen as a conservative measure because it represents the southern-most monitoring point with no monitoring well between it and the Trenton Channel.

Based on groundwater elevations, chemical concentrations, and absence of a significant confining clay layer above the screen, ASTI determined that MW-110D is screened in the shallow aquifer. Therefore, MW-110s and MW-100D are both screened in the shallow aquifer. ASTI calculated representative concentrations for each constituent that exceeded the GNRCC for GSI in the GSI monitoring points. Using the groundwater flow for the Southern Flow Zone, ASTI determined the approximate mass of chemicals flowing from beneath the Subject Property to the Trenton Channel.

ASTI developed representative concentrations for chemicals which exceeded the GNRCC for GSI in the GSI monitoring points using the USEPA ProUCL Software Version 5.1. A 95% UCL could not be calculated from the dataset for the chemicals silver and phenanthrene due to only one concentration above the laboratory reporting limit each. As a conservative measure, ASTI used the maximum detected concentration as the representative concentration for these constituents. Therefore, the mass of those chemicals is likely an overestimation. The representative concentrations of the chemicals which exceeded the GNRCC for GSI are presented in Table 6 and the ProUCL output files for the Southern Flow Zone are included in Attachment D.

Mixing zone calculations are not included as part of this investigation however, ASTI calculated the approximate mass of contaminants flowing from the Southern Flow Zone to the Trenton Channel using the groundwater flow and the representative concentrations. Table 7b provides a summary of the Chemical Mass loading from the Southern Flow Zone presented in grams per day.

## **7. SITE CONCEPTUAL MODEL**

Based on the groundwater investigation conducted by ASTI and previous investigations conducted by others, ASTI developed the following Site Conceptual Model.

The Subject Property is bordered to the north by the Monguagon Creek, to the east by the Trenton Channel of the Detroit River, to the south by the Former McLouth Steel Facility, and to the west by railroad tracks and West Jefferson Avenue. Mixed residential and commercial properties and Sibley Quarry lie west of West Jefferson Avenue and Grosse Ile lies east of the Trenton Channel.

The Subject Property is underlain by fill material above the basal clay unit throughout the Subject Property, which overlies the Dundee Limestone formation. Based on the groundwater monitoring wells installed in 2019, the top of the Dundee Limestone formation lies between approximately 535.5 ft AMSL and 558 ft AMSL. A layer of sand and gravel is present between

the basal clay and bedrock at elevations between approximately 542.5 ft AMSL and 535.5 ft AMSL. Deep wells, MW-102D and MW-107D are screened in that sand and gravel layer. The approximate bottom elevation of the Trenton Channel is above the bottom of the basal clay unit; therefore, the clay unit likely isolates the deeper sand and gravel aquifer from the Trenton Channel. The top of the basal clay unit lies between approximate elevations of 551 ft AMSL and 581 ft AMSL.

Before 1952, the Subject Property consisted mostly of open water and the basal clay unit was most likely located at the bottom of the open water. Fill material was placed on top of the basal clay unit to fill the wetlands. Based on soil boring logs developed during this investigation, the bottom of the fill is below the surface water elevation of the Trenton Channel and the water table is located within the fill layer. Therefore, the shallow aquifer beneath the Subject Property was created by filling in the open water. Most of the fill was placed prior to 1952 and the origin of the fill is unknown. The fill was evident during well installation by the presence of slag, metal shards, portions of suspected railroad ties and spikes, and brick fragments. Until approximately 1967, the Monguagon Creek bisected the Subject Property, flowing north to south, before emptying into the Trenton Channel east of Sibley Avenue. Wells MW-100i/s, MW-103, and MW-106 were installed in the former creek bed.

After acquisition sometime between 1956 and 1961, McLouth Steel used the Subject Property for storage of raw materials, waste, and equipment. The E.C. Levy Company operated a slag processing plant on the Subject Property and slag is present in the fill material. A bulk oil storage facility was located approximately in the center of the Subject Property until sometime before 1964.

Based on groundwater gauging events conducted during this investigation, the water table below the Subject Property lies between elevations of 575 ft AMSL and 580 ft AMSL. The groundwater elevation in the deep aquifer was calculated to be at elevations between 557 ft AMSL and 574 ft AMSL. ASTI later determined that wells designated MW-109D and MW-110D were screened in the shallow aquifer. This determination was made through a review of well completion logs, groundwater elevation data, and laboratory analytical data.

Groundwater flow in the shallow aquifer is northeast toward the Monguagon Creek in the Northern Flow Zone and east toward the Trenton Channel in the Southern Flow Zone. The Northern and Southern Flow Zones are divided by a steel sheet-pile wall, approximately 270 ft long, located along the bank of the Trenton Channel, immediately south of the confluence of the Monguagon Creek and the Trenton Channel. The sheet-pile wall restricts groundwater flow along the wall from the shallow aquifer to the Trenton Channel. The groundwater flow restriction created a lobe of elevated groundwater as shown in the groundwater elevation contour maps near wells MW-104 and MW-105 in Figures 4, 5 and 6.

## **8. NATURE AND EXTENT OF GROUNDWATER IMPACTS**

### *Deep Aquifer*

Groundwater analytical data indicate exceedances of one or more metals in each of the 15 wells sampled during the four consecutive quarterly events. Wells screened in the deep aquifer (MW-102D and MW-107D) contained the fewest exceedances of metals. The basal clay unit restricts flow between the shallow and deep aquifers and the deep aquifer is at an elevation below the bottom of the Trenton Channel and therefore, not directly hydraulically connected to the Trenton Channel. Based on the upgradient location of MW-102D and the screen interval below a confining layer, it is unlikely that impacts in MW-102D result from



activities conducted on the Subject Property. VOCs, SVOCs, and PCBs were not detected in the deep wells at concentrations exceeding laboratory reporting limit during this investigation.

#### *Shallow Aquifer*

Elevated pH readings were detected during each sampling event from each shallow well sampled, likely due to the presence of slag in the fill material. Samples collected from wells MW-106, MW-108, MW-110s, MW-110D, and TMW-27 did not contain concentrations of VOCs, SVOCs, or PCBs in exceedance of GNRCC. The SVOCs aniline, carbazole, dibenzofuran, and dibromochloropropane and the VOCs fluoranthene, benzene, dibromochloropropane, and vinyl chloride were detected at concentrations exceeding GNRCC only in wells MW-100s and MW-100i. MW-100s and MW-100i are located in the former channel of the Monguagon Creek on the upstream (north) portion of the property. In total, SVOCs were detected at concentrations exceeding criteria on 42 occasions; 21 of those exceedances were detected in samples collected from MW-100i and MW-100s. The former stream bed may act as a preferential pathway of migration on to the Subject Property from an offsite source.

1,2,4-trimethylbenzene was detected at concentrations exceeding GNRCC for GSI only in well MW-101 (in each of the four samples collected). MW-101 is located near the southwest corner of the Subject Property near the upgradient (west) property boundary. The GNRCC for GSI exceedances of 1,2,4-trimethylbenzene in MW-101 and not in other wells on the Subject Property, indicates that the source is likely upgradient and off-site.

Wells MW-104 and MW-105 were installed in the shallow aquifer immediately downgradient of WMU-27 and WMU-29, respectively to assess potential impacts from former operations at those WMUs. PCBs are the contaminant of potential concern for WMU-27 and WMU-29. PCBs were not detected in groundwater samples collected from MW-104 or MW-105 at concentrations above the laboratory reporting limit during this investigation. Concentrations of 2,4-dimethylphenol (MW-104) and 3,4-dimethylphenol (MW-104 and MW-105) exceeded the GNRCC for GSI during multiple sampling events.

Given the nature and extent of the constituents detected in groundwater during four quarters of sampling, the impacts are likely a result of offsite sources and/or the material used to fill the former wetlands and Monguagon Creek bed.

## **9. EXPOSURE PATHWAYS**

Groundwater beneath the Subject Property is not used as a source of drinking water. The Monguagon Creek and Trenton Channel are the only downgradient receptors. The shallow aquifer beneath the Subject Property would likely not provide enough water to act as a drinking water source. However, a restrictive covenant can be placed on the deed to prevent installation of wells into the shallow or deep aquifer beneath the Subject Property for consumptive use or irrigation as part of any due care obligations. Therefore, the drinking water is not a relevant exposure pathway for the Subject Property.

The Detroit River is used as a drinking water source. Therefore, the GNRCC for GSI is relevant for the Subject Property. A request for calculation of mixing zone based GSI criteria may be submitted to EGLE if necessary; based on potential remedial options for groundwater beneath the Subject Property.

The Subject Property is currently unoccupied and there are no structures. Therefore, groundwater volatilization to indoor air is not currently a relevant pathway.

## **10. SUMMARY**

ASTI conducted a groundwater investigation at the Subject Property in accordance with the CACO and ASTI's Work Plan. The investigation included installation of 15 groundwater monitoring wells and four consecutive groundwater sampling events conducted at 16 total monitoring wells. Depth to groundwater measurements were used to calculate groundwater elevations in the shallow and deep aquifers and groundwater flow in the shallow aquifer is toward the Monguagon Creek in the Northern Flow Zone and toward the Trenton Channel in the Southern Flow Zone. The Northern and Southern Flow Zones are separated by the steel sheet pile wall south of the confluence of the Monguagon Creek and the Trenton Channel. The results of slug testing in the shallow aquifer indicated that the hydraulic conductivity is approximately 1.8 ft/day in the Northern Flow Zone and approximately 12.8 ft/day in the Southern Flow Zone. These values are typical of silty to fine sand aquifers like the material used to fill the former open water at the Subject Property.

Groundwater analytical samples indicated impacts of dissolved metals and limited VOCs and SVOCs. Elevated pH readings were recorded in each of the wells installed in the shallow aquifer. Laboratory analytical data indicated exceedances of GNRCC for DW and GSIP. Drinking water is not used at the Subject Property and a restrictive covenant can be placed on the deed to restrict future use. The Detroit River is used as a drinking water source. ASTI calculated representative concentrations for chemicals which exceeded the GSIP and used the representative concentrations and groundwater flow to determine the mass of those chemicals flowing to the Monguagon Creek and the Trenton Channel.

## **11. CONCLUSIONS**

Data collected during the groundwater investigation conducted by ASTI in 2019 and 2020 show that groundwater concentrations exceeding the GNRCC for DW and GSIP are likely a result of various sources. Chemical impacts in the MW-100s/i nested well pair are not characteristic of former operations conducted at the Subject Property, and it is likely that these impacts are a result of off-site activities or from the material used to fill in the Monguagon Creek bed. The property east of the northern portion of the Subject Property is a former chemical manufacturing facility that is currently undergoing remediation as a result of soil and groundwater contamination from "organic and inorganic compounds"<sup>7</sup>. Additionally, the former Monguagon Creek bed may act as a preferential flow pathway from an off-site source to the north. Groundwater impacts of 1,2,4-trimethylbenzene detected in MW-101 are likely a result of an off-site, upgradient source given the location of the well.

Concentrations of metals detected in groundwater samples across the Subject Property are likely a result of the slag-containing fill material.

## **12. RCRA CERTIFICATION STATEMENT**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or

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<sup>7</sup> Declaration of Restrictive Covenant, BASF Riverview, Site ID No. 82000016, September 13, 2013

persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



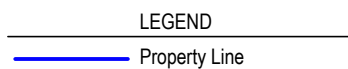
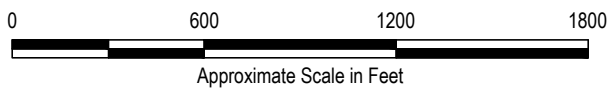
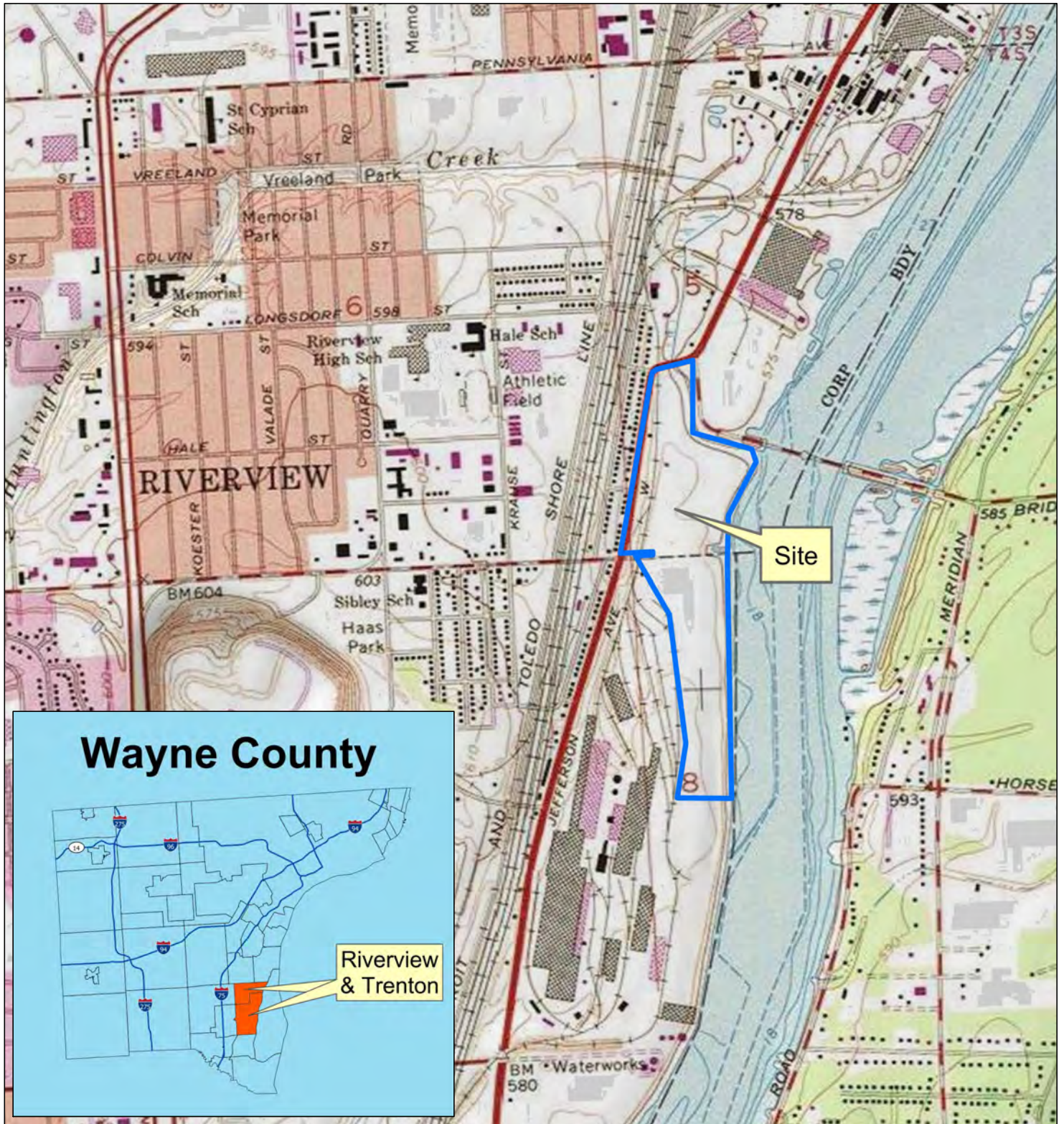
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Greg S. Oslosky, P.G.  
Director – Grand Rapids

## FIGURES

- 1 Site Location Map
- 2 RTRR Site Features Map
- 3 Well Location Map
- 4 Shallow Groundwater Elevation Contour Map – March 18, 2020
- 5 Shallow Groundwater Elevation Contour Map – July 7, 2020
- 6 Shallow Groundwater Elevation Contour Map – July 29, 2020
- 7 Groundwater Concentrations Exceeding GNRCC Map –Metals
- 8 Groundwater Concentrations Exceeding GNRCC Map -VOCs and SVOCs





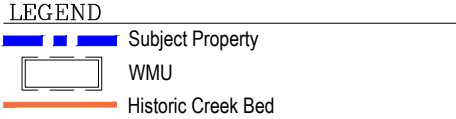
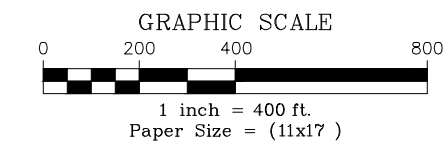
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# RTRR - Groundwater Investigation 18251 West Jefferson

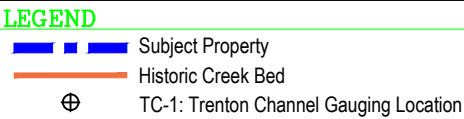
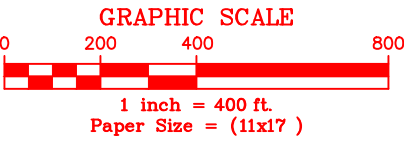
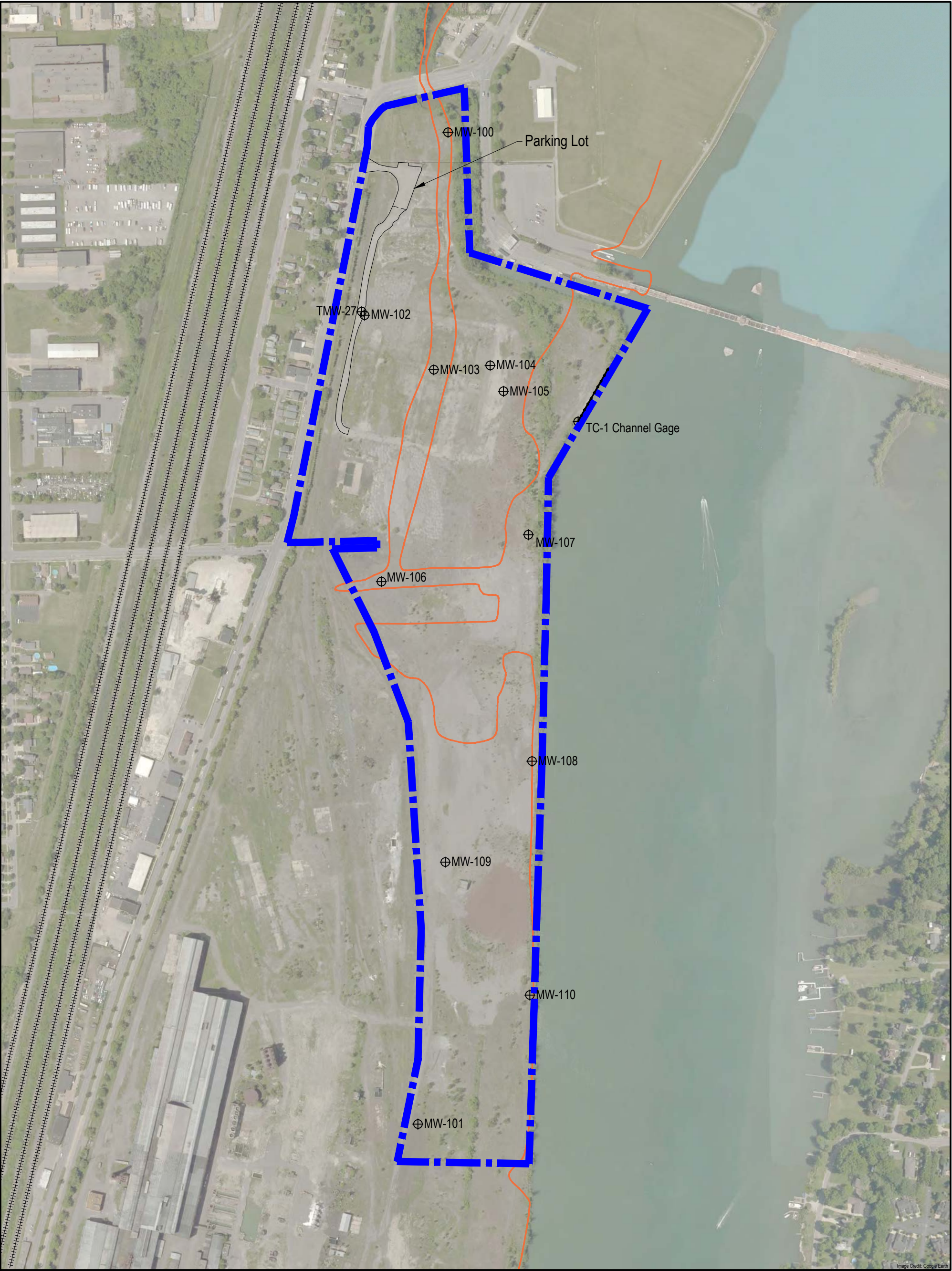
Created for: Riverview-Trenton Railroad Company  
ASTI Project 10860, JRN, March 3, 2020

Riverview, MI Figure 1 - Site Location Map

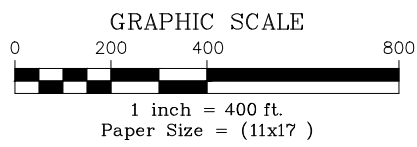








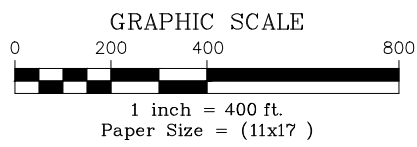




LEGEND	
	Subject Property
	Historic Creek Bed
	TC-1: Trenton Channel Gauging Location
	Monitoring Well Location ID and Groundwater Elevation (Ft. AMSL)

	Groundwater Flow Direction
	Groundwater Elevation Contour. (Dashed where inferred)
00.00*	* Elevations not used for contour development
ND	No Groundwater Elevation Data





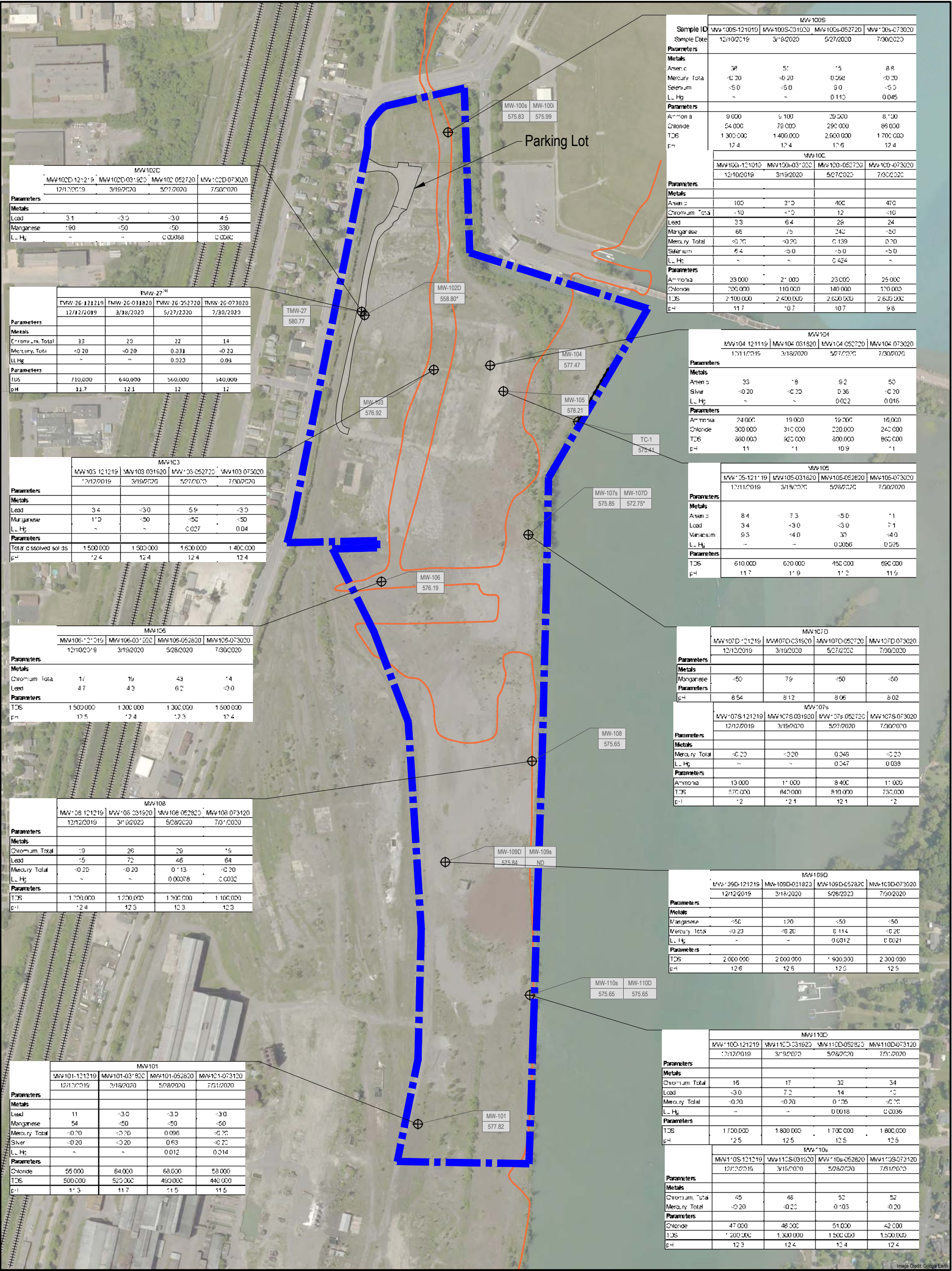
- LEGEND
- Subject Property
  - Historic Creek Bed
  - TC-1: Trenton Channel Gauging Location
  - Monitoring Well Location ID and Groundwater Elevation (Ft. AMSL)

- Groundwater Flow Direction
- Groundwater Elevation Contour. (Dashed where inferred)
- 00.00\*  
ND
- \* Elevations not used for contour development
- No Groundwater Elevation Data

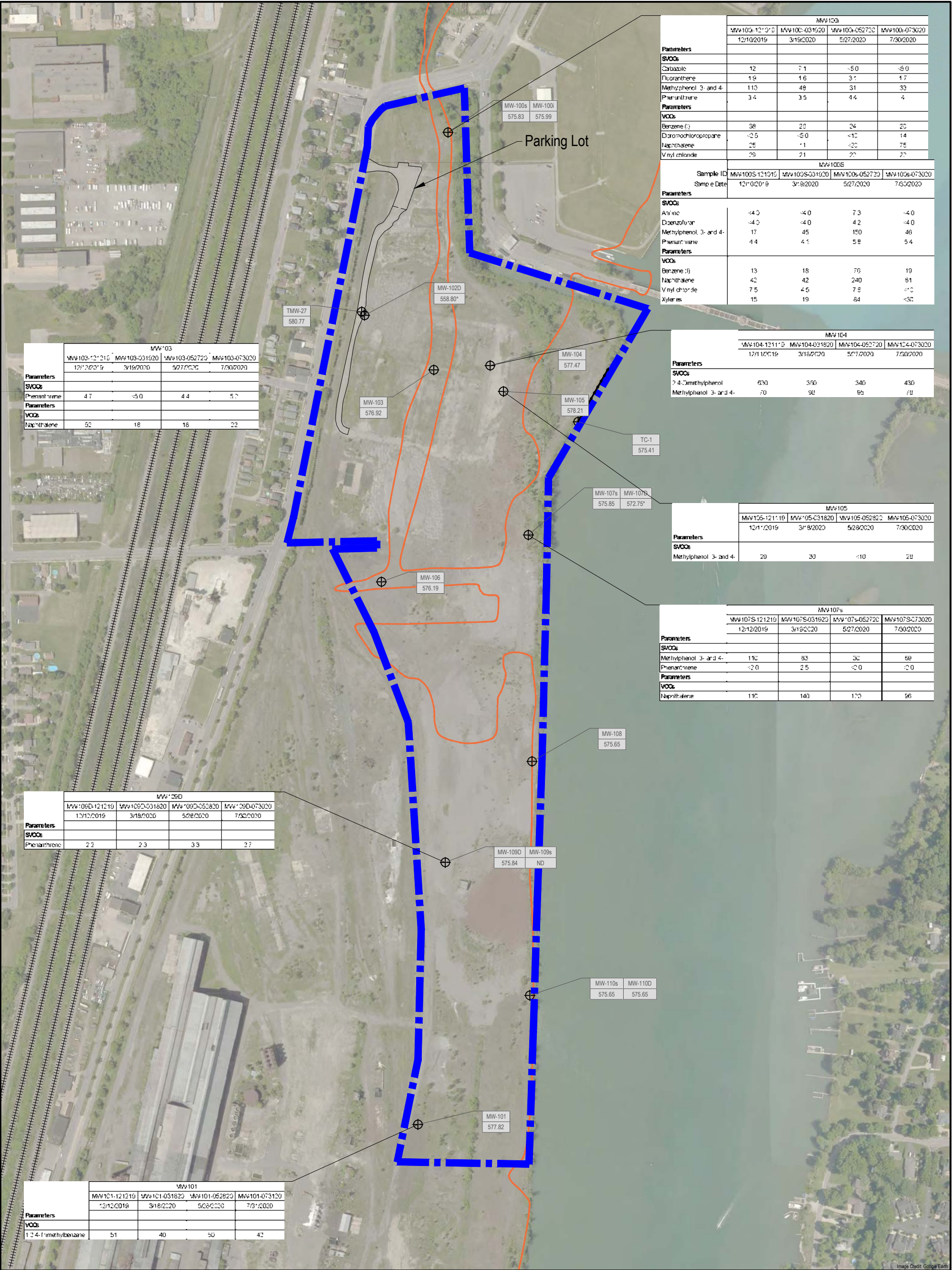












## **TABLES**

- 1 Summary of Groundwater Monitoring Wells
- 2 Summary of Groundwater Elevations
- 3 Summary of Slug Test Data
- 4 Summary of Groundwater Analytical Results
- 5 Groundwater Flow Calculations
- 6 Representative Concentrations
- 7a Chemical Mass Loading – Northern Flow Zone
- 7b Chemical Mass Loading – Southern Flow Zone



**Table 1**  
**Summary of Groundwater Monitoring Wells**  
**Depth, Elevation, and Location**  
**RTRR - Riverview**  
**18251 W. Jefferson, Riverview**  
**ASTI Project No.: 10860**

Location ID	Monitoring Well ID	Total Drilled Depth (ft. BGS) <sup>(1)</sup>	Well Depth (ft. BGS)	Top of PVC Elevation (ft. AMSL) <sup>(2)</sup>	Screen Interval (ft. BGS)		Screen Length (ft.)	Screen Elevation (ft. AMSL)		Location <sup>(3)</sup>	
					Top of Screen	Bottom of Screen		Top of Screen	Bottom of Screen	Easting	Northing
MW-100	MW-100s	27	14	581.97	4	14	10	574.4	564.4	13448499.446	248577.372
	MW-100i		27	581.92	17	27	10	561.4	551.4		
MW-101	MW-101	30	30	593.15	10	30	20	579.5	559.5	13448459.271	244290.332
MW-102D	MW-102D	55	55	592.05	50	55	5	539.5	534.5	13448148.742	247771.931
TMW-27	TMW-27	16	14	592.02	4	14	10	583.8	573.8	13448116.296	247779.702
MW-103	MW-103	27	27	592.11	7	27	20	572.5	562.5	13448472.443	247545.746
MW-104	MW-104	55	19	591.68	9	19	10	579.4	569.4	13448716.549	247573.896
MW-105	MW-105	13	13	592.15	3	13	10	585.7	575.7	13448776.156	247457.881
MW-106	MW-106	25	15	593.87	5	25	20	585.7	565.7	13448256.357	246609.325
MW-107	MW-107s	48	19	590.47	9	19	10	577.5	567.5	13448892.413	246834.696
	MW-107D		48	590.19	43	48	5	543.5	538.5		
MW-108	MW-108	35	35	595.18	20	35	15	572.1	557.1	13448926.796	245839.708
MW-109	MW-109S	30	10	599.91	5	10	5	591.0	586.0	13448543.489	245393.964
	MW-109D		30	599.93	25	30	5	571.0	566.0		
MW-110	MW-110S	31	19	591.23	9	19	10	578.5	568.5	13448929.408	244810.710
	MW-110D		31	591.22	26	31	5	561.5	556.5		

**Notes:**

- (1) "ft. BGS" - feet below ground surface  
(2) "ft. AMSL" - feet above mean sea level  
(3) State Plane 2113 - Michigan South

**Table 2**  
**Summary of Ground Water Elevations**  
**RTRR - Riverview**  
**18251 W. Jefferson Ave., Riverview, MI**  
**ASTI Project No. 10860**

Well ID	1st Quarterly Event				2nd Quarterly Event			3rd Quarterly Event			July 7, 2020 Gauging Event			4th Quarterly Event		
	Date	12/10/2019			3/18/2020			5/27/2020			7/7/2020			7/29/2020		
	Top of Casing Elevation (ft. AMSL) <sup>(1)</sup>	Measuring Point	Depth to Water (ft. BGS) <sup>(2)</sup>	Groundwater Elevation (ft. AMSL)	Measuring Point	Depth to Water (ft. BTOC) <sup>(3)</sup>	Groundwater Elevation (ft. AMSL)	Measuring Point	Depth to Water (ft. BTOC)	Groundwater Elevation (ft. AMSL)	Measuring Point	Depth to Water (ft. BTOC)	Groundwater Elevation (ft. AMSL)	Measuring Point	Depth to Water (ft. BTOC)	Groundwater Elevation (ft. AMSL)
MW-100s	581.973	GS <sup>(4)</sup>	4.09	- <sup>(5)</sup>	TOC <sup>(6)</sup>	6.65	575.32	GS	2.50	-	TOC	5.66	576.31	TOC	6.14	575.83
MW-100i	581.923	GS	4.17	-	TOC	6.62	575.30	GS	2.50	-	TOC	5.68	576.24	TOC	5.93	575.99
MW-101	593.148	GS	11.92	-	TOC	15.35	577.80	TOC	15.00	578.15	TOC	15.39	577.76	TOC	15.33	577.82
MW-102D	592.052	GS	31.88	-	TOC	34.3	557.75	TOC	33.64	558.41	TOC	33.09	558.96	TOC	33.25	558.80
MW-103	592.112	GS	11.07	-	TOC	15.97	576.14	GS	11.35	-	TOC	15.37	576.74	TOC	15.19	576.92
MW-104	591.683	GS	10.94	-	TOC	14.15	577.53	GS	10.22	-	TOC	14.33	577.35	TOC	14.21	577.47
MW-105	592.148	GS	10.52	-	TOC	14.25	577.90	GS	10.20	-	TOC	14.18	577.97	TOC	13.94	578.21
MW-106	593.874	GS	16.3	-	TOC	18.2	575.67	TOC	17.20	576.67	TOC	17.56	576.31	TOC	17.68	576.19
MW-107s	590.473	GS	11.15	-	TOC	15.08	575.39	TOC	15.55	574.92	TOC	14.34	576.13	TOC	14.62	575.85
MW-107D	590.193	GS	14.97	-	TOC	18.33	571.86	TOC	19.07	571.12	TOC	16.98	573.21	TOC	17.44	572.75
MW-108	595.178	GS	17.52	-	TOC	19.87	575.31	TOC	19.25	575.93	TOC	19.22	575.96	TOC	19.53	575.65
MW-109s	599.906	GS	Dry <sup>(7)</sup>	-	TOC	Dry	-	TOC	Dry	-	TOC	Dry	-	TOC	Dry	-
MW-109D	599.926	GS	21.17	-	TOC	24.45	575.48	TOC	25.02	574.91	TOC	26.98	572.95	TOC	24.09	575.84
MW-110s	591.227	GS	13.08	-	TOC	15.95	575.28	TOC	16.37	574.86	TOC	15.34	575.89	TOC	15.58	575.65
MW-110D	591.217	GS	13.03	-	TOC	15.88	575.34	TOC	16.42	574.80	TOC	15.31	575.91	TOC	15.57	575.65
TMW-27	592.016	N/A	N/A	-	TOC	11.52	580.50	GS	9.23	-	TOC	11.33	580.69	TOC	11.25	580.77
Trenton Channel <sup>(8)</sup>	579.324	Top of Wall	4.12	575.20	Top of Wall	3.98	575.34	Top of Wall	3.50	575.82	Top of Wall	3.31	576.01	Top of Wall	3.91	575.41

**Notes:**

- (1) - ft. AMSL denotes feet above mean seal level. The measuring point elevation is the top of PVC casing.
- (2) - ft. BGS - denotes feet below ground surface.
- (3) - ft. BTOC - denotes feet below top of casing.
- (4) - "GS" - Ground Surface.
- (5) - "-" groundwater elevation not calculated. Measurements collected from the ground surface were not precise enough for calculation of accurate elevations
- (6) - "TOC" Top of Casing.
- (7) - "Dry" indicates no water in the well.
- (8) - Trenton Channel measurments collected from top of sheet-pile wall at surveyed location

**Table 3****Summary of Slug Test Data****August 4, 2020****RTRR - Riverview****18251 West Jefferson Ave, Riverview, MI****ASTI Project No.: 10860**

Well ID	Test ID	Test Type	Hydraulic Conductivity	Units	Average Value (per well)	Units	Screened Interval
MW-100s	Slug In 1	Falling Head	1.8	ft/day	1.8	ft/day	silty sand and gravel, gravel, clayey sand and gravel
MW-100i	Slug In 1	Falling Head	0.26	ft/day	0.18	ft/day	clayey sand
MW-100i	Slug Out 1	Rising Head	0.093	ft/day			
MW-101	Slug In	Falling Head	5.0	ft/day	2.63	ft/day	silty sand
MW-101	Slug Out	Rising Head	0.25	ft/day			
MW-104	Slug In 1	Falling Head	3.5	ft/day	3.5	ft/day	clayey sand
MW-109D	Slug In 1	Falling Head	11	ft/day	12.8	ft/day	fine sand
MW-109D	Slug Out 1	Rising Head	11	ft/day			
MW-109D	Slug In 2	Falling Head	18	ft/day			
MW-109D	Slug Out 2	Rising Head	11	ft/day			

Geometric Mean: 2.1 ft/day
----------------------------

**Note:**

Previous slug testing conducted by others resulted in a hydraulic conductivity of 14.7 ft/day (1.02E-02 ft/min).



Table 4  
Summary of Groundwater Analytical Results  
RTRR - Riverview  
18251 W. Jefferson, Riverview, MI  
ASTI Project No. 10860

		Nonresidential	Groundwater	Volatilization to	Well ID	MW-100S				MW-100I				MW-101				MW-102D			
		Drinking	Surface Water	Indoor Air	Sample ID	MW-100S-121019	MW-100S-031920	MW-100S-052720	MW-100S-073020	MW-100I-121019	MW-100I-031920	MW-100I-052720	MW-100I-073020	MW-101-121219	MW-101-031820	MW-101-052820	MW-101-073120	MW-102D-121219	MW-102D-031920	MW-102-052720	MW-102D-073020
Parameters	CAS Number <sup>(1)</sup>	Criteria*	Criteria	Criteria*	Date	12/10/2019	3/19/2020	5/27/2020	7/30/2020	12/10/2019	3/19/2020	5/27/2020	7/30/2020	12/12/2019	3/18/2020	5/28/2020	7/31/2020	12/12/2019	3/19/2020	5/27/2020	7/30/2020
Units																					

Table 4  
Summary of Groundwater Analytical Results  
RTRR - Riverview  
18251 W. Jefferson, Riverview, MI  
ASTI Project No. 10860

Parameters	CAS Number <sup>(1)</sup>	Nonresidential Drinking Water Criteria*	Groundwater Surface Water Interface Criteria	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria*	Well ID Sample ID Date	MW-100S				MW-100I				MW-101				MW-102D			
						MW-100S-121019	MW-100S-031920	MW-100S-052720	MW-100S-073020	MW-100I-121019	MW-100I-031920	MW-100I-052720	MW-100I-073020	MW-101-121219	MW-101-031820	MW-101-052820	MW-101-073120	MW-102D-121219	MW-102D-031920	MW-102-052720	MW-102D-073020
						12/10/2019	3/19/2020	5/27/2020	7/30/2020	12/10/2019	3/19/2020	5/27/2020	7/30/2020	12/12/2019	3/18/2020	5/28/2020	7/31/2020	12/12/2019	3/19/2020	5/27/2020	7/30/2020
<b>Volatile Organic Compounds</b>																					
Acetone (I)	67-64-1	2,100	1,700	1,000,000,000 (D,S)	µg/L	<5.0	<5.0	57	<200	<5.0	<5.0	<100	<200	<5.0	<5.0	<5.0	<200	<5.0	<5.0	<5.0	<5.0
Acrylonitrile (I)	107-13-1	11	2.0 (M); 1.2	190,000	µg/L	<5.0	<2.0	<10	<40	<5.0	<10	<40	<40	<2.0	<2.0	<2.0	<40	<2.0	<2.0	<2.0	<2.0
Benzene (I)	71-43-2	5.0 (A)	200 (X)	35,000	µg/L	13	18	76	19	38	26	24	20	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Bromobenzene (I)	108-86-1	50	NA	390,000	µg/L	<5.0	<1.0	<2.5	<10	<5.0	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	74-97-5	-	-	-	µg/L	<2.5	<1.0	<5.0	<20	<2.5	<5.0	<20	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	75-27-4	80 (A,W)	ID	37,000	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Bromoform	75-25-2	80 (A,W)	ID	3,100,000 (S)	µg/L	<5.0	<1.0	<5.0	<20	<5.0	<10	<20	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0
Bromomethane	74-83-9	29	5.0 (M); 4.2	9,000	µg/L	<25	<5.0	<25	<100	<10	<20	<100	<100	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0
2-Butanone (MEK) (I)	78-93-3	38,000	2,200	240,000,000 (S)	µg/L	<25	<25	<25	<40	<25	<25	<100	<40	<25	<25	<25	<40	<25	<25	<25	<25
n-Butylbenzene	104-51-8	230	ID	ID	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	3.2	2.7	3.3	<10	<1.0	<1.0	<1.0	<1.0
sec-Butylbenzene	135-98-8	230	ID	ID	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	1.9	1.7	1.8	<10	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene (I)	98-06-6	230	ID	ID	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Carbon disulfide (I,R)	75-15-0	2,300	ID	550,000	µg/L	<5.0	<5.0	9.6	<20	34	25	<20	<20	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	56-23-5	5.0 (A)	38 (X)	2,400	µg/L	<5.0	<1.0	<2.5	<10	<5.0	<10	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Chlorobenzene (I)	108-90-7	100 (A)	25	470,000 (S)	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Chloroethane	75-00-3	1,700	1,100 (X)	5,700,000 (S)	µg/L	<5.0	<5.0	<5.0	<40	<5.0	<5.0	<20	<40	<5.0	<5.0	<5.0	<40	<5.0	<5.0	<5.0	<5.0
Chloroform	67-66-3	80 (A,W)	350	180,000	µg/L	<2.5	<1.0	<2.5	<10	<5.0	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Chloromethane (I)	74-87-3	1,100	ID	45,000	µg/L	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<20	<20	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0
o-Chlorotoluene (I)	95-49-8	420	ID	370,000 (S)	µg/L	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	124-48-1	80 (A,W)	ID	110,000	µg/L	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<20	<20	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0
Dibromochloropropane	96-12-8	0.2 (A)	ID	1,200 (S)	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	14	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Dibromomethane	74-95-3	230	NA	ID	µg/L	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	95-50-1	600 (A)	13	160,000 (S)	µg/L	<2.5	1.8	5.7	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	541-73-1	19	28	41,000	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	106-46-7	75 (A)	17	74,000 (S)	µg/L	<5.0	<1.0	<5.0	<20	<2.5	<5.0	<20	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	75-71-8	4,800	ID	300,000 (S)	µg/L	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	75-34-3	2,500	740	2,300,000	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (I)	107-06-2	5.0 (A)	360 (X)	59,000	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene	156-59-2	70 (A)	620	210,000	µg/L	5.5	3.3	5.3	<10	21	20	20	22	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	156-60-5	100 (A)	1,500 (X)	200,000	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene (I)	75-35-4	7.0 (A)	130	1,300	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane (I)	78-87-5	5.0 (A)	230 (X)	36,000	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropylene	10061-01-5	-	-	-	µg/L	<2.5	<0.50	<2.5	<10	<2.5	<5.0	<10	<10	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropylene	10061-02-6	-	-	-	µg/L	<2.5	<0.50	<2.5	<10	<2.5	<5.0	<10	<10	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50
Ethylbenzene (I)	100-41-4	74 (E)	18	170,000 (S)	µg/L	<2.5	2.2	9.3	<10	3.1	<5.0	<10	<10	5.9	5.1	5.2	<10	<1.0	<1.0	<1.0	<1.0
Ethylene dibromide	106-93-4	0.05 (A)	5.7 (X)	15,000	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	67-72-1	21	6.7 (X)	50,000 (S)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Hexanone	591-78-6	2,900	ID	8,700,000	µg/L	<5.0	<5.0	<50	<50	<5.0	<50	<100	<50	<5.0	<50	<50	<50	<50	<50	<50	<50
Isopropyl benzene	98-82-8	2,300	28	56,000 (S)	µg/L	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone (MIBK) (I)	108-10-1	5,200	ID	20,000,000 (S)	µg/L	<5.0	<5.0	<50	<100	<5.0	<50	<50	<100	<5.0	<50	<50	<100	<50	<50	<50	<50
Methylene chloride	75-09-2	5.0 (A)	1,500 (X)	1,400,000	µg/L	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<10	<20	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0
Methyl-tert-butyl ether (MTBE)	1634-04-4	40 (E)	7,100 (X)	47,000,000 (S)	µg/L	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0
Naphthalene	91-20-3	1,500	11	31,000 (S)	µg/L	42	42	240	61	25	11	<20	75	11	7.6	8.7	<20	<5.0	<5.0	<5.0	<5.0
n-Propylbenzene (I)	103-65-1	230	ID	ID	µg/L	<2.5	1.9	<2.5	<10	<2.5	<5.0	<10	<10	4.3	4.1	4.4	<10	<1.0	<1.0	<1.0	<1.0
Styrene	100-42-5	100 (A)	80 (X)	310,000 (S)	µg/L	<5.0	<1.0	<5.0	<20	<2.5	<5.0	<20	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane	630-20-6	320	ID	96,000	µg/L	<2.5	<1.0	<5.0	<20	<2.5	<5.0	<20	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	79-34-5	35	78 (X)	77,000	µg/L	<5.0	<1.0	<2.5	<10	<2.5	<5.0	<10	11	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	127-18-4	5.0 (A)	60 (X)	170,000	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
Toluene (I)	108-88-3	790 (E)	270	530,000 (S)	µg/L	4	5	20	<10	7.5	5.9	<10	<10	1.7	1.6	1.6	<10	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	120-82-1	70 (A)	99 (X)	300,000 (S)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<20	<5.0	<5.0	<25	<5.0	<20	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	71-55-6	200 (A)	89	1,300,000 (S)	µg/L	<2.5	<1.0	<2.5	<10	<2.5	<5.0	<10	<10	<1.0	<1.0	<1.0	<10	<1.0</			

**Table 4**  
**Summary of Groundwater Analytical Results**  
**RTRR - Riverview**  
**18251 W. Jefferson, Riverview, MI**  
**ASTI Project No. 10860**

[illegible]

Table 4  
Summary of Groundwater Analytical Results  
RTRR - Riverview  
18251 W. Jefferson, Riverview, MI  
ASTI Project No. 10860

						Nonresidential Groundwater																	
		Nonresidential		Groundwater		Nonresidential																	
		Drinking		Surface		Volatilization to																	
		Water		Interface		Indoor Air																	
		Criteria*		Criteria		Inhalation																	
		Criteria*				Criteria*																	

**Table 4**  
**Summary of Groundwater Analytical Results**  
**RTRR - Riverview**  
**18251 W. Jefferson, Riverview, MI**  
**ASTI Project No. 10860**

STI Project No. 10860

Nonresidential  
Groundwater

Drinking  
Water

Groundwater  
Surface Water  
Interface

Volatilization to  
Indoor Air  
Inhalation

CAS Number<sup>(1)</sup>

Criteria\*

Criteria

Criteria\*

MW-107s

MW-107D

MW-108

MW-109D

MW-107S-121219

MW-107S-031920

MW-107s-052720

MW-107S-073020

MW-107D-121219

MW107D-031920

MW-107D-052720

MW-107D-073020

MW-108-121219

MW-108-031920

MW-108-052820

MW-108-073120

MW-109D-121219

MW-109D-031820

MW-109D-052820

MW-109D-073020

12/12/2019

3/19/2020

5/27/2020

7/30/2020

12/12/2019

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12/12/2019

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Parameters

CAS Number<sup>(1)</sup>

Criteria\*

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Metals

Arsenic

7440-38-2

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Table 4  
Summary of Groundwater Analytical Results  
RTRR - Riverview  
18251 W. Jefferson, Riverview, MI  
ASTI Project No. 10860

		Nonresidential Groundwater		Nonresidential Groundwater		Nonresidential Groundwater																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Table 4  
Summary of Groundwater Analytical Results  
RTRR - Riverview  
18251 W. Jefferson, Riverview, MI  
ASTI Project No. 10860

				Nonresidential Groundwater												
				Nonresidential Groundwater												
				Drinking Water	Groundwater	Volatilization to										
				Interface	Indoor Air											
				Criteria	Inhalation											
				Criteria	Criteria*											
				CAS Number <sup>(1)</sup>												



**Table 5**  
**Groundwater Flow Calculations**  
**RTRR - Riverview**  
**18251 W. Jefferson, Riverview**  
**ASTI Project No.: 10860**

**Purpose:** To calculate groundwater flow from the Subject Property to the Monguagon Creek and Trenton Channel.

**Equation:**  $Q = K A i$

Where: Q = groundwater flow (ft<sup>3</sup>/day)  
K = hydraulic conductivity (ft/day)  
A = cross-sectional area of groundwater flow (ft<sup>2</sup>) (height of saturated zone (w) \* length of GSI (l))  
i = hydraulic gradient (unitless)

Northern Flow Zone		Note
wells: TMW-27 and MW-100s/i		
Hydraulic conductivity	K = 1.8 ft/day	Maximum K value for MW-100s & MW-100i
height of GW	w = 24.3 ft	height of saturated zone in MW-100s/MW-100i
	l = 1,810 ft	northern property line at Monguagon Creek and north end of sheet pile wall
	Area = 43,983 ft <sup>2</sup>	cross-sectional area of groundwater flow to the stream
	i = 0.01	hydraulic gradient between TMW-27 & MW-100s/i
	<b>Q = 792 ft<sup>3</sup>/day</b>	
	<b>Q = 5,922 gal/day</b>	
	<b>Q = 4.11 gpm</b>	
	<b>Q = 3.27 gpd/ft</b>	
Southern Flow Zone		Note
wells: MW-101, MW-107s, MW-108, MW-110s, and MW-110D		
Hydraulic conductivity	K = 12.8 ft/day	Maximum K value in Southern Flow Zone
height of GW	w = 12.7 ft	height of saturated zone (average height in GSI wells)
	l = 3,230 ft	Southern end of sheet-pile wall to the southern property line at the Trenton Channnel
	Area = 41,021 ft <sup>2</sup>	cross-sectional area of groundwater flow to the stream
	i = 0.0005	maximum hydraulic gradient between MW-106 and MW107s
	<b>Q = 263 ft<sup>3</sup>/day</b>	
	<b>Q = 1,964 gal/day</b>	
	<b>Q = 1.36 gpm</b>	
	<b>Q = 0.61 gpd/ft</b>	

**Table 6**  
**Representative Concentrations**  
**Chemicals Exceeding the Groundwater Surface Water Interface Criteria**  
**RTRR Property**  
**18251 W. Jefferson, Riverview**  
**ASTI Project No.: 10860**

**Northern Flow Zone Groundwater/Surface Water Interface (GSI) Wells: MW-100s and MW-100i**

Parameter	CAS Number <sup>(1)</sup>	Number of Samples	Number of Detections	Maximum Detected Concentration (µg/L) <sup>(1)</sup>	Representative Concentration (µg/L) <sup>(2,3)</sup>	Groundwater Surface Water Interface Criteria (µg/L)
Arsenic	7440-38-2	8	8	470	283.1	10
Total Chromium <sup>(4)</sup>	7440-47-3	8	1	12	12	11
Selenium	7782-49-2	8	2	9	6.942	5
Mercury	7439-97-6	8	4	0.424	0.233	0.0013
Aniline <sup>(4)</sup>	62-53-3	8	1	7.3	7.3	4.0 (M); 3.0
Carbazole <sup>(4)</sup>	86-74-8	8	1	12	12	10 (M); 4.0
Dibenzofuran <sup>(4)</sup>	132-64-9	8	1	4.2	4.2	4.0
Fluoranthene	206-44-0	8	7	3.1	2.057	1.6
Methylphenol, 3- and 4-	MEPH1314	8	8	150	117.8	25
Phenanthrene	85-01-8	8	8	5.8	4.942	2.0 (M); 1.7
Naphthalene	91-20-3	8	7	240	187.5	11
Vinyl chloride	75-01-4	8	7	29	21.43	13 (X)
Xylenes	1330-20-7	8	5	84	64.18	49
Chloride	16887-00-6	8	8	290,000	186,278	50,000
Total Dissolved Solids	TDS	8	8	2,900,000	2,569,077	500,000

**Southern Flow Zone GSI Wells: MW-101, MW-107s, MW-108, MW-110s, and MW-100D**

Parameter	CAS Number	Number of Samples	Number of Detections	Maximum Detected Concentration (µg/L) <sup>(1)</sup>	Representative Concentration (µg/L) <sup>(2)</sup>	Groundwater Surface Water Interface Criteria (µg/L)
Total Chromium	7440-47-3	20	12	52	29.51	10
Mercury	7439-97-6	20	10	0.113	0.0784	0.0013
Silver <sup>(3)</sup>	7440-22-4	20	1	0.63	0.63	0.2 (M); 0.06
Methylphenol, 3- and 4-	MEPH1314	20	4	110	35.24	25
Phenanthrene <sup>(4)</sup>	85-01-8	20	1	2.5	2.5	2.0 (M); 1.7
Naphthalene	91-20-3	20	7	140	46.83	11
1,2,4-Trimethylbenzene	95-63-6	20	7	51	17.99	17
Total Dissolved Solids	TDS	20	20	1,800,000	1,294,677	500,000

**Notes:**

(1) CAS Number - Chemical Abstract Service Number

(2) - "µg/L" - micrograms per liter or parts per billion

(3) - The Representative Concentration is the 95% UCL

(4) - A 95% UCL could not be calculated from the dataset. Therefore, the maximum concentration was used as a conservative measure.

**Table 7a**  
**Chemical Mass Loading - Northern Flow Zone**  
**RTRR - Riverview**  
**18251 W. Jefferson, Riverview**  
**ASTI Project No.: 10860**

**Northern Flow Zone**

Parameter	CAS Number <sup>(1)</sup>	Wells with Groundwater to Surface Water Interface Criteria Exceedance(s)	Length of GSI (ft)	Total Flow (gpd) <sup>(2)</sup>	Total Flow (L/day) <sup>(3)</sup>	Flow per Foot (gpd/ft) <sup>(4)</sup>	Representative Concentration (µg/L) <sup>(5)</sup>	Chemical Load to Stream (g/day) <sup>(6)</sup>
Arsenic	7440-38-2	MW-100s, MW-100i	1,785	5,837	22,093	3.27	283.1	6.25
Total Chromium	7440-47-3	MW-100i	1,785	5,837	22,093	3.27	12	0.27
Selenium	7782-49-2	MW-100s, MW-100i	1,785	5,837	22,093	3.27	6.942	0.15
Total Mercury	7439-97-6	MW-100s, MW-100i	1,785	5,837	22,093	3.27	0.233	0.01
Aniline	62-53-3	MW-100s	1,785	5,837	22,093	3.27	7.3	0.16
Carbazole	86-74-8	MW-100i	1,785	5,837	22,093	3.27	12	0.27
Dibenzofuran	132-64-9	MW-100s	1,785	5,837	22,093	3.27	4.2	0.09
Fluoranthene	206-44-0	MW-100i	1,785	5,837	22,093	3.27	2.057	0.05
Methylphenol, 3- and 4-	MEPH1314	MW-100s, MW-100i	1,785	5,837	22,093	3.27	117.8	2.60
Phenanthrene	85-01-8	MW-100s, MW-100i	1,785	5,837	22,093	3.27	4.942	0.11
Naphthalene	91-20-3	MW-100s, MW-100i	1,785	5,837	22,093	3.27	187.5	1.00
Vinyl chloride	75-01-4	MW-100s, MW-100i	1,785	5,837	22,093	3.27	21.43	0.47
Xylenes	1330-20-7	MW-100s	1,785	5,837	22,093	3.27	64.18	1.42
Chloride	16887-00-6	MW-100s, MW-100i	1,785	5,837	22,093	3.27	186,278	4,115
Total Dissolved Solids	TDS	MW-100s, MW-100i	1,785	5,837	22,093	3.27	2,569,077	56,758

**Notes:**

Northern Flow Zone defined as point where Monguagon Creek enters the property to the northern end of the sheet-pile wall.

MW-100s and MW-100i screen the same water-bearing zone.

(1) CAS Number - Chemical Abstract Service Number

(2) "gpd" - gallons per day

(3) "L/day" - liters per day

(4) "gpd/ft" - gallons per day per linear foot of GSI

(5) "µg/L" - micrograms per liter or parts per billion

(6) "g/day" - grams per day

**Table 7b**  
**Chemical Mass Loading - Southern Flow Zone**  
**RTRR - Riverview**  
**18251 W. Jefferson, Riverview**  
**ASTI Project No.: 10860**

**Southern Flow Zone**

Parameter	CAS Number <sup>(1)</sup>	Wells withm Groundwater to Surface Water Interface Criteria Exceedance(s)	Length of GSI (ft) <sup>(1)</sup>	Flow per Foot (gpd/ft) <sup>(2)</sup>	Total Flow (gpd) <sup>(3)</sup>	Total Flow (L/day) <sup>(4)</sup>	Representative Concentration (µg/L) <sup>(5)</sup>	Chemical Load to Stream (g/day) <sup>(6)</sup>
Total Chromium	7440-47-3	MW-108, MW-110s, MW-110D	2,720	0.61	1,659	6,280	29.51	0.19
Total Mercury	7439-97-6	MW-101, MW-108, MW-110s, MW-110D	3,230	0.61	1,970	7,458	0.0784	5.8E-04
Silver	7440-22-4	MW-101	480	0.61	293	1,108	0.63	7.0E-04
Methylphenol, 3- and 4-	MEPH1314	MW-107s	1,000	0.61	610	2,309	35.24	0.08
Phenanthrene	85-01-8	MW-107s	1,000	0.61	610	2,309	2.5	0.006
Naphthalene	91-20-3	MW-107s	1,000	0.61	610	2,309	46.83	0.11
1,2,4-Trimethylbenzene	95-63-6	MW-101	480	0.61	293	1,108	17.99	0.02
Total Dissolved Solids	TDS	MW-101, MW-107s, MW-108, MW-110s, MW-110D	3,230	0.61	1,970	7,458	1,294,677	9,655

**Notes:**

Northern Flow Zone defined as the southern end of the sheet-pile wall to the southern property line at the Trenton Channel.

MW-110s and MW-110D screen the same water-bearing zone.

(1) The length of the GSI accounts for the distance between wells with GSI exceedances, halfway to the nearest well without GSI exceedances, or to the flow zone boundry.

(2) "gpd/ft" - gallons per day per linear foot of GSI

(3) "gpd" - gallons per day

(4) "L/day" - liters per day

(5) "µg/L" - micrograms per liter or parts per billion

(6) "g/day" - grams per day

## **ATTACHMENTS**

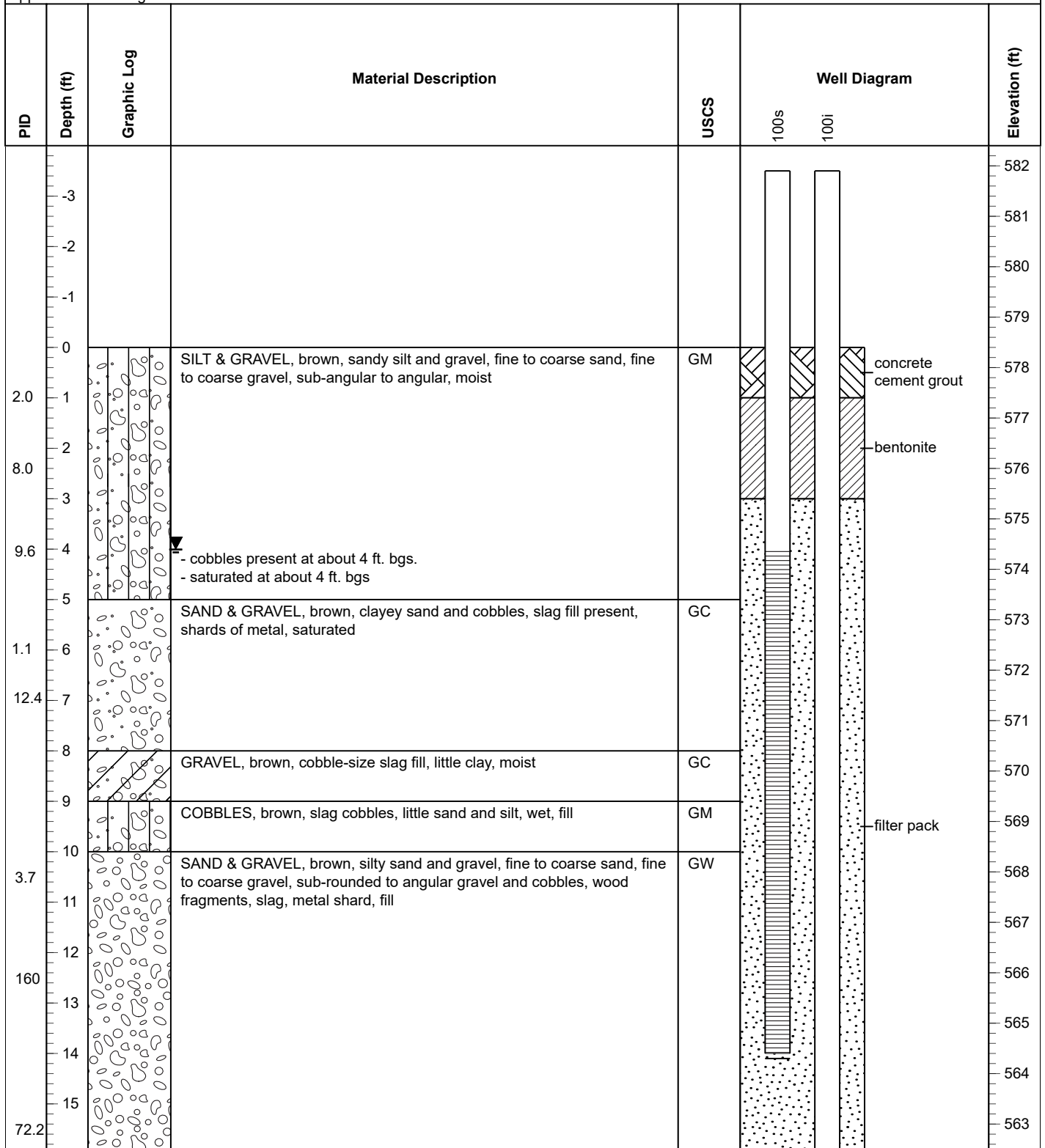
**Attachment A**  
**Soil Boring and Well Construction Logs**

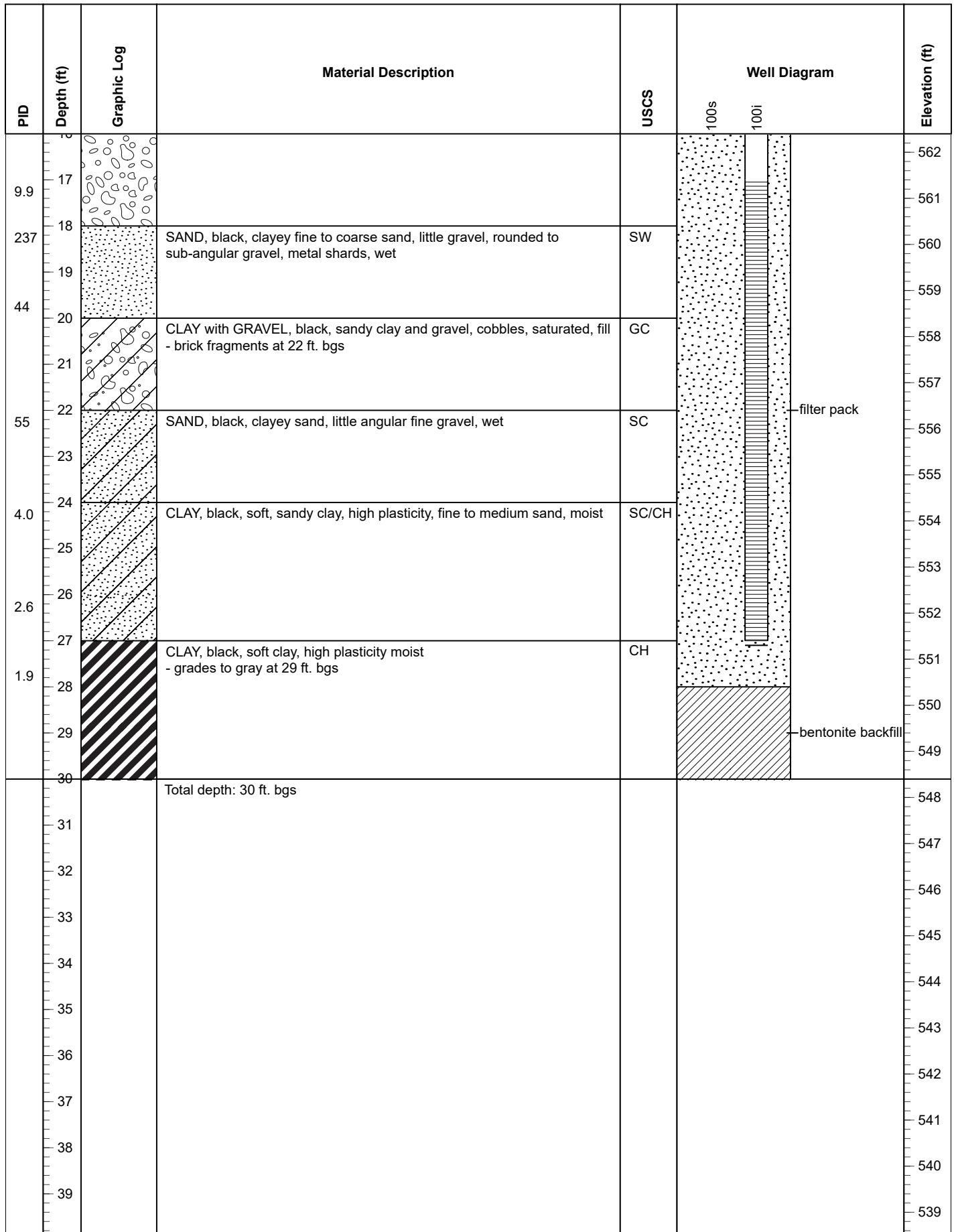
# GROUNDWATER MONITORING WELL MW-100S & MW-100i

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/14/2019 - 10/15/2019	<b>COORDINATES</b> 13448499.446, 248577.372
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEVATION</b> 578.4
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-100s = 581.97, MW-100i = 581.92

**COMMENTS** Driller: Cascade Drilling using roto sonic. Near the northern property boarder, in former stream bed, MW-100s screened at top of upper water-bearing zone, MW-100i screened at bottom of upper water-bearing zone

**LOGGED BY** GSO





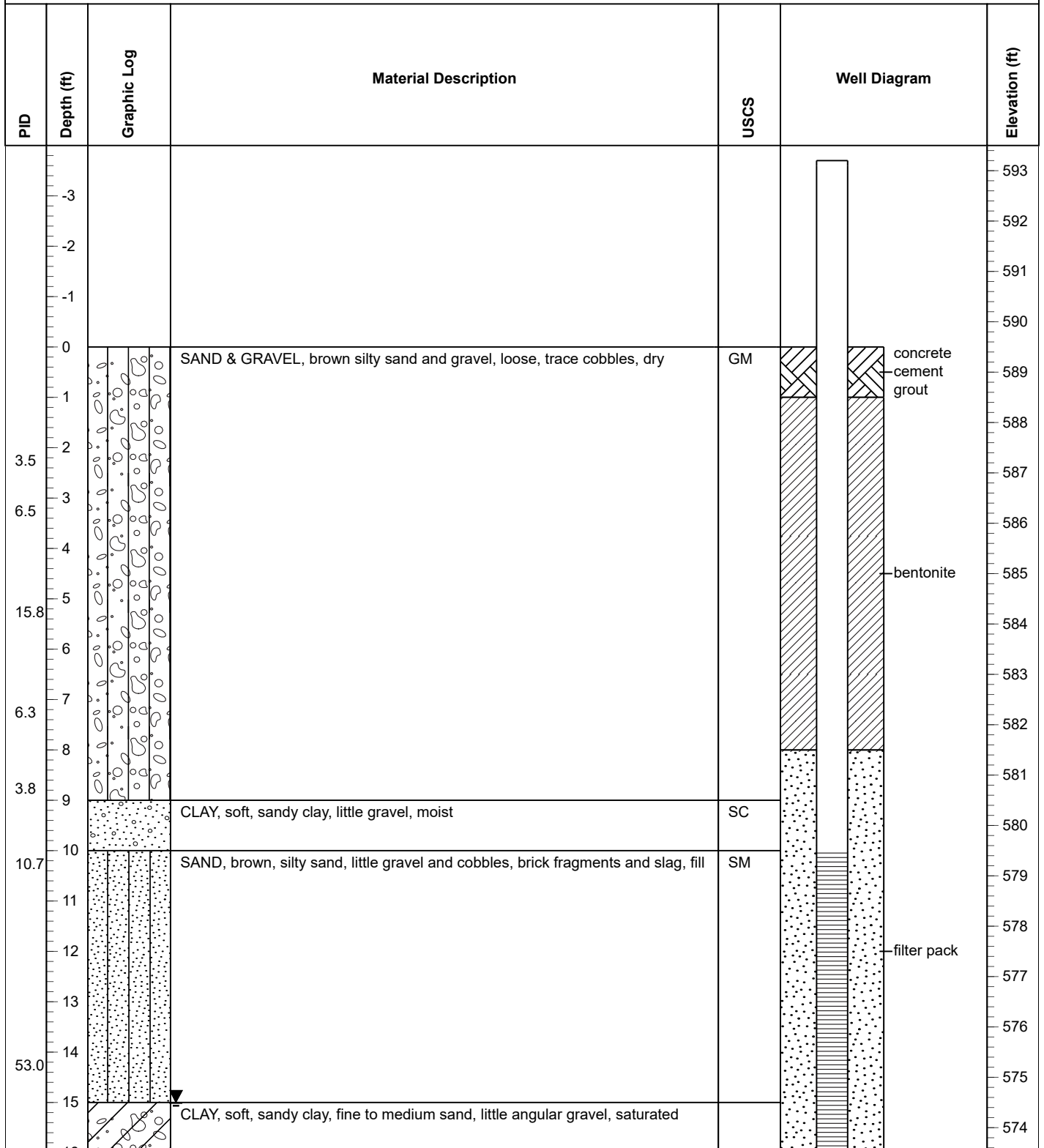


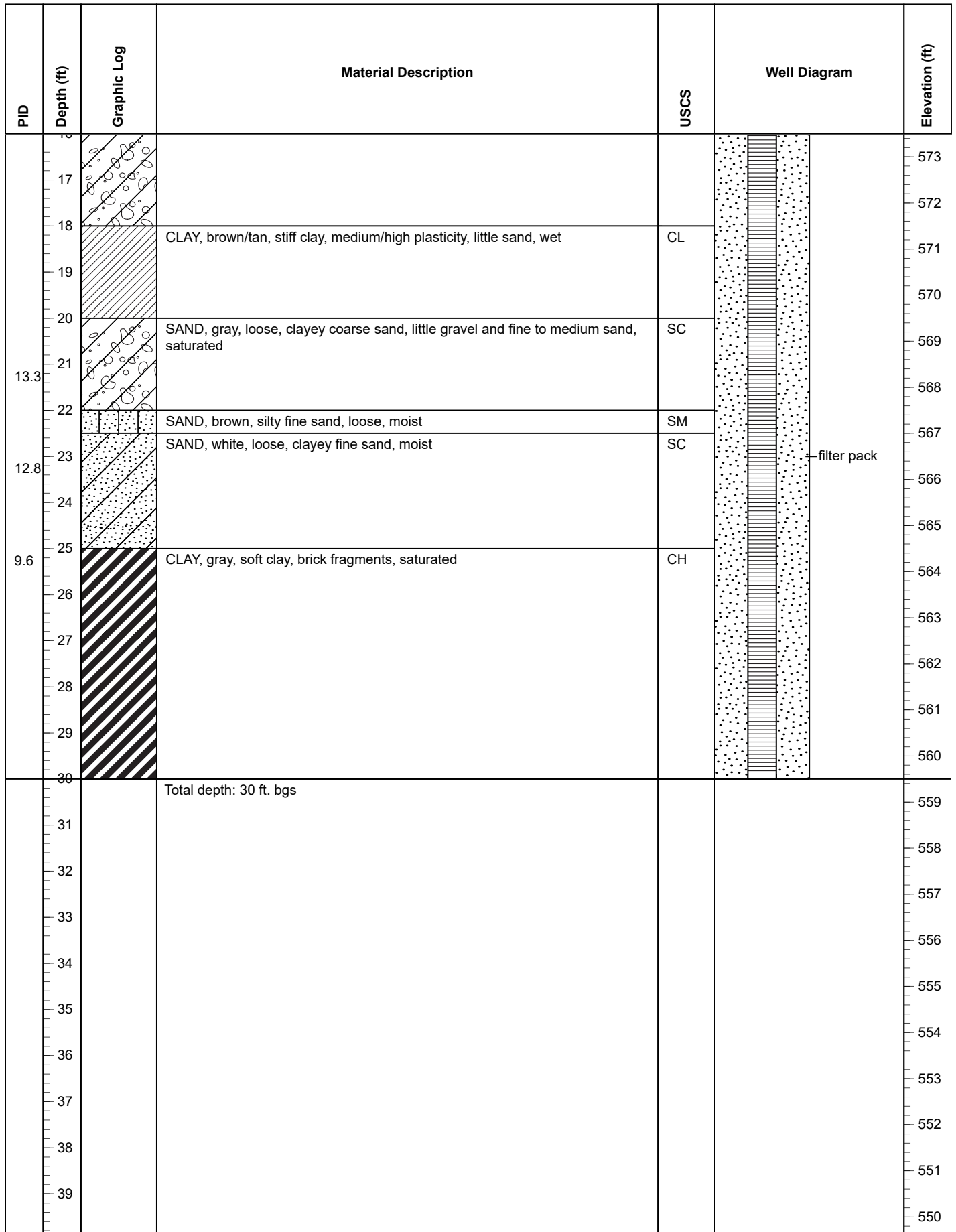
# GROUNDWATER MONITORING WELL MW-101

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/21/2019	<b>COORDINATES</b> 13448459.271, 244290.332
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 589.5 ft. AMSL
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-101: 593.15 ft. AMSL

**COMMENTS** Driller: Cascade Drilling using roto sonic. Near the southwest corner of the property. MW-101 screens the upper water-bearing zone.

**LOGGED BY** GSO

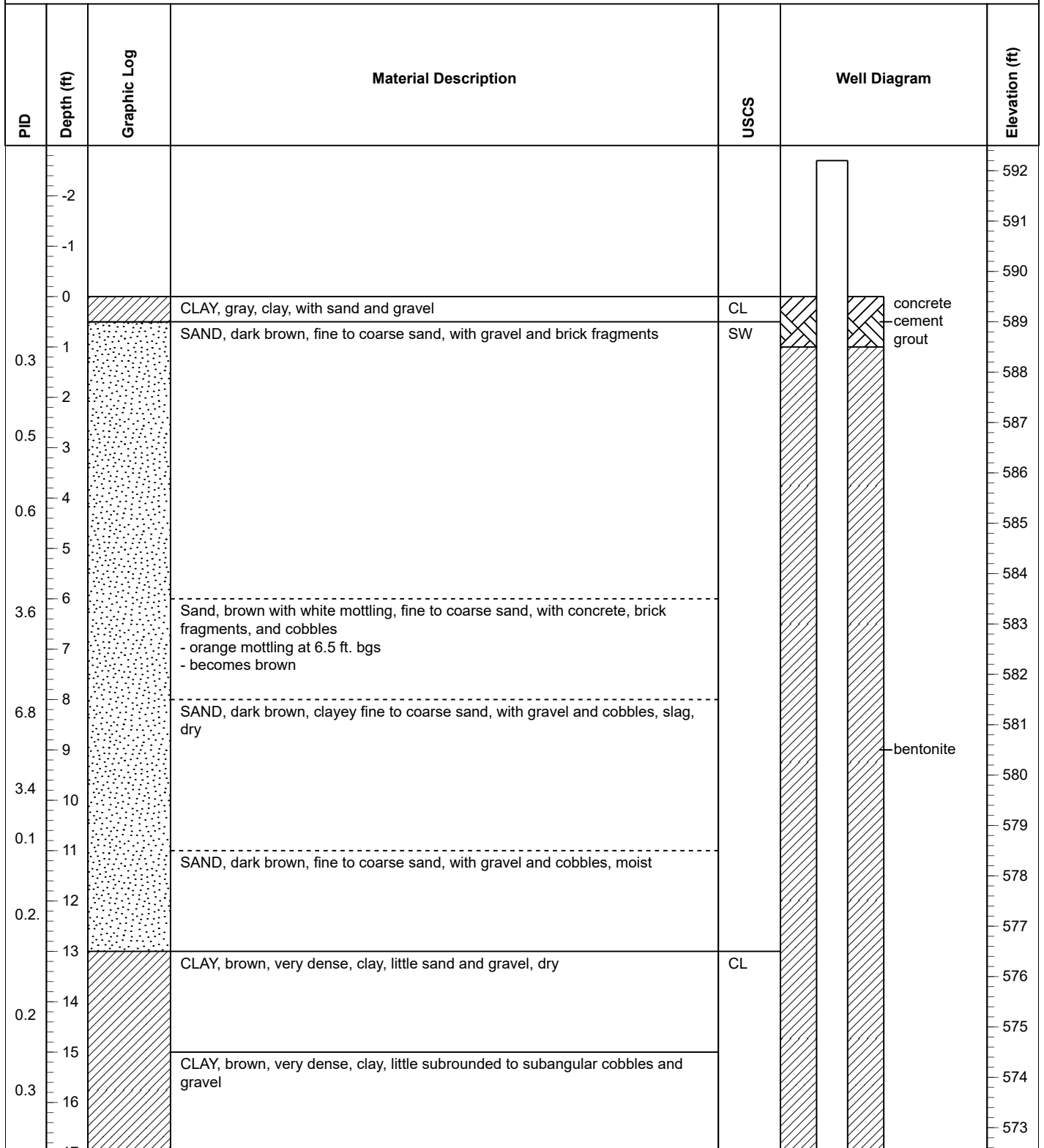




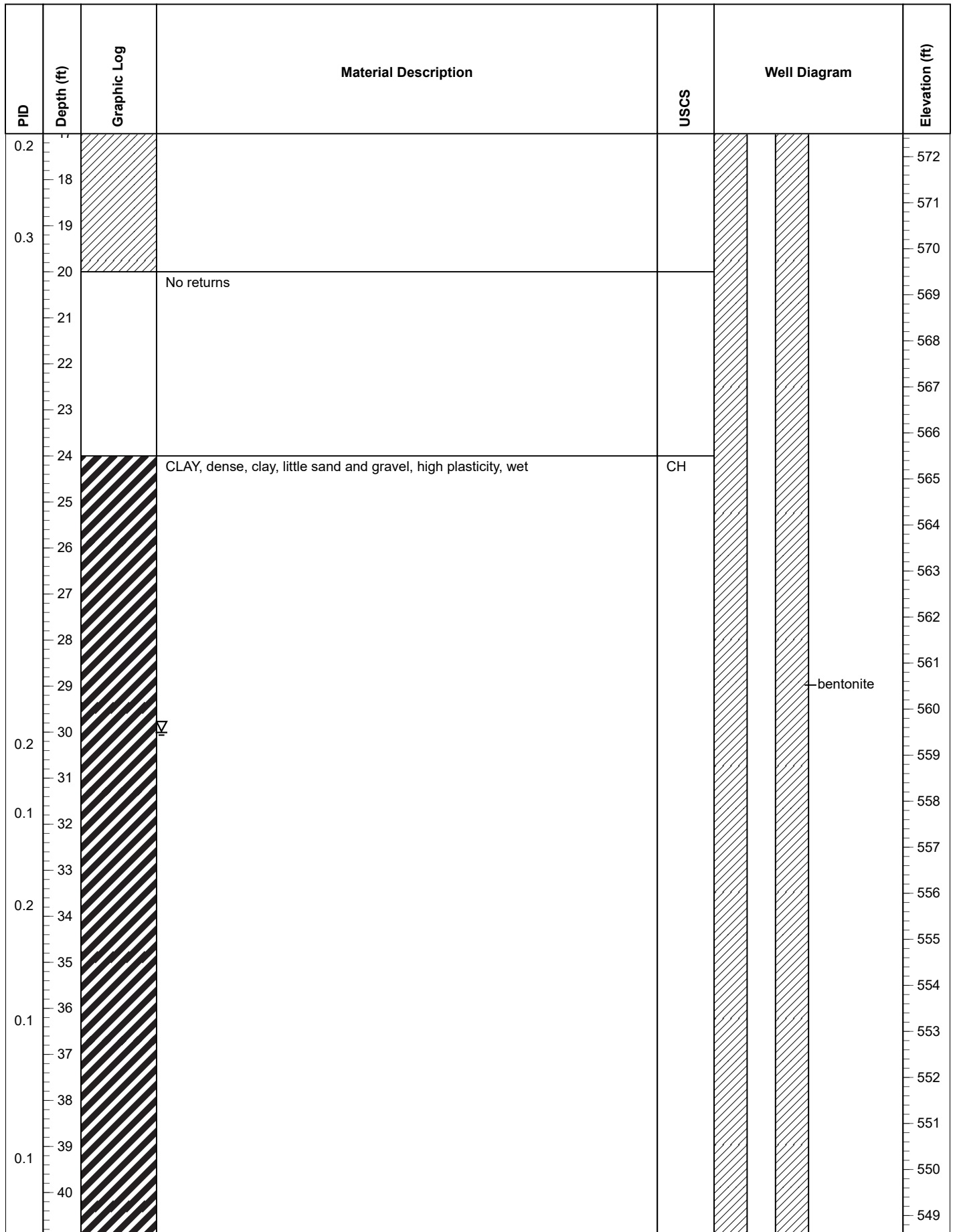
# GROUNDWATER MONITORING WELL MW-102D

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/22/2019	<b>COORDINATES</b> 13448148.742, 247771.931
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 60 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 589.4 ft. AMSL
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-102D: 592.05 ft. AMSL

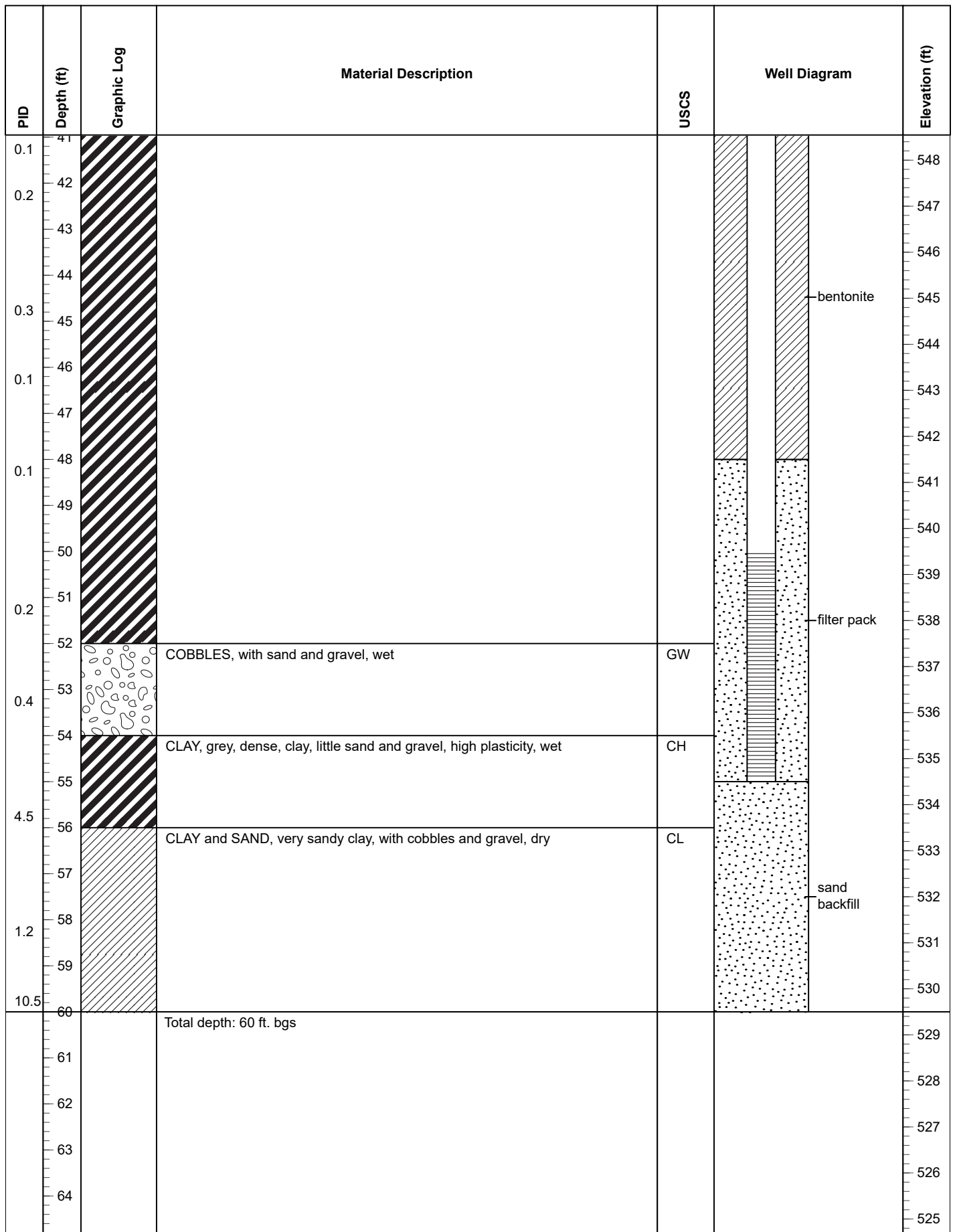
**COMMENTS** Driller: Cascade Drilling using rotasonic. Near the southwest corner of the property. MW-101 screens the upper water-bearing zone. **LOGGED BY** AJR



# GROUNDWATER MONITORING WELL MW-102D



# GROUNDWATER MONITORING WELL MW-102D

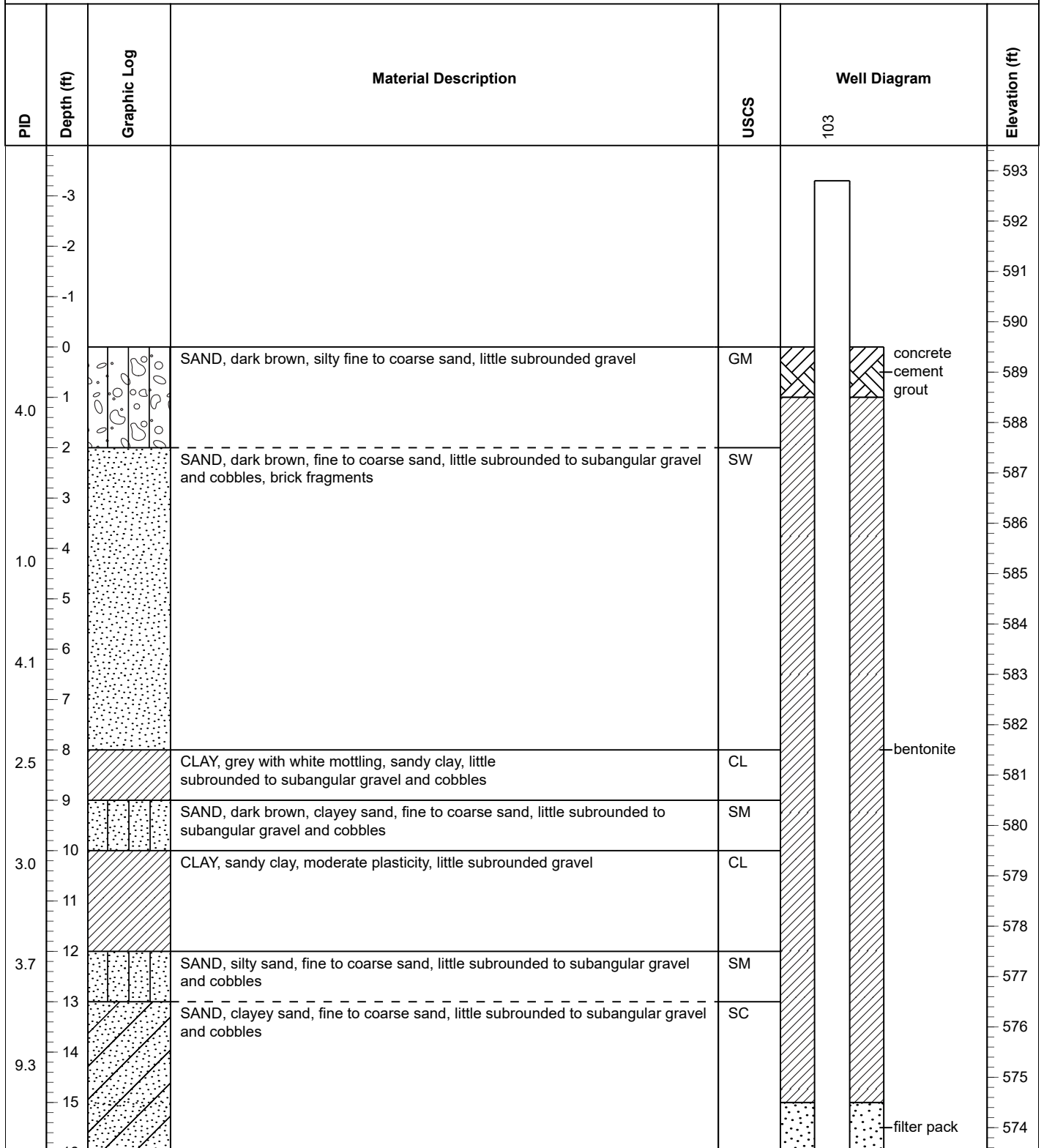


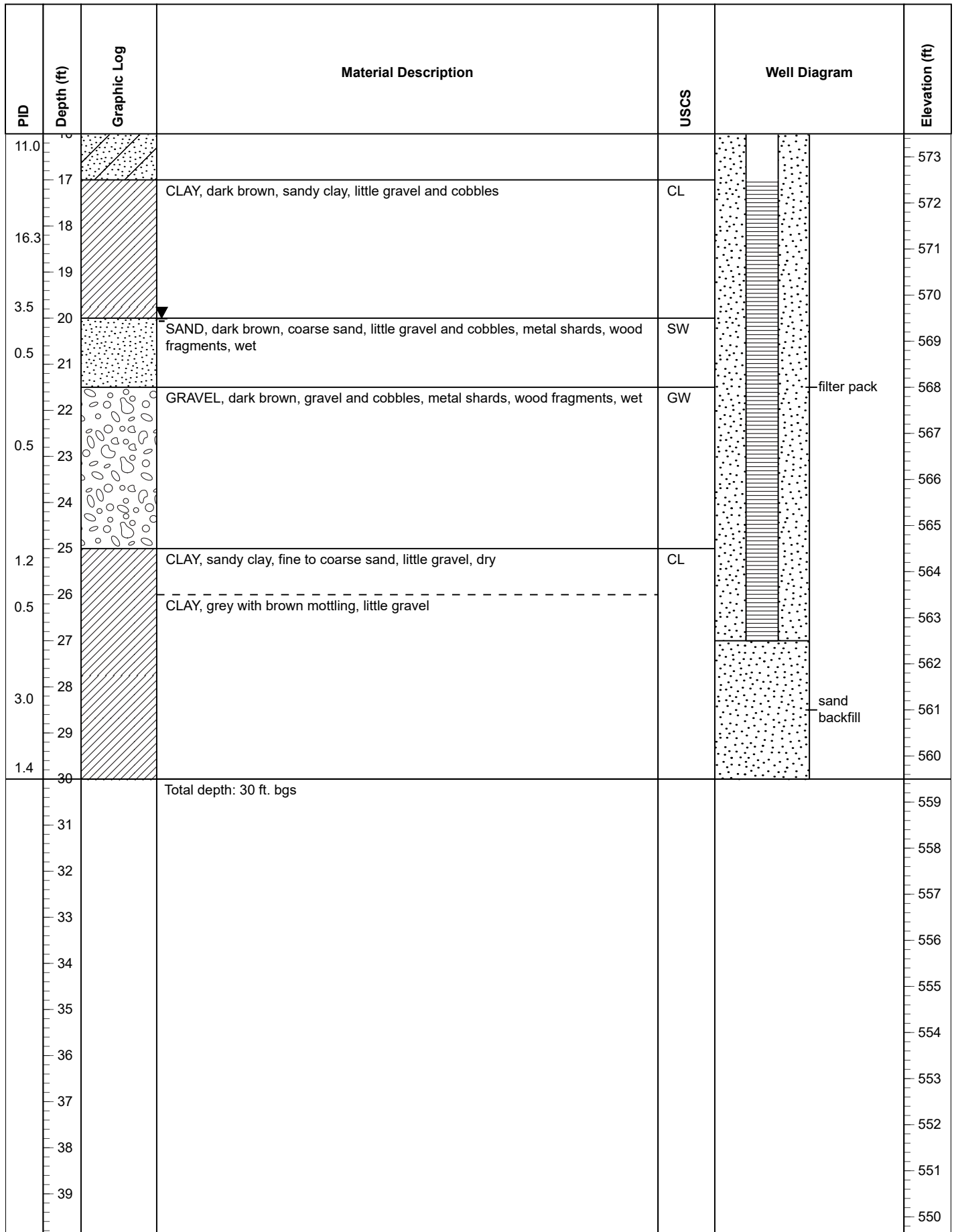
# GROUNDWATER MONITORING WELL MW-103

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/17/2019	<b>COORDINATES</b> 13448472.443, 247545.746
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 588.8
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-103: 592.11

**COMMENTS** Driller: Cascade Drilling using rotasonic. Located near near the center of the site in the former stream bed. Screened in the upper water-bearing zone.

**LOGGED BY** AJR



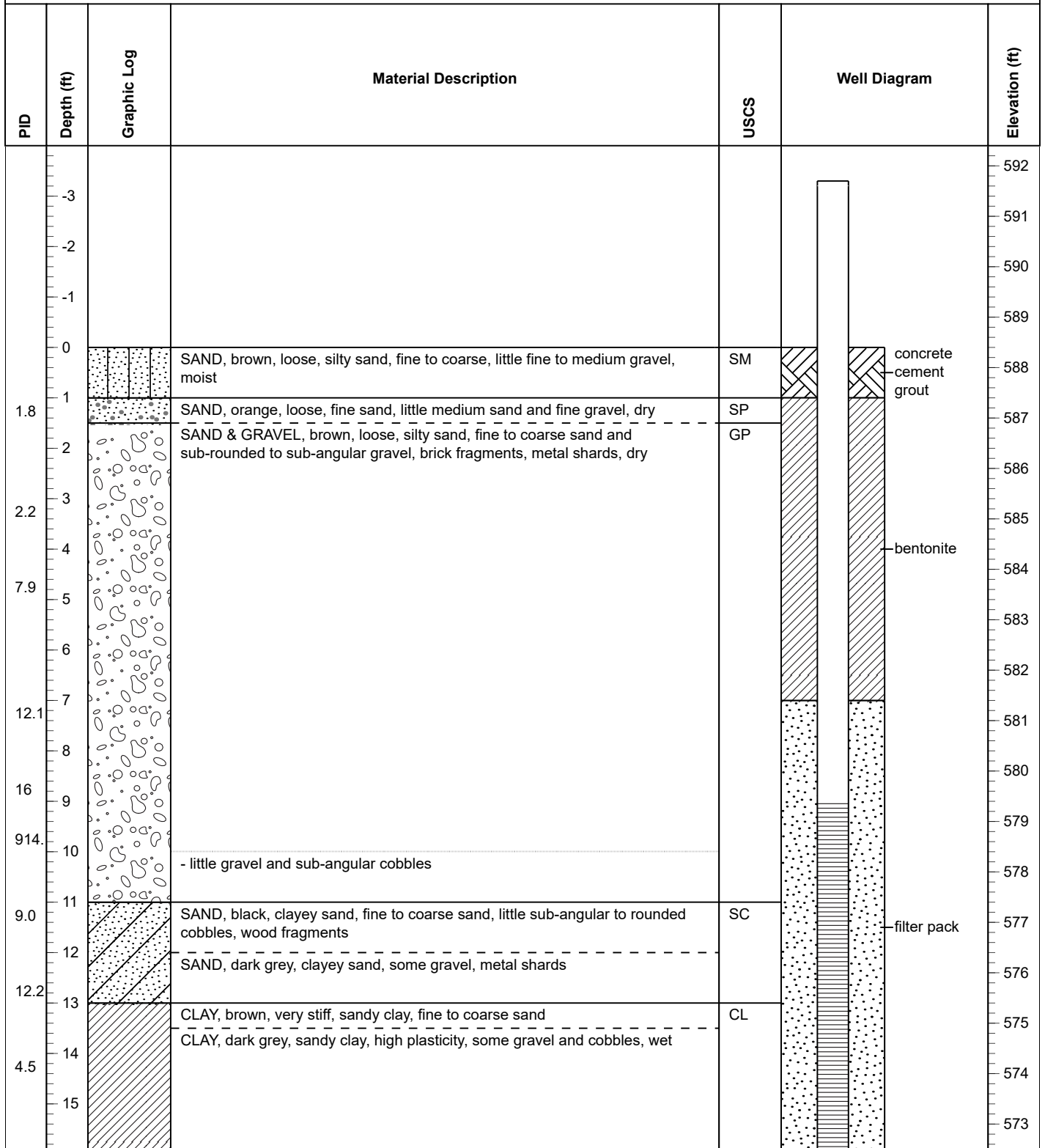


# GROUNDWATER MONITORING WELL MW-104

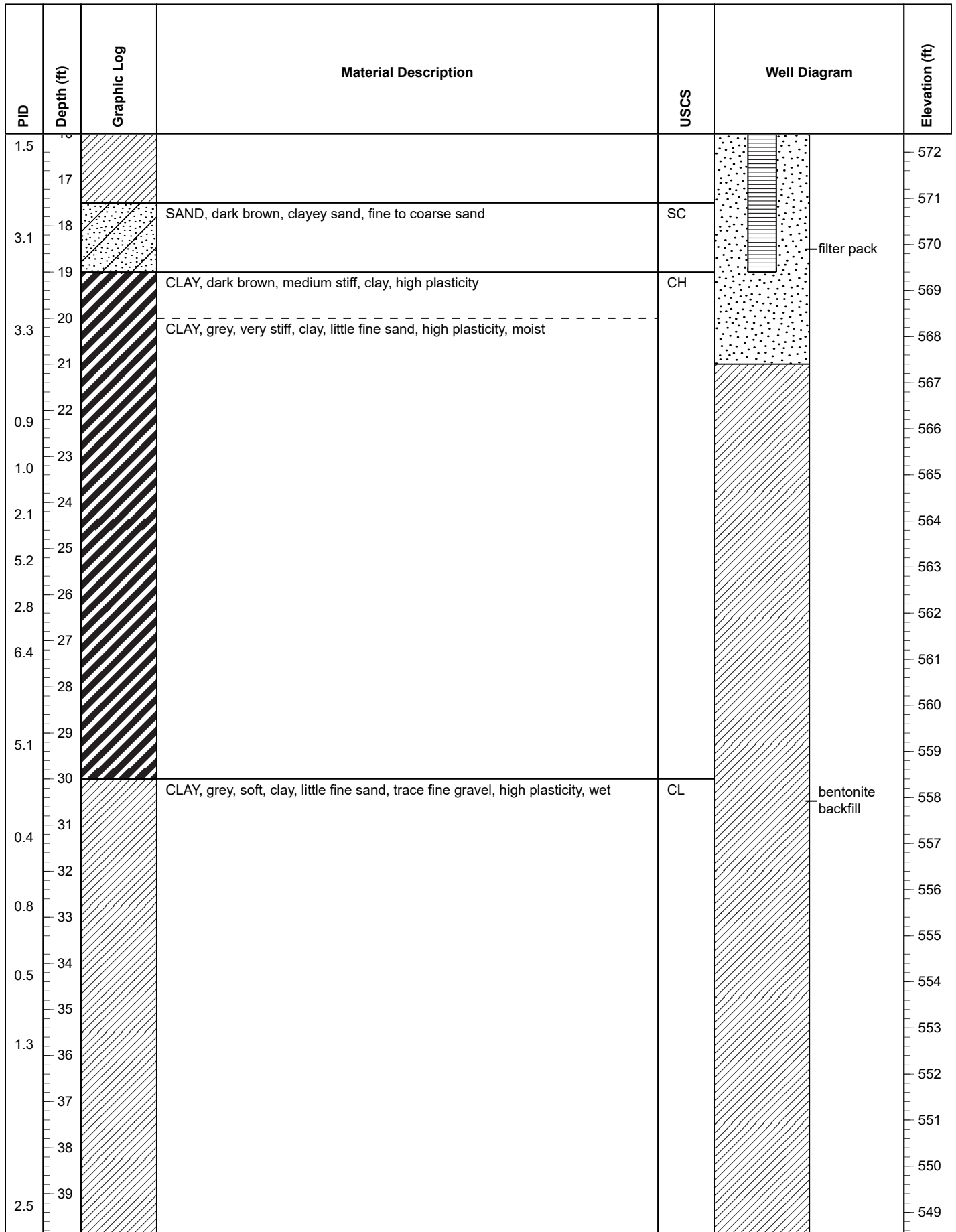
<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/16/2019	<b>COORDINATES</b> 13448716.549, 247573.896
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 55 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 588.4
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-104: 591.68

**COMMENTS** Driller: Cascade Drilling using roto sonic. Located down gradient of WMU-27. Screened in the upper water-bearing zone.

**LOGGED BY** GSO







# GROUNDWATER MONITORING WELL MW-104

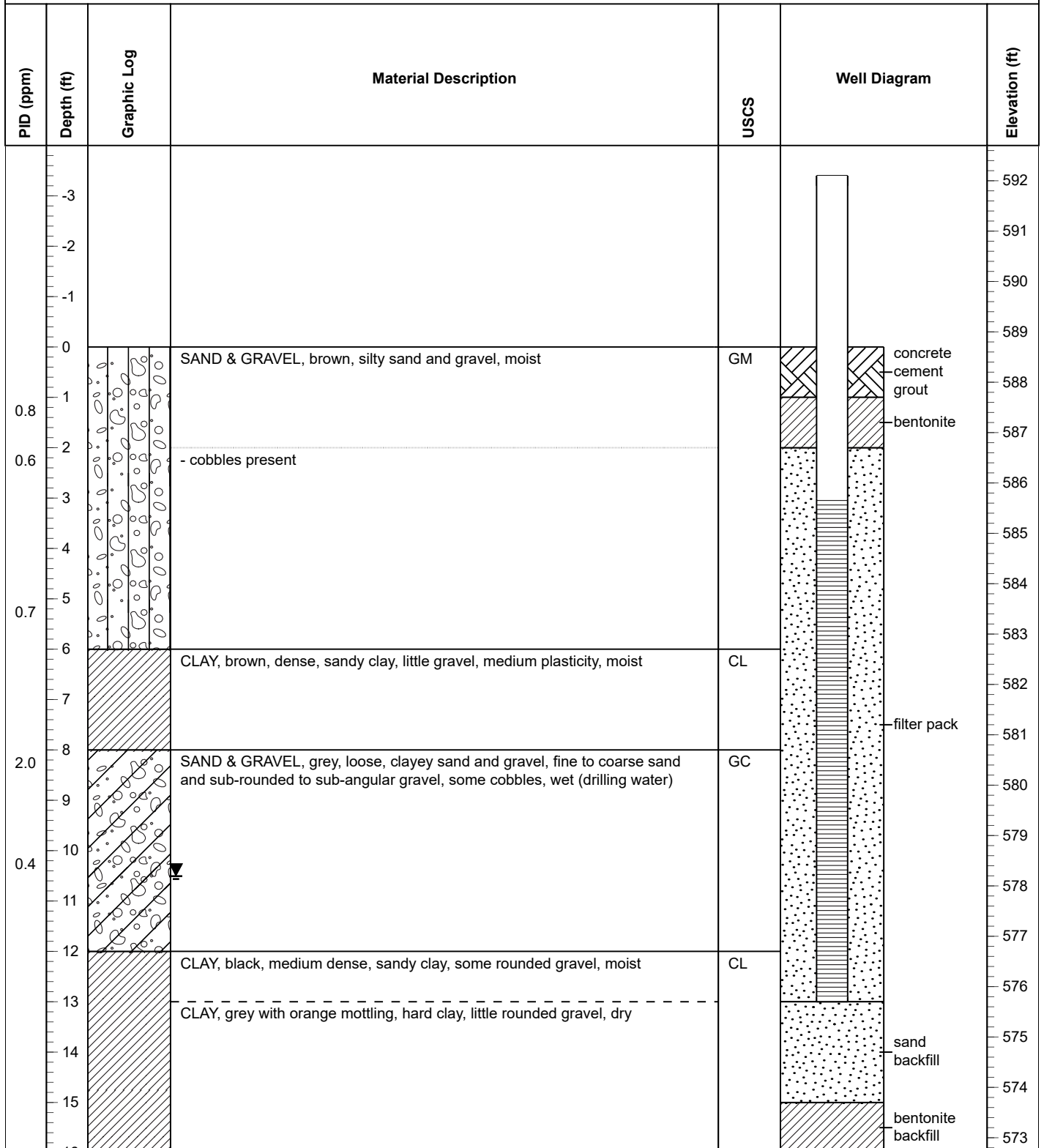
PID	Depth (ft)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
	40					548
1.2	41					547
	42					546
0.4	43					545
1.5	44					544
	45					543
1.2	46					542
	47					541
0.9	48					540
	49					539
5.7	50					538
	51					537
	52					536
	53		LIMESTONE, bedrock			535
	54					534
	55		Total depth: 55 ft. bgs			533
	56					532
	57					531
	58					530
	59					529
	60					528
	61					527
	62					526
	63					525

# GROUNDWATER MONITORING WELL MW-105

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/16/2019	<b>COORDINATES</b> 13448776.156, 247457.881
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 588.7
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-105: 592.15

**COMMENTS** Driller: Cascade Drilling using roto sonic. Located down gradient of WMU-29. Screened in the upper water-bearing zone.

**LOGGED BY** GSO



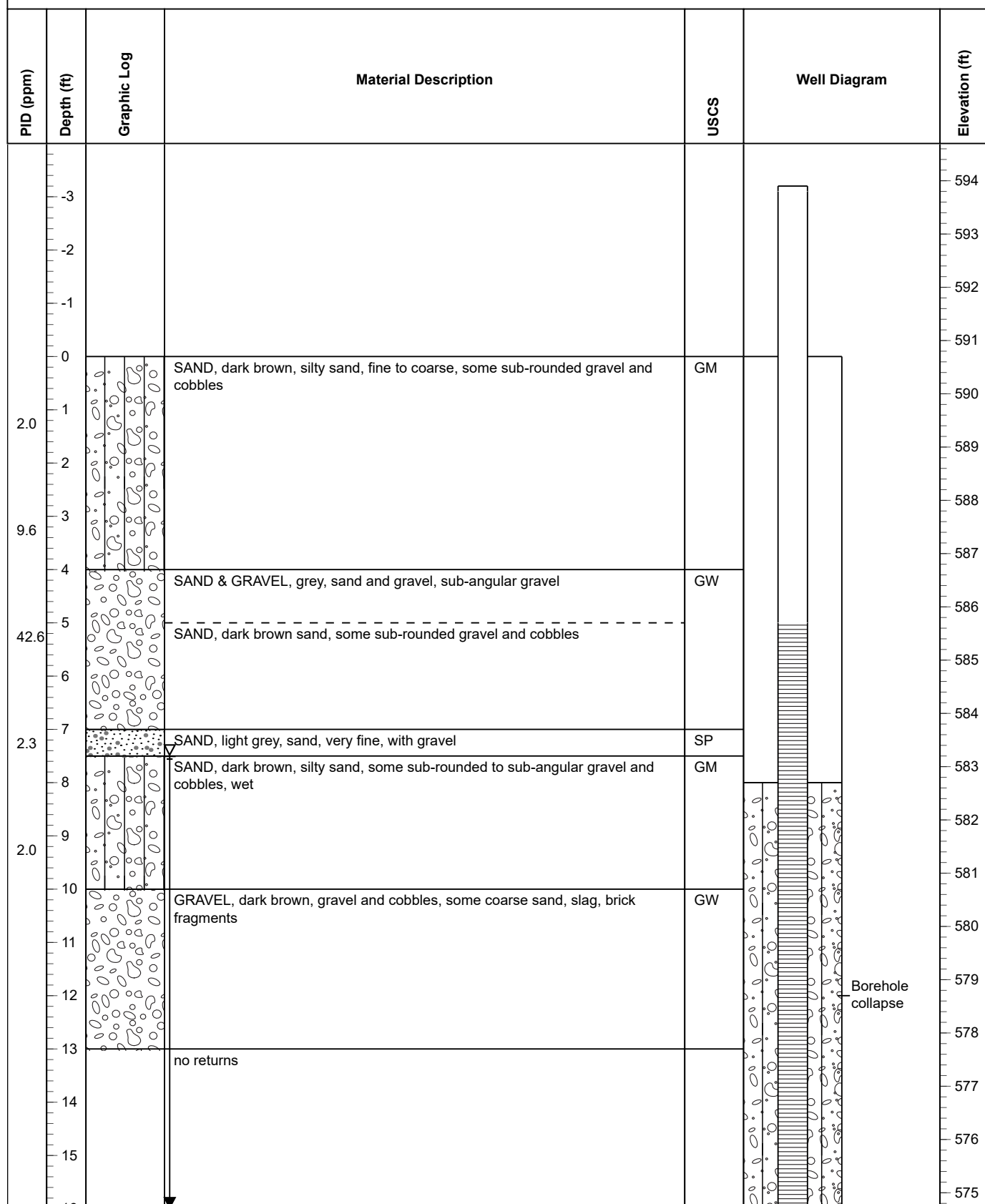
# GROUNDWATER MONITORING WELL MW-105


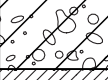

PID (ppm)	Depth (ft)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
	16					572
	17					571
	18					570
	19					569
	20					568
	21					567
	22					566
	23				bentonite backfill	565
	24					564
	25					563
	26					562
	27					561
	28					560
	29					559
	30		Total depth: 30 ft. bgs			558
	31					557
	32					556
	33					555
	34					554
	35					553
	36					552
	37					551
	38					550
	39					549

# GROUNDWATER MONITORING WELL MW-106

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/17/2019	<b>COORDINATES</b> 13448256.357, 246609.325
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 590.7
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-106: 593.87

**COMMENTS** Driller: Cascade Drilling using rotosonic. Upgradient well located in the former stream bed. Screens the upper water-bearing zone. **LOGGED BY** GSO

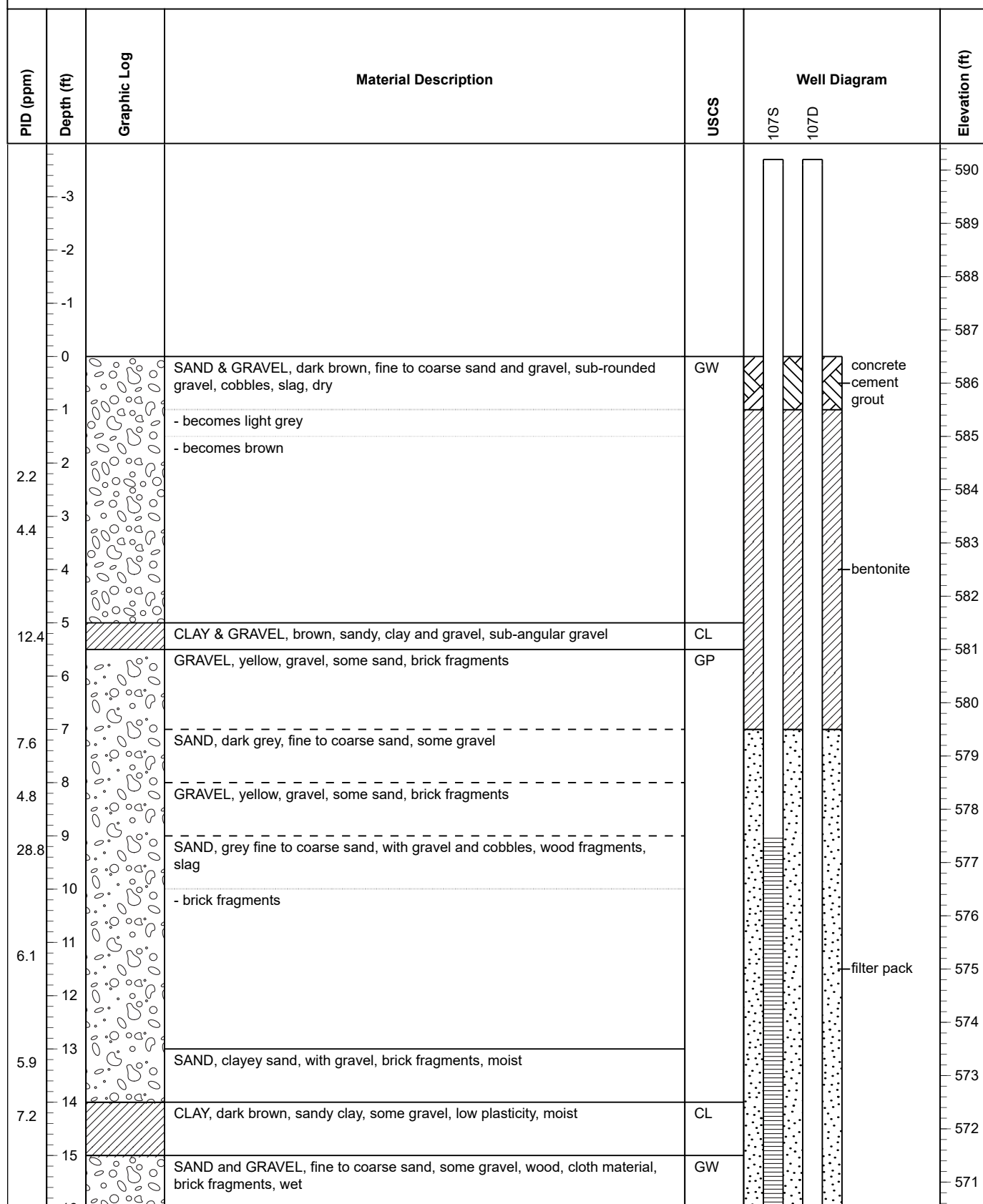


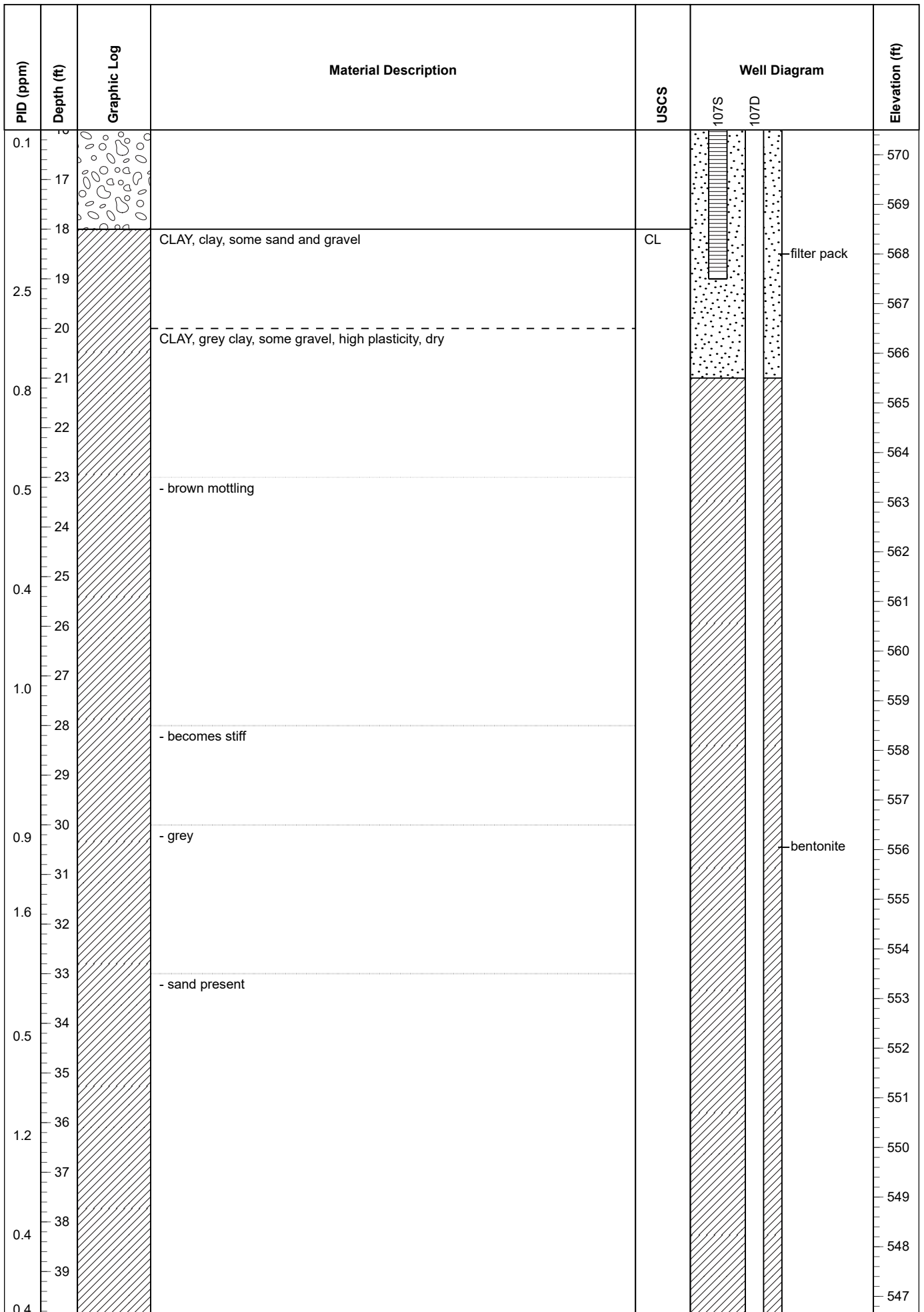
PID (ppm)	Depth (ft)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
	16					574
	17					573
	18					572
	19					571
	20					570
1.5	21		SLAG, with sub-angular gravel, fill	GP		569
	22		SAND, dark grey, clayey sand, some gravel	GC		568
	23		CLAY, sandy clay, some gravel, high plasticity	CL		567
3.0	24					566
	25					565
	26		- reduced gravel content			564
	27					563
	28		- little sand, wood, brick fragments, slag, fill			562
6.7	29					561
	30		Total depth: 30 ft. bgs			560
	31					559
	32					558
	33					557
	34					556
	35					555
	36					554
	37					553
	38					552
	39					551

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/17/2019	<b>COORDINATES</b> 13448892.413, 246834.696
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 586.5
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-107s: 590.47, MW-107D: 590.19

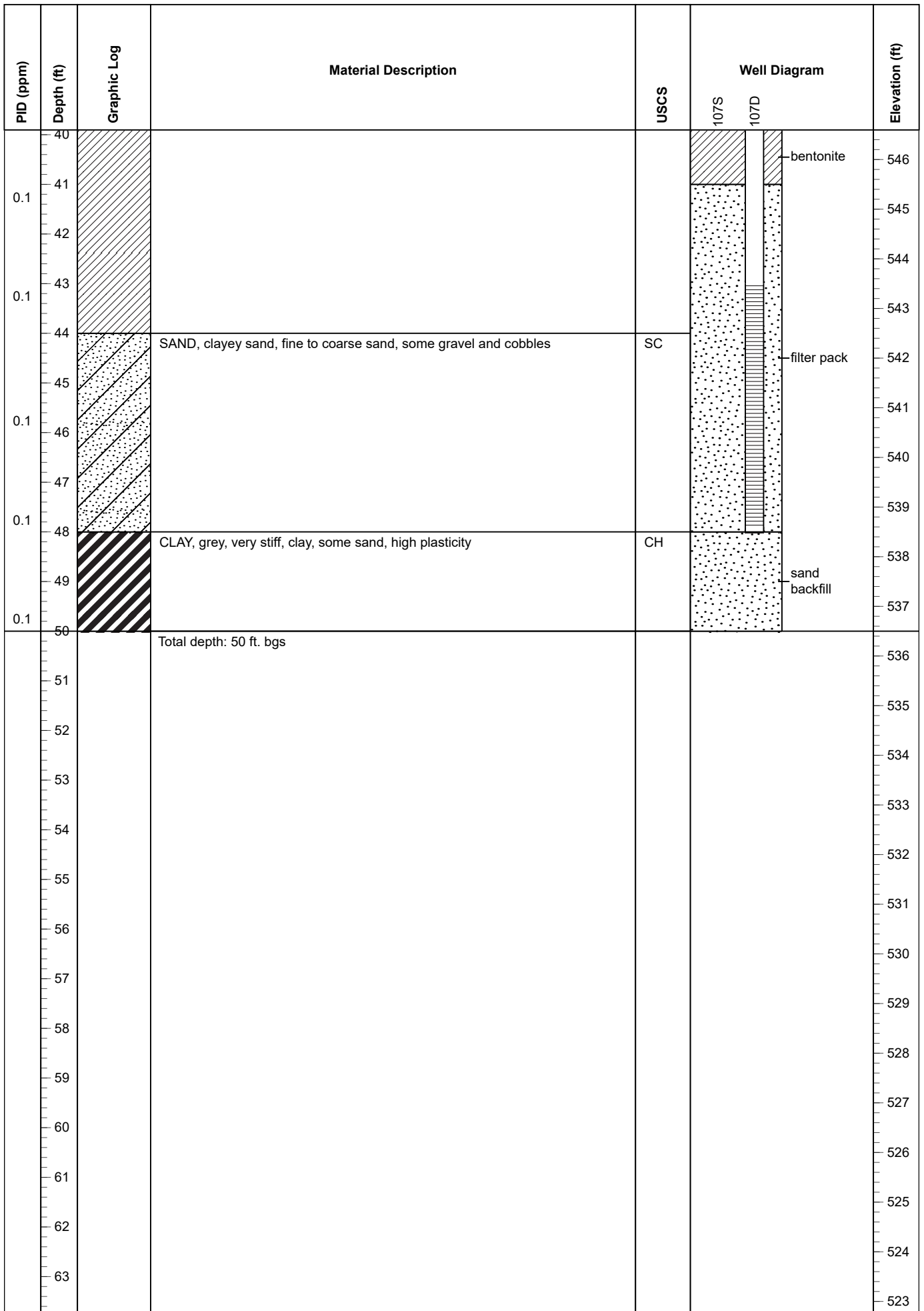
**COMMENTS** Driller: Cascade Drilling using rotasonic. Downgradient well . Screens the upper water-bearing zone and second water-bearing zone.

**LOGGED BY** AJR







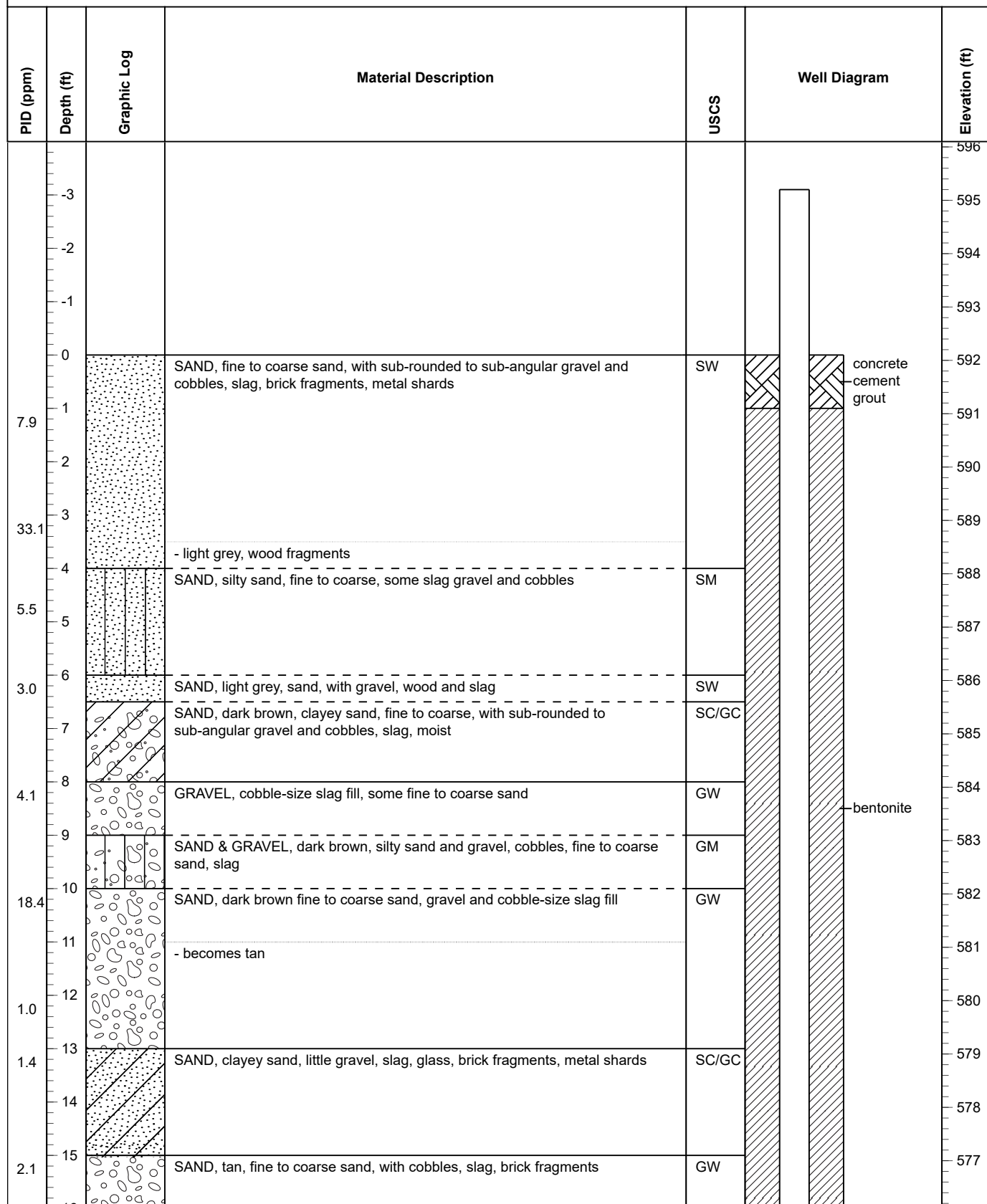


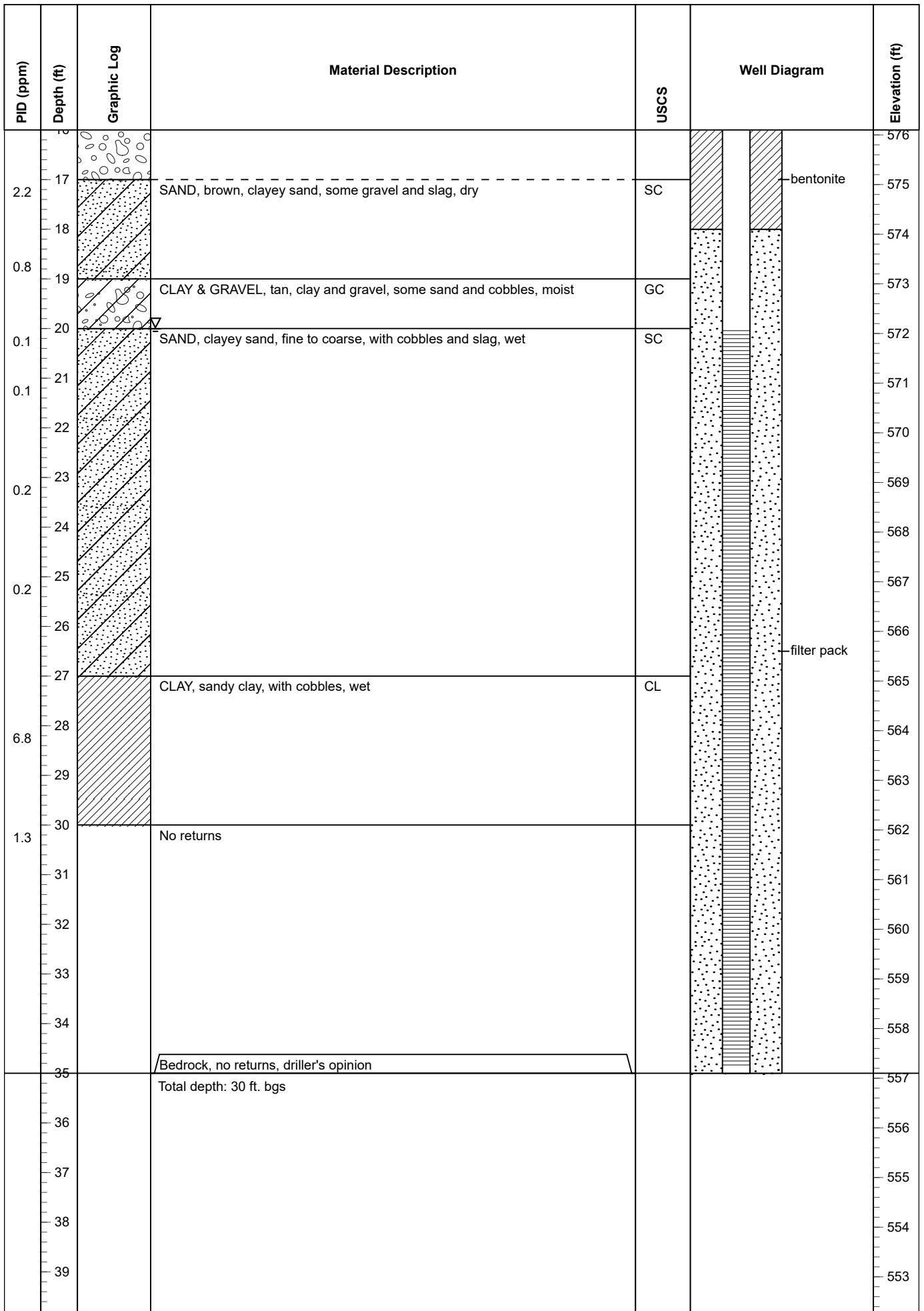
# GROUNDWATER MONITORING WELL MW-108

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/17/2019	<b>COORDINATES</b> 13448926.796, 245839.708
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 30 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 592.1
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-108: 595.18

**COMMENTS** Driller: Cascade Drilling using rotasonic. Downgradient well. Screens the upper water-bearing zone.

**LOGGED BY** AJR





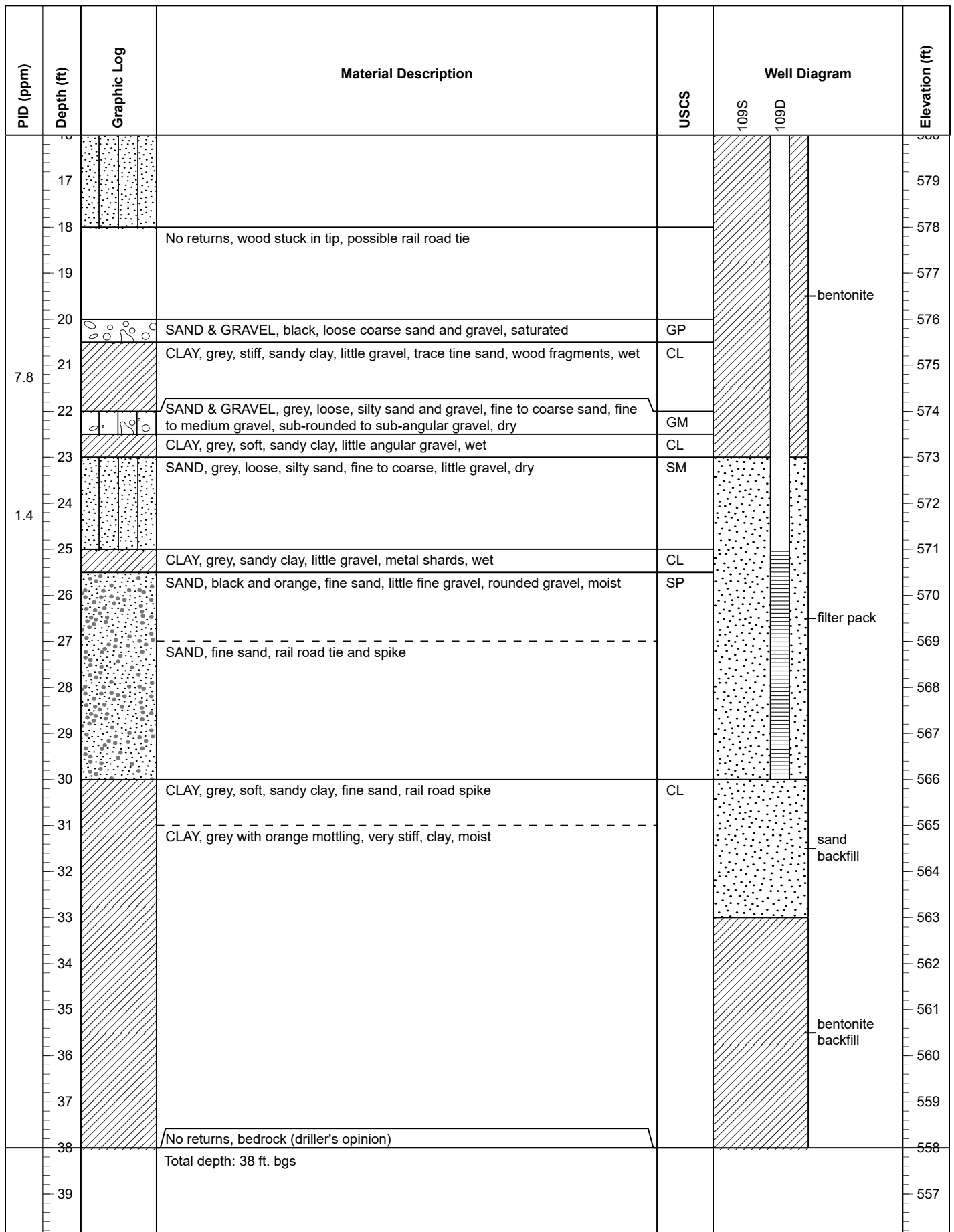
# GROUNDWATER MONITORING WELL MW-109S & MW-109D

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/21/2019	<b>COORDINATES</b> 13448543.489, 245393.964
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 38 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 596.0
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-109s: 599.91, MW-109D: 599.93

**COMMENTS** Driller: Cascade Drilling using roto sonic. Upgradient well. Screens the upper water-bearing zone and the second water-bearing zone.

**LOGGED BY** GSO

PID (ppm)	Depth (ft)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
					109S 109D	
	-3					599
	-2					598
	-1					597
	0					596
	1		SAND & GRAVEL, brown, loose, silty sand and gravel, little cobbles slag and brick fragments, fill, dry	SW	concrete cement grout	595
12.0	2				bentonite	594
	3					593
10.5	4		SAND, red, loose, silty sand, some gravel, slag and brick fragments, moist			592
	5		SAND & GRAVEL, brown, loose sand and gravel, little silt, cobble-size slag, metal shard, moist			591
25.5	6		SAND, red, loose silty sand, little fine gravel, slag, dry	SW	filter pack	590
10.1	7					589
	8		SAND & GRAVEL, tan, loose, fine to coarse sand and gravel, little silt, brick fragments, wood, dry	GW		588
259	9					587
	10		CLAY, grey, sandy clay, fine to medium sand, slight plasticity, moist	CL		586
44.1	11		SAND & GRAVEL, dark brown, loose coarse sand and gravel, little fine to medium sand and silt, saturated	GP	sand backfill	585
	12		CLAY, brown, stiff, sandy clay, little fine to coarse rounded to sub-angular gravel, dry	CL		584
58.3	13		SAND, grey, loose, silty sand, little fine to medium rounded gravel, dry	SM	bentonite	583
	14		- becomes brown, slag, wood, brick fragments present			582
9.7	15					581
	16					580

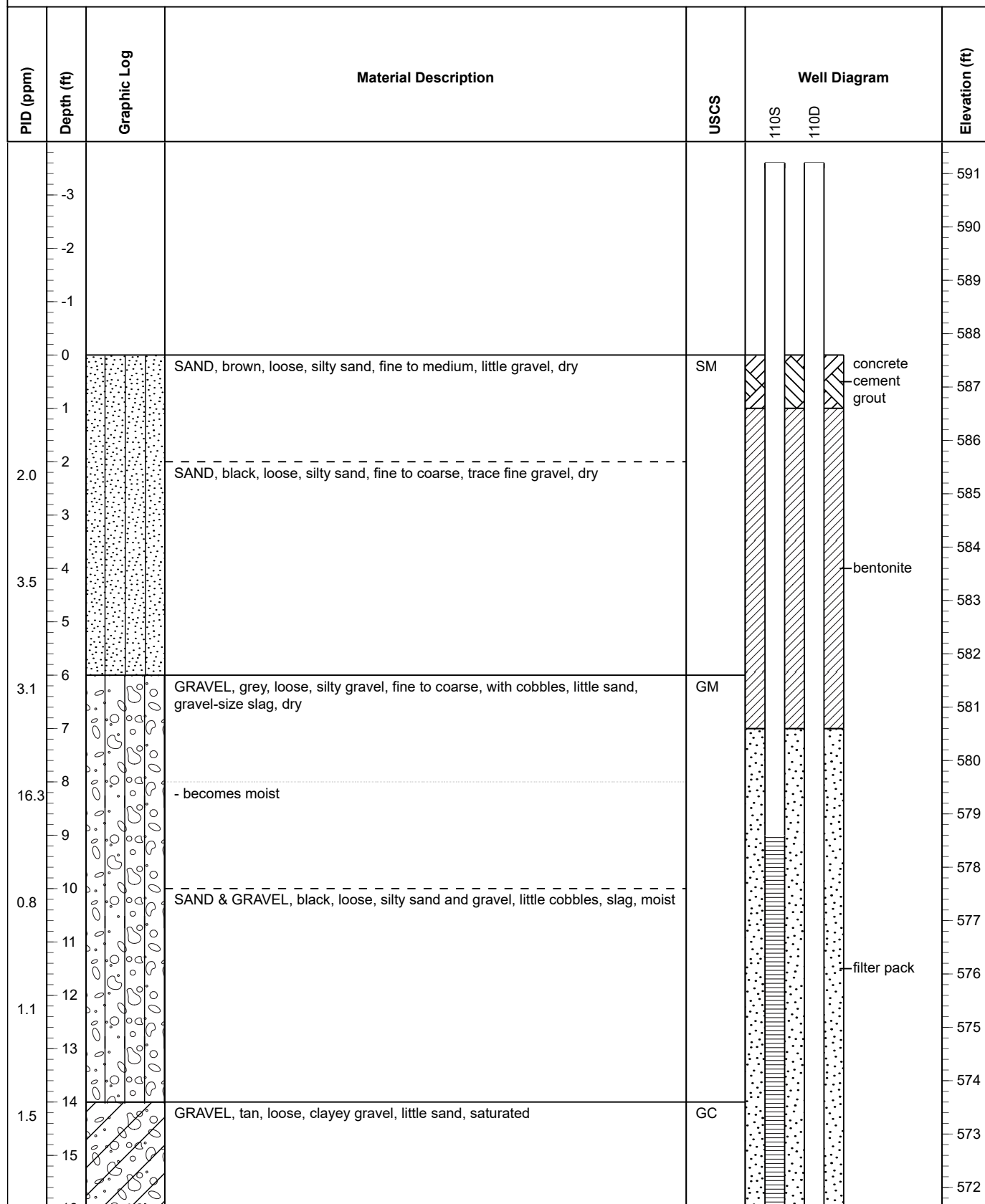


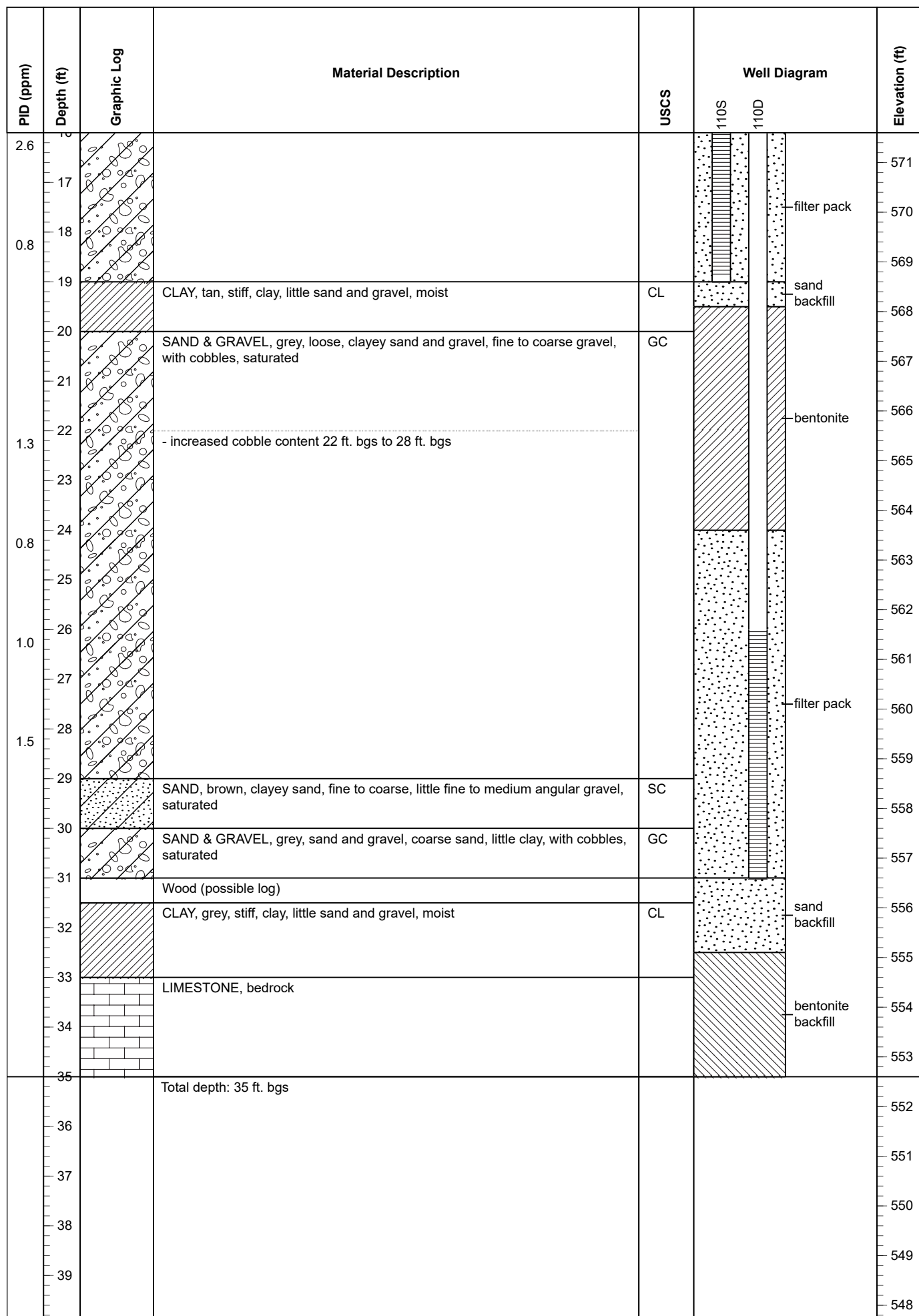
# GROUNDWATER MONITORING WELL MW-110S & MW-110D

<b>PROJECT NUMBER</b> 10860	<b>DRILLING DATE</b> 10/21 - 22/2019	<b>COORDINATES</b> 13448929.408, 244810.710
<b>PROJECT NAME</b> RTRR - Riverview	<b>TOTAL DEPTH</b> 38 ft. bgs	<b>COORD SYS</b> 2113 - Michigan South
<b>CLIENT</b> Riverview-Trenton Rail Road Company	<b>DIAMETER</b> 6 inches	<b>COMPLETION</b> Stick-up Steel Casing
<b>ADDRESS</b> 18521 W. Jefferson	<b>CASING</b> 2- in. dia. PVC	<b>GROUND SURFACE ELEV.</b> 587.6
<b>City, State</b> Riverview, MI	<b>SCREEN</b> 2-in. dia. PVC Factory Slotted	<b>WELL TOC</b> MW-110S: 591.22, MW-110D: 591.23

**COMMENTS** Driller: Cascade Drilling using rotosonic. Downgradient well. Screens the upper water-bearing zone and the second water-bearing zone.

**LOGGED BY** GSO





**ENVIRONMENTAL STRATEGIES CORPORATION**11911 Freedom Drive, Suite 900  
Reston, Virginia 20190  
703-709-6500

Project Number: 193076

Site Id: TMW27

Page 1 of 1

Total Depth: 16.50'

Borehole Diameter: 8.00in

Elevation: 589.75'

Datum: Mean Sea Level

Project Name: DSC Ltd. - Trenton, Michigan

Address:

City, State: Trenton, Michigan

Logged By: K. Heine

Date Completed: 06/01/00

Contractor: Alliance

Certified By: D. Wells

Drilling Method: Hollow Stem Auger

Blank Casing:

type: PVC

dia: 2.00in

fm: -2.67'

to: 6.00'

Screens:

type: Slotted

size: 0.010in

dia: 2.00in

fm: 6.00'

to: 16.00'

Annular Fill:

type: Cement

fm: 0.00'

to: 3.00'

type: Bentonite Chips


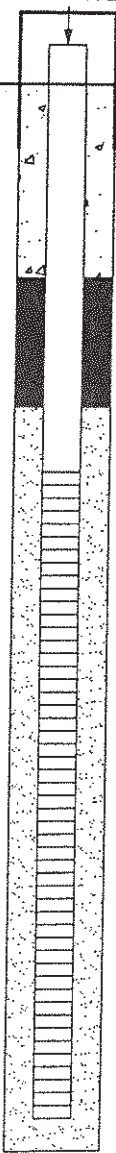

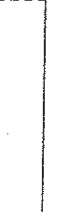
fm: 3.00'

to: 5.00'

type: Fine Sand Filter

fm: 5.00'

to: 16.50'

Depth (feet)	Blow Count	Recovery (%)	Vapor Reading PID (ppm)	Sample No.	Graphic Log	USCS Code/ Rock Type	Material Description	Well Construction
5		100		4-6		SP	GRAVELLY SAND, very dark grey, fine to coarse grained, poorly sorted, ~20% gravel with angular clasts up to 15-in. diameter, wood fill in lower 0.5 ft, damp.	
10		100		9-11		CL	CLAY, medium grey, medium to hard, medium plasticity, trace pebbles, wet.	
15		100		14-16			CLAY, light to medium grey and light brown, hard, low plasticity, trace pebbles, damp.	



**Attachment B**  
**August 4, 2020 Slug Test Data**

## WELL ID: RTRR - MW-100s - Slug In 1

## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	10 Feet
<b>Depths to:</b>	
water level (DTW)	2.41 Feet
top of screen (TOS)	4 Feet
Base of Aquifer (DTB)	28 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b>	
Fine Sand	

## COMPUTED

$L_{wetter}$	10 Feet
D =	25.59 Feet
H =	11.59 Feet
$L/r_w$ =	40.00
$y_0$ -DISPLACEMENT =	1.81 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Partial penetrate A =	2.840
B =	0.460
$\ln(Re/r_w)$ =	2.475
Re =	2.97 Feet
Slope =	0.01081 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	93 sec

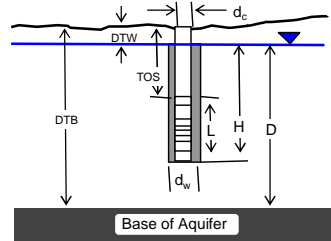
Input is consistent.

K = 1.8 Feet/Day

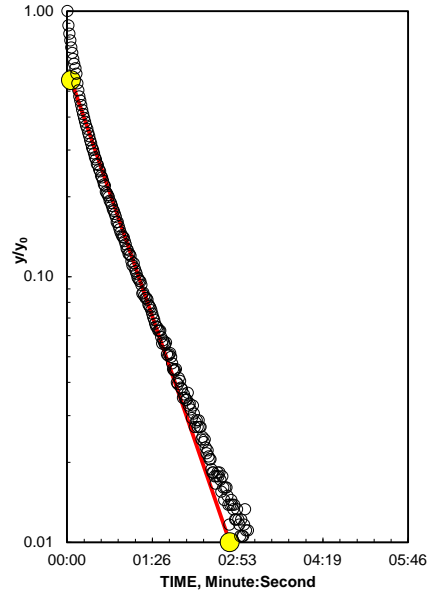
Local ID: MW-100s

Date: 8/4/2020

Time:



Adjust slope of line to estimate K

**K= 1.8 is less than likely minimum of 3 for Fine Sand**

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Entry	Reduced Data	
	Time,	Water Level
	Hr:Min:Sec	
1	0:00:00.0	12.60
2	0:00:06.0	11.99
3	0:00:12.0	11.66
4	0:00:18.0	11.49
5	0:00:24.0	11.37
6	0:00:30.0	11.28
7	0:00:36.0	11.21
8	0:00:42.0	11.16
9	0:00:48.0	11.11
10	0:00:54.0	11.06
11	0:01:00.0	11.03
12	0:01:06.0	11.00
13	0:01:12.0	10.98
14	0:01:18.0	10.95
15	0:01:24.0	10.94
16	0:01:30.0	10.92
17	0:01:36.0	10.90
18	0:01:42.0	10.89
19	0:01:48.0	10.88
20	0:01:54.0	10.87
21	0:02:00.0	10.86
22	0:02:06.0	10.85
23	0:02:12.0	10.85
24	0:02:18.0	10.84
25	0:02:24.0	10.84
26	0:02:30.0	10.83
27	0:02:36.0	10.83
28	0:02:42.0	10.83
29	0:02:48.0	10.82
30	0:02:54.0	10.82
31	0:03:00.0	10.82
32	0:03:06.0	10.81
33	0:03:12.0	10.81
34	0:03:18.0	10.81
35	0:03:24.0	10.81
36	0:03:30.0	10.82
37	0:03:36.0	10.81
38	0:03:42.0	10.81
39	0:03:48.0	10.81
40	0:03:54.0	10.81
41	0:04:00.0	10.81
42	0:04:06.0	10.81
43	0:04:12.0	10.80
44	0:04:18.0	10.80
45	0:04:24.0	10.80

# WELL ID: RTRR - MW-100i - Slug In 1

MW-100i Slug in 1\_Bouwer-Rice

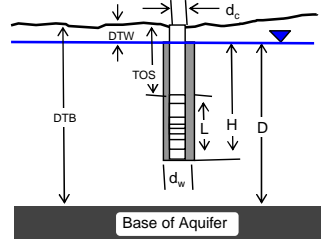
## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	10 Feet
<b>Depths to:</b>	
water level (DTW)	5.84 Feet
top of screen (TOS)	17 Feet
Base of Aquifer (DTB)	27 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b> Fine Sand	

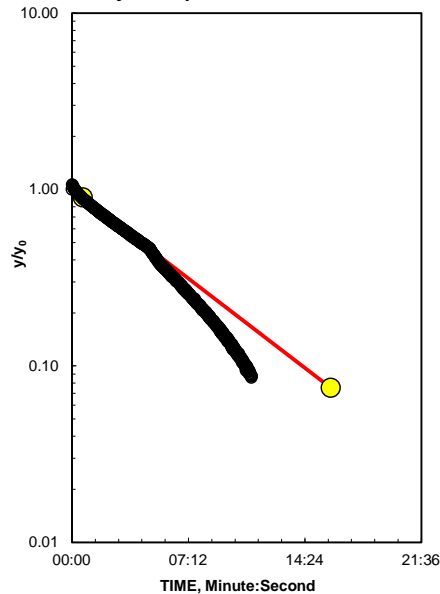
## COMPUTED

$L_{wetted}$	10 Feet
D =	21.16 Feet
H =	21.16 Feet
$L/r_w$	40.00
$y_0$ -DISPLACEMENT =	1.68 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	2.451
$\ln(Re/r_w)$ =	3.235
Re =	6.35 Feet
Slope =	0.001174 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	852 sec
<b>Input is consistent.</b>	
K =	0.26 Feet/Day

Local ID: MW-100i  
Date: 8/4/2020  
Time: 0:00



## Adjust slope of line to estimate K



**K= 0.26 is less than likely minimum of 3 for Fine Sand**

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-100i is screened in a clayey sand layer.

Reduced Data		
Entry	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	22.45
2	0:00:14.0	22.41
3	0:00:28.0	22.32
4	0:00:42.0	22.25
5	0:00:56.0	22.19
6	0:01:10.0	22.13
7	0:01:24.0	22.08
8	0:01:38.0	22.03
9	0:01:52.0	21.98
10	0:02:06.0	21.94
11	0:02:20.0	21.89
12	0:02:34.0	21.86
13	0:02:48.0	21.82
14	0:03:02.0	21.78
15	0:03:16.0	21.75
16	0:03:30.0	21.71
17	0:03:44.0	21.68
18	0:03:58.0	21.65
19	0:04:12.0	21.61
20	0:04:26.0	21.59
21	0:04:40.0	21.56
22	0:04:54.0	21.52
23	0:05:08.0	21.47
24	0:05:22.0	21.42
25	0:05:36.0	21.39
26	0:05:50.0	21.36
27	0:06:04.0	21.33
28	0:06:18.0	21.30
29	0:06:32.0	21.27
30	0:06:46.0	21.24
31	0:07:00.0	21.22
32	0:07:14.0	21.20
33	0:07:28.0	21.17
34	0:07:42.0	21.15
35	0:07:56.0	21.14
36	0:08:10.0	21.11
37	0:08:24.0	21.10
38	0:08:38.0	21.08
39	0:08:52.0	21.06
40	0:09:06.0	21.04
41	0:09:20.0	21.03
42	0:09:34.0	21.01
43	0:09:48.0	21.00
44	#N/A	#N/A
45	#N/A	#N/A

# WELL ID: RTRR - MW-100i - Slug Out 1

MW-100i\_Slug Out 1\_Bouwer-Rice

## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	10 Feet
<b>Depths to:</b>	
water level (DTW)	5.84 Feet
top of screen (TOS)	17 Feet
Base of Aquifer (DTB)	27 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b>	
Fine Sand	

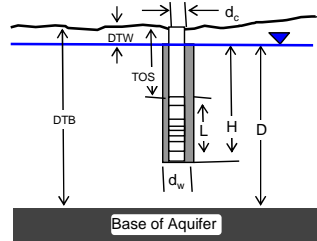
## COMPUTED

$L_{wetter}$	10 Feet
D =	21.16 Feet
H =	21.16 Feet
$L/r_w$	40.00
$y_0$ -DISPLACEMENT =	1.89 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	2.451
$\ln(Re/r_w)$	3.235
Re =	6.35 Feet
Slope =	0.000418 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	2392 sec

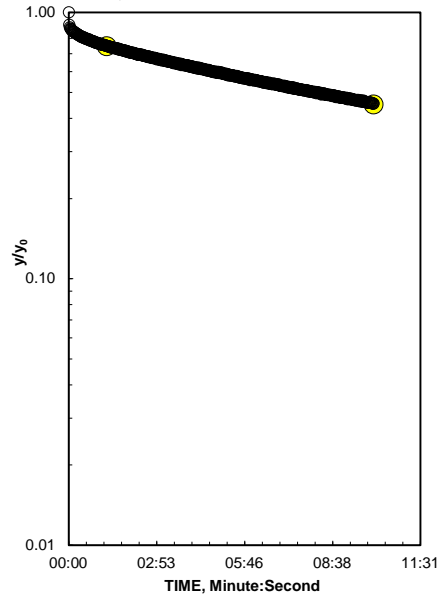
Input is consistent.

K = 0.093 Feet/Day

Local ID: MW-100i  
Date: 8/4/2020  
Time: 0:00



Adjust slope of line to estimate K



K= 0.093 is less than likely minimum of 3 for Fine Sand

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-100i is screened in a clayey sand layer.

Reduced Data		
Entry	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	18.87
2	0:00:13.0	19.18
3	0:00:26.0	19.24
4	0:00:39.0	19.27
5	0:00:52.0	19.30
6	0:01:05.0	19.33
7	0:01:18.0	19.36
8	0:01:31.0	19.38
9	0:01:44.0	19.40
10	0:01:57.0	19.42
11	0:02:10.0	19.44
12	0:02:23.0	19.46
13	0:02:36.0	19.48
14	0:02:49.0	19.49
15	0:03:02.0	19.51
16	0:03:15.0	19.53
17	0:03:28.0	19.54
18	0:03:41.0	19.57
19	0:03:54.0	19.57
20	0:04:07.0	19.59
21	0:04:20.0	19.60
22	0:04:33.0	19.62
23	0:04:46.2	19.64
24	0:04:59.0	19.64
25	0:05:12.0	19.66
26	0:05:25.0	19.67
27	0:05:38.0	19.69
28	0:05:51.3	19.70
29	0:06:04.0	19.71
30	0:06:17.0	19.72
31	0:06:30.0	19.74
32	0:06:43.0	19.75
33	0:06:56.0	19.76
34	0:07:09.0	19.77
35	0:07:22.0	19.79
36	0:07:35.0	19.80
37	0:07:48.0	19.80
38	0:08:01.0	19.82
39	0:08:14.0	19.83
40	0:08:27.0	19.84
41	0:08:40.0	19.84
42	0:08:53.0	19.86
43	0:09:06.0	19.87
44	0:09:19.0	19.87
45	0:09:32.0	19.88

MW-100i\_Slug Out 1\_Bouwer-Rice

# WELL ID: RTRR - MW-101 - Slug In 1

MW-101\_Slug In 1\_Bouwer-Rice

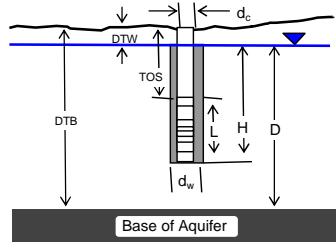
## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	20 Feet
<b>Depths to:</b>	
water level (DTW)	11.7 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	30 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b>	
Fine Sand	

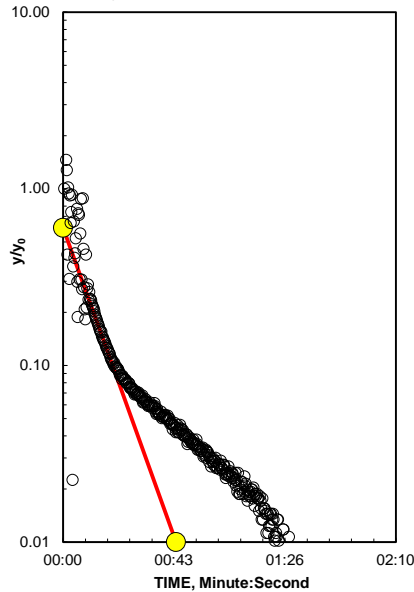
## COMPUTED

$L_{wetted}$	18.3 Feet
D =	18.3 Feet
H =	18.3 Feet
$L/r_w$	73.20
$y_0$ -DISPLACEMENT =	1.87 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	3.492
$\ln(Re/r_w)$	3.290
Re =	6.71 Feet
Slope =	0.040413 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	25 sec
<b>Input is consistent.</b>	
K =	5 Feet/Day

Local ID: MW-101  
Date: 8/4/2020  
Time: 0:00



## Adjust slope of line to estimate K



## REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-101 is screened in a clayey sand.

## Reduced Data

Entry	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	13.30
2	0:00:02.4	13.97
3	0:00:04.4	14.19
4	0:00:06.4	13.53
5	0:00:08.4	14.37
6	0:00:10.4	14.73
7	0:00:12.4	14.82
8	0:00:14.4	14.88
9	0:00:16.4	14.93
10	0:00:18.4	14.97
11	0:00:20.4	14.98
12	0:00:22.4	15.01
13	0:00:24.4	15.02
14	0:00:26.4	15.03
15	0:00:28.4	15.04
16	0:00:30.4	15.04
17	0:00:32.4	15.05
18	0:00:34.4	15.06
19	0:00:36.4	15.06
20	0:00:38.4	15.07
21	0:00:40.4	15.07
22	0:00:42.4	15.08
23	0:00:44.4	15.08
24	0:00:46.4	15.09
25	0:00:48.4	15.09
26	0:00:50.4	15.10
27	0:00:52.4	15.10
28	0:00:54.4	15.11
29	0:00:56.4	15.11
30	0:00:58.4	15.11
31	0:01:00.4	15.11
32	0:01:02.4	15.12
33	0:01:04.4	15.12
34	0:01:06.4	15.12
35	0:01:08.4	15.13
36	0:01:10.4	15.13
37	0:01:12.4	15.13
38	0:01:14.4	15.13
39	0:01:16.4	15.13
40	0:01:18.4	15.14
41	0:01:20.4	15.14
42	0:01:22.4	15.14
43	0:01:24.4	15.15
44	0:01:26.4	15.15
45	0:01:28.4	15.15

MW-101\_Slug In 1\_Bouwer-Rice

# WELL ID: RTRR - MW-101 Slug Out

MW-101 Slug Out\_Bouwer-Rice

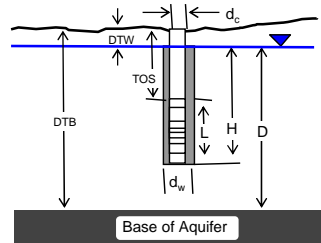
## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	20 Feet
<b>Depths to:</b>	
water level (DTW)	11.7 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	30 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b> Fine Sand	

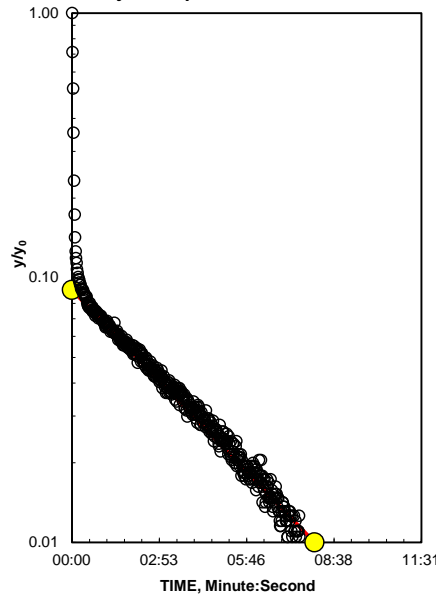
## COMPUTED

$L_{wetted}$	18.3 Feet
$D =$	18.3 Feet
$H =$	18.3 Feet
$L/r_w =$	73.20
$y_0-DISPLACEMENT =$	1.91 Feet
$y_0-SLUG =$	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	3.492
$\ln(Re/r_w) =$	3.290
$Re =$	6.71 Feet
Slope =	0.001988 $\log_{10}/\text{sec}$
$t_{90\% \text{ recovery}} =$	503 sec
<b>Input is consistent.</b>	
$K =$	0.25 Feet/Day

Local ID: MW-101  
Date: 8/4/2020  
Time:



Adjust slope of line to estimate K



**K= 0.25 is less than likely minimum of 3 for Fine Sand**

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-101 is screened in a clayey sand.

Entry	Reduced Data	
	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	17.28
2	0:00:11.0	15.57
3	0:00:22.0	15.54
4	0:00:33.0	15.52
5	0:00:44.0	15.51
6	0:00:55.0	15.51
7	0:01:06.1	15.49
8	0:01:17.0	15.49
9	0:01:28.0	15.49
10	0:01:39.0	15.48
11	0:01:50.0	15.47
12	0:02:01.2	15.47
13	0:02:12.0	15.47
14	0:02:23.0	15.46
15	0:02:34.0	15.46
16	0:02:45.0	15.45
17	0:02:56.0	15.45
18	0:03:07.0	15.45
19	0:03:18.0	15.44
20	0:03:29.0	15.44
21	0:03:40.0	15.44
22	0:03:51.0	15.43
23	0:04:02.0	15.43
24	0:04:13.0	15.43
25	0:04:24.0	15.42
26	0:04:35.0	15.42
27	0:04:46.0	15.42
28	0:04:57.0	15.42
29	0:05:08.0	15.41
30	0:05:19.0	15.42
31	0:05:30.0	15.41
32	0:05:41.0	15.40
33	0:05:52.0	15.40
34	0:06:03.0	15.41
35	0:06:14.0	15.41
36	0:06:25.0	15.40
37	0:06:36.0	15.40
38	0:06:47.0	15.40
39	0:06:58.0	15.40
40	0:07:09.0	15.40
41	0:07:20.0	15.39
42	0:07:31.0	15.39
43	0:07:42.0	15.39
44	0:07:53.0	15.39
45	0:08:04.0	15.38

MW-101 Slug Out\_Bouwer-Rice

# WELL ID: RTRR - MW-104 Slug In 1

MW-104 Slug In 1\_Bouwer-Rice

## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	10 Feet
<b>Depths to:</b>	
water level (DTW)	10.96 Feet
top of screen (TOS)	9 Feet
Base of Aquifer (DTB)	19 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b>	
Fine Sand	

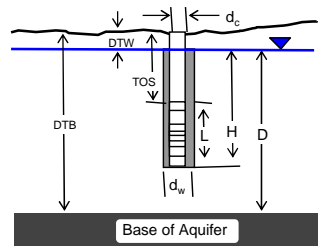
## COMPUTED

$L_{wetted}$	8.04 Feet
D =	8.04 Feet
H =	8.04 Feet
$L/r_w$	32.16
$y_0$ -DISPLACEMENT =	1.62 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	2.170
$\ln(Re/r_w)$	2.601
Re =	3.37 Feet
Slope =	0.0157 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	64 sec

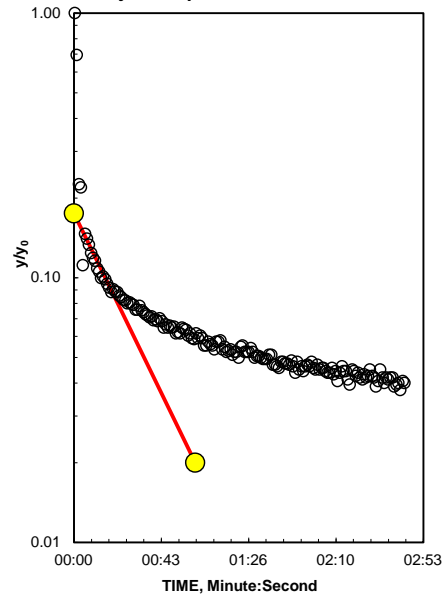
Input is consistent.

K = 3.5 Feet/Day

Local ID: MW-104  
Date: 8/4/2020  
Time:



Adjust slope of line to estimate K



Entry	Reduced Data	
	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	12.67
2	0:00:03.0	13.93
3	0:00:06.0	14.06
4	0:00:09.0	14.10
5	0:00:12.0	14.12
6	0:00:15.0	14.13
7	0:00:18.0	14.15
8	0:00:21.0	14.15
9	0:00:24.0	14.16
10	0:00:27.0	14.16
11	0:00:30.0	14.17
12	0:00:33.0	14.17
13	0:00:36.0	14.17
14	0:00:39.0	14.18
15	0:00:42.0	14.18
16	0:00:45.0	14.18
17	0:00:48.0	14.19
18	0:00:51.0	14.19
19	0:00:54.0	14.19
20	0:00:57.0	14.19
21	0:01:00.0	14.19
22	0:01:03.0	14.19
23	0:01:06.0	14.20
24	0:01:09.0	14.20
25	0:01:12.1	14.20
26	0:01:15.0	14.21
27	0:01:18.0	14.21
28	0:01:21.0	14.21
29	0:01:24.0	14.21
30	0:01:27.1	14.20
31	0:01:30.0	14.21
32	0:01:33.0	14.21
33	0:01:36.0	14.21
34	0:01:39.0	14.21
35	0:01:42.1	14.21
36	0:01:45.0	14.21
37	0:01:48.0	14.22
38	0:01:51.0	14.22
39	0:01:54.0	14.22
40	0:01:57.2	14.21
41	0:02:00.0	14.21
42	0:02:03.0	14.22
43	0:02:06.0	14.22
44	0:02:09.0	14.22
45	0:02:12.2	14.22

## REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-104 is screened in clayey sand.

MW-104 Slug In 1\_Bouwer-Rice

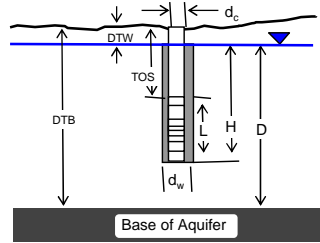
# WELL ID: RTRR - MW-109D Slug In 1

MW-109D Slug in 1\_Bouwer-Rice

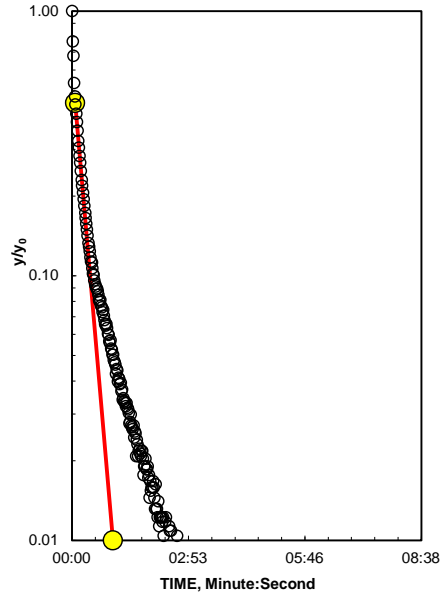
INPUT	
<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	5 Feet
<b>Depths to:</b>	
water level (DTW)	20 Feet
top of screen (TOS)	28.9 Feet
Base of Aquifer (DTB)	33.9 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b> Fine Sand	

COMPUTED	
$L_{wetted}$	5 Feet
D =	13.9 Feet
H =	13.9 Feet
$L/r_w$	20.00
$y_0$ -DISPLACEMENT =	2.21 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	1.726
$\ln(Re/r_w)$	2.777
Re =	4.02 Feet
Slope =	0.029522 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	34 sec
<b>Input is consistent.</b>	
K =	11 Feet/Day

Local ID: RTRR  
Date: 8/4/2020  
Time:



Adjust slope of line to estimate K



Reduced Data		
Entry	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	21.61
2	0:00:10.0	23.14
3	0:00:20.0	23.45
4	0:00:30.0	23.58
5	0:00:40.0	23.64
6	0:00:50.0	23.67
7	0:01:00.0	23.71
8	0:01:10.0	23.73
9	0:01:20.0	23.75
10	0:01:30.0	23.76
11	0:01:40.0	23.77
12	0:01:50.0	23.78
13	0:02:00.0	23.78
14	0:02:10.0	23.79
15	0:02:20.0	23.80
16	0:02:30.0	23.80
17	0:02:40.0	23.80
18	0:02:50.0	23.80
19	0:03:00.0	23.80
20	0:03:10.0	23.81
21	0:03:20.0	23.80
22	0:03:30.0	23.81
23	0:03:40.0	23.81
24	0:03:50.0	23.81
25	0:04:00.0	23.81
26	0:04:10.0	23.81
27	0:04:20.1	23.81
28	0:04:30.0	23.80
29	0:04:40.0	23.81
30	0:04:50.0	23.81
31	0:05:00.0	23.81
32	0:05:10.0	23.80
33	0:05:20.0	23.81
34	0:05:30.0	23.81
35	0:05:40.0	23.81
36	0:05:50.0	23.81
37	0:06:00.0	23.81
38	0:06:10.0	23.81
39	0:06:20.0	23.81
40	0:06:30.0	23.81
41	0:06:40.0	23.81
42	0:06:50.0	23.81
43	0:07:00.0	23.81
44	0:07:10.0	23.81
45	0:07:20.0	23.81

## REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-109D is screened in a fine sand layer. MW-109D and MW-109s are screened in the same water bearing zone.

MW-109D Slug in 1\_Bouwer-Rice



# WELL ID: RTRR - MW-109D Slug Out 1

MW-109D Slug Out 1\_Bouwer-Rice

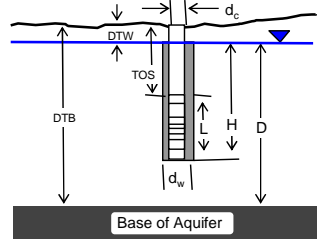
INPUT	
<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	5 Feet
<b>Depths to:</b>	
water level (DTW)	20 Feet
top of screen (TOS)	28.9 Feet
Base of Aquifer (DTB)	33.9 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b> Fine Sand	

COMPUTED	
$L_{wetted}$	5 Feet
D =	13.9 Feet
H =	13.9 Feet
$L/r_w$	20.00
$y_0$ -DISPLACEMENT =	1.67 Feet
$y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	1.726
$\ln(Re/r_w)$	2.777
Re =	4.02 Feet
Slope =	0.02891 $\log_{10}/\text{sec}$
$t_{90\%}$ recovery =	35 sec
<b>Input is consistent.</b>	
<b>K = 11 Feet/Day</b>	

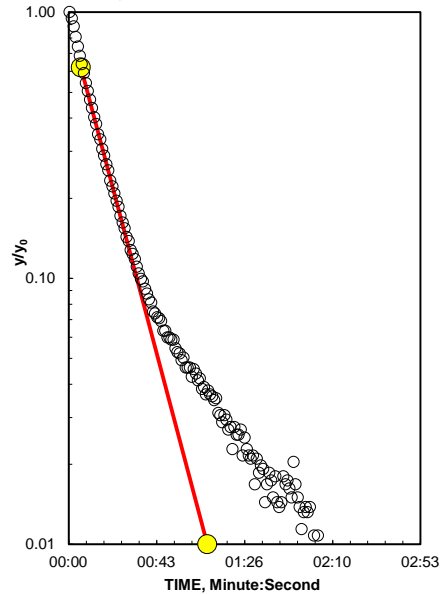
Local ID: MW-109D

Date: 8/4/2020

Time:



Adjust slope of line to estimate K



Reduced Data		
Entry	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	25.58
2	0:00:03.0	25.25
3	0:00:06.0	24.97
4	0:00:09.0	24.75
5	0:00:12.0	24.58
6	0:00:15.0	24.46
7	0:00:18.0	24.35
8	0:00:21.0	24.28
9	0:00:24.0	24.22
10	0:00:27.0	24.16
11	0:00:30.0	24.12
12	0:00:33.0	24.09
13	0:00:36.0	24.07
14	0:00:39.0	24.05
15	0:00:42.0	24.03
16	0:00:45.0	24.02
17	0:00:48.0	24.01
18	0:00:51.0	24.01
19	0:00:54.0	23.99
20	0:00:57.0	23.98
21	0:01:00.0	23.98
22	0:01:03.0	23.98
23	0:01:06.0	23.97
24	0:01:09.0	23.97
25	0:01:12.0	23.97
26	0:01:15.0	23.96
27	0:01:18.0	23.95
28	0:01:21.0	23.95
29	0:01:24.0	23.95
30	0:01:27.0	23.95
31	0:01:30.0	23.94
32	0:01:33.0	23.94
33	0:01:36.0	23.93
34	0:01:39.1	23.94
35	0:01:42.0	23.93
36	0:01:45.0	23.94
37	0:01:48.0	23.93
38	0:01:51.0	23.94
39	0:01:54.0	23.93
40	0:01:57.0	23.93
41	0:02:00.0	23.93
42	0:02:03.0	23.92
43	0:02:06.0	23.92
44	0:02:09.0	23.92
45	0:02:12.0	23.92

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-109D is screened in a fine sand layer. MW-109D and MW-109s are screened in the same water bearing zone.

MW-109D Slug Out 1\_Bouwer-Rice

# WELL ID: RTRR - MW-109D - Slug In 2

MW-109D Slug in 2\_Bouwer-Rice

INPUT	
<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	5 Feet
<b>Depths to:</b>	
water level (DTW)	20 Feet
top of screen (TOS)	28.9 Feet
Base of Aquifer (DTB)	33.9 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b> Fine Sand	

COMPUTED	
$L_{wetted}$	5 Feet
D =	13.9 Feet
H =	13.9 Feet
$L/r_w$ =	20.00
$Y_0$ -DISPLACEMENT =	2.39 Feet
$Y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	

Fully penetrate C = 1.726  
 $\ln(Re/r_w) = 2.777$   
 $Re = 4.02$  Feet

Slope = 0.047641  $\log_{10}/\text{sec}$   
 $t_{90\%}$  recovery = 21 sec

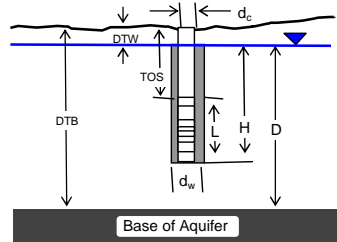
**Input is consistent.**

**K = 18 Feet/Day**

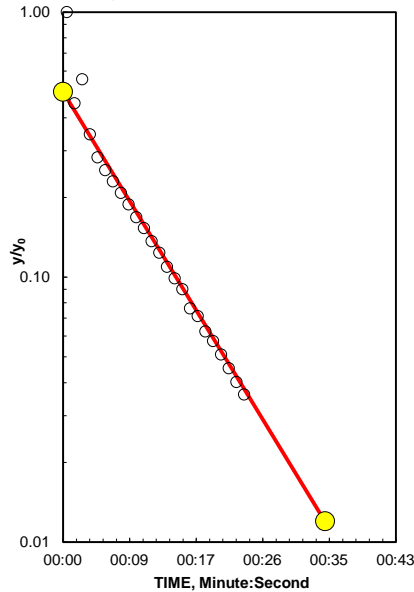
Local ID: MW-109D

Date: 8/4/2020

Time:



Adjust slope of line to estimate K



Entry	Reduced Data	
	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	21.41
2	0:00:01.0	22.72
3	0:00:02.0	22.47
4	0:00:03.0	22.98
5	0:00:04.0	23.13
6	0:00:05.0	23.20
7	0:00:06.0	23.25
8	0:00:07.0	23.30
9	0:00:08.0	23.35
10	0:00:09.0	23.40
11	0:00:10.0	23.44
12	0:00:11.0	23.47
13	0:00:12.0	23.51
14	0:00:13.0	23.54
15	0:00:14.0	23.56
16	0:00:15.0	23.59
17	0:00:16.0	23.62
18	0:00:17.0	23.63
19	0:00:18.0	23.65
20	0:00:19.0	23.66
21	0:00:20.0	23.68
22	0:00:21.0	23.69
23	0:00:22.0	23.70

## REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-109D is screened in a fine sand layer. MW-109D and MW-109s are screened in the same water bearing zone.

## WELL ID: RTRR - MW109D Slug Out 2

## INPUT

<b>Construction:</b>	
Casing dia. ( $d_c$ )	2 Inch
Annulus dia. ( $d_w$ )	6 Inch
Screen Length (L)	5 Feet
<b>Depths to:</b>	
water level (DTW)	23.94 Feet
top of screen (TOS)	28.9 Feet
Base of Aquifer (DTB)	33.9 Feet
<b>Annular Fill:</b>	
across screen --	Coarse Sand
above screen --	Bentonite
<b>Aquifer Material --</b>	
Fine Sand	

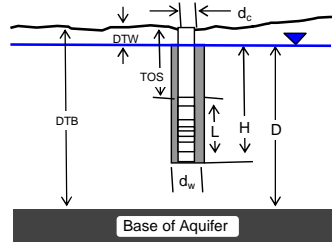
## COMPUTED

$L_{wetted}$	5 Feet
D =	9.96 Feet
H =	9.96 Feet
$L/r_w$ =	20.00
$Y_0$ -DISPLACEMENT =	1.68 Feet
$Y_0$ -SLUG =	1.95 Feet
From look-up table using $L/r_w$	
Fully penetrate C =	1.726
$\ln(Re/r_w)$ =	2.598
Re =	3.36 Feet
Slope =	$0.031651 \log_{10}/\text{sec}$
$t_{90\%}$ recovery =	32 sec
<b>Input is consistent.</b>	
<b>K = 11 Feet/Day</b>	

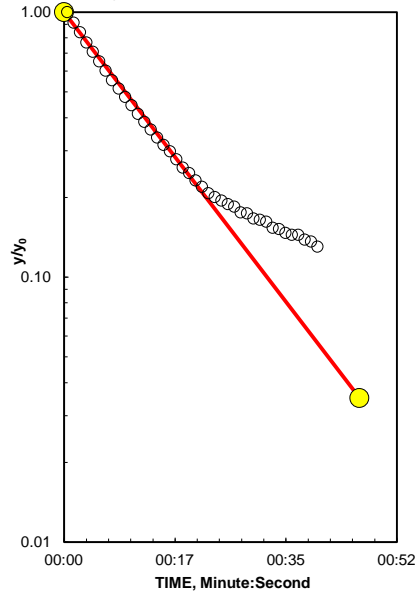
Local ID: MW-109D

Date: 8/4/2020

Time: 0:00



Adjust slope of line to estimate K



## Reduced Data

Entry	Time, Hr:Min:Sec	Water Level
1	0:00:00.0	25.56
2	0:00:01.0	25.42
3	0:00:02.0	25.29
4	0:00:03.0	25.17
5	0:00:04.0	25.07
6	0:00:05.0	24.98
7	0:00:06.0	24.89
8	0:00:07.0	24.81
9	0:00:08.0	24.75
10	0:00:09.0	24.69
11	0:00:10.0	24.63
12	0:00:11.0	24.58
13	0:00:12.0	24.53
14	0:00:13.0	24.49
15	0:00:14.0	24.45
16	0:00:15.0	24.41
17	0:00:16.0	24.38
18	0:00:17.0	24.35
19	0:00:18.0	24.32
20	0:00:19.0	24.30
21	0:00:20.0	24.27
22	0:00:21.0	24.25
23	0:00:22.0	24.23
24	0:00:23.0	24.22
25	0:00:24.0	24.21
26	0:00:25.0	24.20
27	0:00:26.0	24.19
28	0:00:27.0	24.18
29	0:00:28.0	24.17
30	0:00:29.0	24.16
31	0:00:30.0	24.16
32	0:00:31.0	24.15
33	0:00:32.0	24.14
34	0:00:33.0	24.14
35	0:00:34.0	24.13
36	0:00:35.0	24.12
37	0:00:36.0	24.12
38	0:00:37.0	24.11
39	0:00:38.0	24.11

## REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

MW-109D is screened in a fine sand layer. MW-109D and MW-109s are screened in the same water bearing zone.

## **Attachment C**

### **Laboratory Analytical Reports and Chain of Custody Forms**



Thursday, December 26, 2019

Fibertec Project Number: 94159  
Project Identification: 1-10860 /1-10860  
Submittal Date: 12/12/2019

Ms. Allison Rogowski  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Ms. Rogowski,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Wallace".

*By Stephanie Wallace at 1:29 PM, Dec 26, 2019*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 94159  
Laboratory Sample Number: 94159-001

Order: 94159  
Page: 2 of 8  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-121119	Chain of Custody:	184895
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94159-001D Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	12/17/19	PW19L17C	12/17/19	WQ19L17A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94159-001E Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	33		µg/L	5.0	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
2. Barium	U		µg/L	100	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
3. Chromium	U		µg/L	10	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
4. Copper	U		µg/L	4.0	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
5. Lead	U		µg/L	3.0	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
6. Manganese	U		µg/L	50	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
7. Nickel	U		µg/L	20	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
8. Selenium	U		µg/L	5.0	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
9. Silver	U		µg/L	0.20	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA
10. Vanadium	4.6		µg/L	4.0	10	12/16/19	PT19L16D	12/20/19	T419L20C	CJA
11. Zinc	U		µg/L	50	10	12/16/19	PT19L16D	12/17/19	T419L17A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94159-001E Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94159-001 Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94159  
Laboratory Sample Number: 94159-001

Order: 94159  
Page: 3 of 8  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-121119	Chain of Custody:	184895
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94159-001 Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94159-001F Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 2. Acrylonitrile	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
3. Benzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
4. Bromobenzene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
5. Bromochloromethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
6. Bromodichloromethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
7. Bromoform	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
8. Bromomethane	U		µg/L	10	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
9. 2-Butanone	U		µg/L	25	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
10. n-Butylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
11. sec-Butylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
12. tert-Butylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
14. Carbon Tetrachloride	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
15. Chlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
16. Chloroethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
17. Chloroform	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
18. Chloromethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
22. Dibromomethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
27. 1,1-Dichloroethane	15		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94159  
Laboratory Sample Number: 94159-001

Order: 94159  
Page: 4 of 8  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-121119	Chain of Custody:	184895
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94159-001F Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
35. Ethylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
36. Ethylene Dibromide	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
37. 2-Hexanone	U		µg/L	50	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	15	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
42. MTBE	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
43. Naphthalene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
44. n-Propylbenzene	U	L+	µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
45. Styrene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
48. Tetrachloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
49. Toluene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	10	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
53. Trichloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
54. Trichlorofluoromethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
59. Vinyl Chloride	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
60. m&p-Xylene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
61. o-Xylene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 62. Xylenes	U		µg/L	7.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94159  
Laboratory Sample Number: 94159-001

Order: 94159  
Page: 5 of 8  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-121119	Chain of Custody:	184895
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94159-001  
Description: MW-104-121119  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
3. Aniline	U	L+	µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
28. 2,4-Dimethylphenol	630		µg/L	20	20	12/16/19	PS19L16D	12/17/19	S519L17B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94159  
Laboratory Sample Number: 94159-001

Order: 94159  
Page: 6 of 8  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-121119	Chain of Custody:	184895
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94159-001 Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
43. 2-Methylphenol	10		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 44. 3&4-Methylphenol	70		µg/L	10	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
61. Pyridine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94159-001B Matrix: Ground Water  
Description: MW-104-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.0	H	pH Units	-1.00	1.0	NA	NA	12/18/19 14:21	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94159  
Laboratory Sample Number: 94159-001

Order: 94159  
Page: 7 of 8  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-104-121119</b>	Chain of Custody:	<b>184895</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/11/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:00</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94159-001B** **Matrix: Ground Water**  
**Description: MW-104-121119**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>300000</b>		µg/L	10000	5.0	12/17/19	PW19L16B	12/17/19	WC19L16A	SEM

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94159-001A** **Matrix: Ground Water**  
**Description: MW-104-121119**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>860000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94159-001C** **Matrix: Ground Water**  
**Description: MW-104-121119**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>24000</b>		µg/L	50	5.0	12/17/19	PW19L17B	12/17/19	WU19L17B	SEM

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

- H** : Hold time exceeded.  
**L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.  
**L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.  
**V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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1914 Holloway Drive  
11766 E. Grand River  
8660 S. Mackinaw Trail

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F: (517) 699-0388  
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F: (231) 775-8584



Thursday, December 26, 2019

Fibertec Project Number: 94161  
Project Identification: 1-10860 /1-10860  
Submittal Date: 12/12/2019

Ms. Allison Rogowski  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Ms. Rogowski,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Upon receipt, the pH for sample 3's metals container exceeded criteria of  $\leq 2$  and was adjusted in the lab.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Wallace".

*By Stephannie Wallace at 1:24 PM, Dec 26, 2019*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-001

Order: 94161  
Page: 2 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100S-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94161-001D Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0065		mg/L	0.0050	1.0	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94161-001E Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	38		µg/L	5.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
2. Barium	120		µg/L	100	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94161-001E Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18C	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94161-001 Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
2. Aroclor-1221	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
3. Aroclor-1232	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
4. Aroclor-1242	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
5. Aroclor-1248	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
6. Aroclor-1254	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
7. Aroclor-1260	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-001

Order: 94161  
Page: 3 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100S-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94161-001 Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK
‡ 9. Aroclor-1268	U	G-	µg/L	0.20	1.1	12/17/19	PS19L17F	12/18/19	SA19L18A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94161-001F Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/L	50	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
3. Benzene	13	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
4. Bromobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
5. Bromochloromethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
6. Bromodichloromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
7. Bromoform	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
8. Bromomethane	U	Y1	µg/L	25	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
9. 2-Butanone	U	Y1	µg/L	25	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
10. n-Butylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
11. sec-Butylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
15. Chlorobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
16. Chloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
17. Chloroform	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
18. Chloromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-001

Order: 94161  
Page: 4 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100S-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94161-001F Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	5.5	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
37. 2-Hexanone	U	Y1	µg/L	50	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 41. 2-Methylnaphthalene	5.5	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
42. MTBE	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
43. Naphthalene	42	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
45. Styrene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
49. Toluene	4.0	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
52. 1,1,2-Trichloroethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 56. 1,2,3-Trimethylbenzene	3.3	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
58. 1,3,5-Trimethylbenzene	4.8	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
59. Vinyl Chloride	7.5	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
60. m&p-Xylene	9.9	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
61. o-Xylene	4.7	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 62. Xylenes	15	Y1	µg/L	7.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-001

Order: 94161  
Page: 5 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100S-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94161-001 Matrix: Ground Water  
Description: MW-100S-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
3. Aniline	U	L+	µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
28. 2,4-Dimethylphenol	18		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
33. Fluoranthene	1.1		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-001

Order: 94161  
Page: 6 of 20  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100S-121019</b>	Chain of Custody:	<b>184894</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/10/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 94161-001** **Matrix: Ground Water**  
**Description: MW-100S-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 44. 3&4-Methylphenol	17		µg/L	10	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
45. Naphthalene	26		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
58. Phenanthrene	4.4		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
59. Phenol	12		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
61. Pyridine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 94161-001B** **Matrix: Ground Water**  
**Description: MW-100S-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	12/18/19 14:24	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-001

Order: 94161  
Page: 7 of 20  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100S-121019</b>	Chain of Custody:	<b>184894</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/10/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94161-001B** **Matrix: Ground Water**  
**Description: MW-100S-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>54000</b>		µg/L	10000	1.0	12/16/19	PW19L16B	12/16/19	WC19L16A	SEM

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94161-001A** **Matrix: Ground Water**  
**Description: MW-100S-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1300000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94161-001C** **Matrix: Ground Water**  
**Description: MW-100S-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>9000</b>		µg/L	10	1.0	12/17/19	PW19L17B	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-002

Order: 94161  
Page: 8 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94161-002D Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.74		mg/L	0.050	10	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94161-002E Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	100		µg/L	5.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
2. Barium	U		µg/L	100	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
5. Lead	3.3		µg/L	3.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
6. Manganese	86		µg/L	50	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
8. Selenium	6.4		µg/L	5.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
10. Vanadium	12		µg/L	4.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94161-002E Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18C	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94161-002 Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-002

Order: 94161  
Page: 9 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94161-002 Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/18/19	SF19L18A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94161-002F Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 2. Acrylonitrile	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
3. Benzene	38		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
4. Bromobenzene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
5. Bromochloromethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
6. Bromodichloromethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
7. Bromoform	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
8. Bromomethane	U		µg/L	10	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
9. 2-Butanone	U		µg/L	25	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
10. n-Butylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
11. sec-Butylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
12. tert-Butylbenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
13. Carbon Disulfide	34		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
14. Carbon Tetrachloride	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
15. Chlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
16. Chloroethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
17. Chloroform	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
18. Chloromethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
22. Dibromomethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
27. 1,1-Dichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-002

Order: 94161  
Page: 10 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94161-002F Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	21		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
35. Ethylbenzene	3.1		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
36. Ethylene Dibromide	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
37. 2-Hexanone	U		µg/L	50	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	15	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
42. MTBE	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
43. Naphthalene	25		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
44. n-Propylbenzene	U	L+	µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
45. Styrene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
48. Tetrachloroethene	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
49. Toluene	7.5		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	10	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
53. Trichloroethene	5.0		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
54. Trichlorofluoromethane	U		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	6.0		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
57. 1,2,4-Trimethylbenzene	8.0		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
58. 1,3,5-Trimethylbenzene	12	E1	µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
59. Vinyl Chloride	29		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
60. m&p-Xylene	17		µg/L	5.0	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
61. o-Xylene	7.8		µg/L	2.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ
‡ 62. Xylenes	25		µg/L	7.5	5.0	12/16/19	VM19L16A	12/16/19	VM19L16A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-002

Order: 94161  
Page: 11 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94161-002 Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
3. Aniline	U	L+	µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 18. Carbazole	12		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
28. 2,4-Dimethylphenol	24		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
33. Fluoranthene	1.9		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-002

Order: 94161  
Page: 12 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94161-002 Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
43. 2-Methylphenol	18		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 44. 3&4-Methylphenol	110		µg/L	10	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
45. Naphthalene	17		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
58. Phenanthrene	3.4		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
59. Phenol	77		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
61. Pyridine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94161-002B Matrix: Ground Water  
Description: MW-100i-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.7	H	pH Units	-1.00	1.0	NA	NA	12/18/19 14:25	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-002

Order: 94161  
Page: 13 of 20  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100i-121019</b>	Chain of Custody:	<b>184894</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/10/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:05</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94161-002B** **Matrix: Ground Water**  
**Description: MW-100i-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>200000</b>		µg/L	10000	5.0	12/17/19	PW19L16B	12/17/19	WC19L16A	SEM

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94161-002A** **Matrix: Ground Water**  
**Description: MW-100i-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>2100000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94161-002C** **Matrix: Ground Water**  
**Description: MW-100i-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>33000</b>		µg/L	50	5.0	12/17/19	PW19L17B	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-003

Order: 94161  
Page: 14 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94161-003D Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94161-003E Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
2. Barium	250		µg/L	100	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
3. Chromium	17		µg/L	10	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
4. Copper	6.4		µg/L	4.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
5. Lead	4.7		µg/L	3.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/17/19	PT19L17C	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94161-003E Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18C	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94161-003 Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-003

Order: 94161  
Page: 15 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94161-003 Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/17/19	PS19L17F	12/17/19	SA19L17A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94161-003F Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/L	50	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
3. Benzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
4. Bromobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
5. Bromochloromethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
6. Bromodichloromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
7. Bromoform	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
8. Bromomethane	U	Y1	µg/L	25	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
9. 2-Butanone	U	Y1	µg/L	25	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
10. n-Butylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
11. sec-Butylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
15. Chlorobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
16. Chloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
17. Chloroform	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
18. Chloromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-003

Order: 94161  
Page: 16 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94161-003F Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
37. 2-Hexanone	U	Y1	µg/L	50	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
42. MTBE	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
43. Naphthalene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
45. Styrene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
49. Toluene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
52. 1,1,2-Trichloroethane	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
59. Vinyl Chloride	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
60. m&p-Xylene	U	Y1	µg/L	5.0	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
61. o-Xylene	U	Y1	µg/L	2.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM
‡ 62. Xylenes	U	Y1	µg/L	7.5	5.0	12/17/19	VP19L17B	12/17/19	VP19L17B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-003

Order: 94161  
Page: 17 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94161-003  
Description: MW-106-121019  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
3. Aniline	U	L+	µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-003

Order: 94161  
Page: 18 of 20  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-121019	Chain of Custody:	184894
Client Project Name:	1-10860	Sample No:		Collect Date:	12/10/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94161-003 Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
61. Pyridine	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
62. 1,2,4-Trichlorobenzene	U	L-	µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/16/19	PS19L16D	12/16/19	S619L16B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94161-003B Matrix: Ground Water  
Description: MW-106-121019

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	E	pH Units	-1.00	1.0	NA	NA	12/18/19 14:32	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94161  
Laboratory Sample Number: 94161-003

Order: 94161  
Page: 19 of 20  
Date: 12/26/19

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-106-121019** Chain of Custody: **184894**  
Client Project Name: **1-10860** Sample No: Collect Date: **12/10/19**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **15:40**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94161-003B** **Matrix: Ground Water**  
**Description: MW-106-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>43000</b>		µg/L	10000	1.0	12/16/19	PW19L16B	12/16/19	WC19L16A	SEM

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94161-003A** **Matrix: Ground Water**  
**Description: MW-106-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1500000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94161-003C** **Matrix: Ground Water**  
**Description: MW-106-121019**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>2000</b>		µg/L	10	1.0	12/17/19	PW19L17B	12/17/19	WU19L17B	SEM

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

- E** : This flag identifies compounds whose response exceed the response of the highest standard in the initial calibration range of the instrument for that specific analysis.  
**E1** : The reported value is estimated due to the presence of interference.  
**G-** : Recovery of the associated Surrogate Compound exceeds the lower control limit. Results may be biased low.  
**H** : Hold time exceeded.  
**L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.  
**L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.  
**V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.  
**Y1** : Sample was diluted due to a sample matrix issue.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Thursday, December 26, 2019

Fibertec Project Number: 94192  
Project Identification: 1-10860 /1-10860  
Submittal Date: 12/13/2019

Ms. Allison Rogowski  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Ms. Rogowski,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Upon receipt, the pH for samples -002, -006, and -008 metals container exceeded criteria of  $\leq 2$  and was adjusted in the lab.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Wallace". The signature is written in a cursive, flowing style.

*By Stephannie Wallace at 1:46 PM, Dec 26, 2019*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-001

Order: 94192  
Page: 2 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-001D Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-001E Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	110		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	3.1		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	190		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	4.0		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-001E Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-001 Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-001

Order: 94192  
Page: 3 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-001 Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-001F Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-001

Order: 94192  
Page: 4 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-001F Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-001

Order: 94192  
Page: 5 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-001  
Description: MW-102D-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-001

Order: 94192  
Page: 6 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-001 Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-001B Matrix: Ground Water  
Description: MW-102D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.18	H	pH Units	-1.00	1.0	NA	NA	12/17/19 00:00	WD19L17A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-001

Order: 94192  
Page: 7 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102D-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:00</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-001B** **Matrix: Ground Water**  
**Description: MW-102D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>15000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-001A** **Matrix: Ground Water**  
**Description: MW-102D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>350000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-001C** **Matrix: Ground Water**  
**Description: MW-102D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>100</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-002

Order: 94192  
Page: 8 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-002D Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.54		mg/L	0.10	20	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-002E Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	440		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	6.4		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	3.4		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	110		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	4.2		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-002E Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-002 Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-002

Order: 94192  
Page: 9 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-002 Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-002F Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	4.7		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-002

Order: 94192  
Page: 10 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-002F Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	22		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	52		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	1.1		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	1.4		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-002

Order: 94192  
Page: 11 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-002  
Description: MW-103-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
28. 2,4-Dimethylphenol	60		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
33. Fluoranthene	1.2		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-002

Order: 94192  
Page: 12 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-002 Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
42. 2-Methylnaphthalene	15		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
45. Naphthalene	24		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
58. Phenanthrene	4.7		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
59. Phenol	7.3		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-002B Matrix: Ground Water  
Description: MW-103-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	12/18/19 14:47	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-002

Order: 94192  
Page: 13 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-002B** **Matrix: Ground Water**  
**Description: MW-103-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	25000		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-002A** **Matrix: Ground Water**  
**Description: MW-103-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	1500000		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-002C** **Matrix: Ground Water**  
**Description: MW-103-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	4100		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-003

Order: 94192  
Page: 14 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-003D Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	4.0		mg/L	0.20	40	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-003E Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6.4		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	U		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	4.9		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-003E Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-003 Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-003

Order: 94192  
Page: 15 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-003 Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-003F Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
3. Benzene	1.6		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
15. Chlorobenzene	1.0		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
23. 1,2-Dichlorobenzene	4.3		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
27. 1,1-Dichloroethane	3.2		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-003

Order: 94192  
Page: 16 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-003F Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 41. 2-Methylnaphthalene	9.6		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
43. Naphthalene	110		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
44. n-Propylbenzene	U	L+	µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
49. Toluene	3.1		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	4.6		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
57. 1,2,4-Trimethylbenzene	3.8		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
58. 1,3,5-Trimethylbenzene	1.4		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
60. m&p-Xylene	3.0		µg/L	2.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
61. o-Xylene	2.9		µg/L	1.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 62. Xylenes	5.9		µg/L	3.0	1.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-003

Order: 94192  
Page: 17 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-003 Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
28. 2,4-Dimethylphenol	180		µg/L	20	20	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-003

Order: 94192  
Page: 18 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-003 Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
42. 2-Methylnaphthalene	5.4		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
43. 2-Methylphenol	8.3		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 44. 3&4-Methylphenol	110		µg/L	10	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
45. Naphthalene	67		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
59. Phenol	24		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-003B Matrix: Ground Water  
Description: MW-107S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.0	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:16	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-003

Order: 94192  
Page: 19 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107S-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:45</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-003B** **Matrix: Ground Water**  
**Description: MW-107S-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>24000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-003A** **Matrix: Ground Water**  
**Description: MW-107S-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>670000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-003C** **Matrix: Ground Water**  
**Description: MW-107S-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>13000</b>		µg/L	20	2.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-004

Order: 94192  
Page: 20 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-004D Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.2		mg/L	0.10	20	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-004E Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	U		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-004E Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-004 Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDk

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-004

Order: 94192  
Page: 21 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-004 Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-004F Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-004

Order: 94192  
Page: 22 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-004F Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-004

Order: 94192  
Page: 23 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-004 Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-004

Order: 94192  
Page: 24 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-004 Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/18/19	S519L18B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-004B Matrix: Ground Water  
Description: MW-107D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.54	H	pH Units	-1.00	1.0	NA	NA	12/17/19 00:00	WD19L17A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-004

Order: 94192  
Page: 25 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107D-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-004B** **Matrix: Ground Water**  
**Description: MW-107D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>22000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-004A** **Matrix: Ground Water**  
**Description: MW-107D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>360000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-004C** **Matrix: Ground Water**  
**Description: MW-107D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>560</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-005

Order: 94192  
Page: 26 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-005D Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.018		mg/L	0.0050	1.0	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-005E Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	390		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	19		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	10		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	15		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-005E Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-005 Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-005

Order: 94192  
Page: 27 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-005  
Description: MW-108-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-005F  
Description: MW-108-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-005

Order: 94192  
Page: 28 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-005F Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-005

Order: 94192  
Page: 29 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-005  
Description: MW-108-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-005

Order: 94192  
Page: 30 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-005 Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-005B Matrix: Ground Water  
Description: MW-108-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:20	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-005

Order: 94192  
Page: 31 of 74  
Date: 12/26/19

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-108-121219** Chain of Custody: **181434**  
Client Project Name: **1-10860** Sample No: Collect Date: **12/12/19**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **13:50**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-005B** **Matrix: Ground Water**  
**Description: MW-108-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>27000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-005A** **Matrix: Ground Water**  
**Description: MW-108-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1200000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-005C** **Matrix: Ground Water**  
**Description: MW-108-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>2000</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-006

Order: 94192  
Page: 32 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-006D Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.026		mg/L	0.0050	1.0	12/17/19	PW19L17C	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-006E Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	490		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-006E Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-006 Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-006

Order: 94192  
Page: 33 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-006 Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-006F Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 2. Acrylonitrile	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
3. Benzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
4. Bromobenzene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
5. Bromochloromethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
6. Bromodichloromethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
7. Bromoform	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
8. Bromomethane	U		µg/L	10	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
9. 2-Butanone	U		µg/L	25	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
10. n-Butylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
11. sec-Butylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
12. tert-Butylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
14. Carbon Tetrachloride	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
15. Chlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
16. Chloroethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
17. Chloroform	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
18. Chloromethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
22. Dibromomethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
27. 1,1-Dichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-006

Order: 94192  
Page: 34 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-006F Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
35. Ethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
36. Ethylene Dibromide	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
37. 2-Hexanone	U		µg/L	50	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	15	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
42. MTBE	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
43. Naphthalene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
44. n-Propylbenzene	U	L+	µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
45. Styrene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
48. Tetrachloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
49. Toluene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	10	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
53. Trichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
54. Trichlorofluoromethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
59. Vinyl Chloride	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
60. m&p-Xylene	5.6		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
61. o-Xylene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 62. Xylenes	U		µg/L	7.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-006

Order: 94192  
Page: 35 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-006 Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-006

Order: 94192  
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Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-006 Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	2.2		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-006B Matrix: Ground Water  
Description: MW-109D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.6	E	pH Units	-1.00	1.0	NA	NA	12/18/19 15:22	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-006

Order: 94192  
Page: 37 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-109D-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:00</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-006B** **Matrix: Ground Water**  
**Description: MW-109D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>30000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-006A** **Matrix: Ground Water**  
**Description: MW-109D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>2000000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-006C** **Matrix: Ground Water**  
**Description: MW-109D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3600</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-007

Order: 94192  
Page: 38 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-007D Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	12/17/19	PW19L17D	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-007E Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	290		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	45		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	4.2		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-007E Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-007 Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-007

Order: 94192  
Page: 39 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-007 Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/20/19	SA19L20A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-007F Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-007

Order: 94192  
Page: 40 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-007F Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-007

Order: 94192  
Page: 41 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-007  
Description: MW-110S-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-007

Order: 94192  
Page: 42 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-007 Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-007B Matrix: Ground Water  
Description: MW-110S-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.3	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:24	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-007

Order: 94192  
Page: 43 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110S-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-007B** **Matrix: Ground Water**  
**Description: MW-110S-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>47000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-007A** **Matrix: Ground Water**  
**Description: MW-110S-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1200000</b>		µg/L	50000	1.3	12/16/19	WH19L16C	12/17/19	WH19L16C	AMW

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-007C** **Matrix: Ground Water**  
**Description: MW-110S-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>4300</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-008

Order: 94192  
Page: 44 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-008D Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	12/17/19	PW19L17D	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-008E Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	520		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	16		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	4.0		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-008E Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-008 Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-008

Order: 94192  
Page: 45 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-008 Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-008F Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 2. Acrylonitrile	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
3. Benzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
4. Bromobenzene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
5. Bromochloromethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
6. Bromodichloromethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
7. Bromoform	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
8. Bromomethane	U		µg/L	10	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
9. 2-Butanone	U		µg/L	25	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
10. n-Butylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
11. sec-Butylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
12. tert-Butylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
14. Carbon Tetrachloride	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
15. Chlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
16. Chloroethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
17. Chloroform	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
18. Chloromethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
22. Dibromomethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
27. 1,1-Dichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
28. 1,2-Dichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
29. 1,1-Dichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-008

Order: 94192  
Page: 46 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-008F Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
32. 1,2-Dichloropropane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
35. Ethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
36. Ethylene Dibromide	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
37. 2-Hexanone	U		µg/L	50	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
40. Methylene Chloride	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	15	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
42. MTBE	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
43. Naphthalene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
44. n-Propylbenzene	U	L+	µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
45. Styrene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
48. Tetrachloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
49. Toluene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	10	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
53. Trichloroethene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
54. Trichlorofluoromethane	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
59. Vinyl Chloride	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
60. m&p-Xylene	U		µg/L	5.0	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
61. o-Xylene	U		µg/L	2.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ
‡ 62. Xylenes	U		µg/L	7.5	5.0	12/19/19	VM19L19A	12/19/19	VM19L19A	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-008

Order: 94192  
Page: 47 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-008 Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-008

Order: 94192  
Page: 48 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-008 Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-008B Matrix: Ground Water  
Description: MW-110D-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	E	pH Units	-1.00	1.0	NA	NA	12/18/19 15:34	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-008

Order: 94192  
Page: 49 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110D-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>16:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-008B** **Matrix: Ground Water**  
**Description: MW-110D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>38000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-008A** **Matrix: Ground Water**  
**Description: MW-110D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1700000</b>	H	µg/L	51000	1.3	12/20/19	WH19L20B	12/23/19	WH19L20B	CMB

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-008C** **Matrix: Ground Water**  
**Description: MW-110D-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3600</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-009

Order: 94192  
Page: 50 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-009D Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.7		mg/L	0.050	10	12/17/19	PW19L17D	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-009E Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	6.0		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	120		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	11		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	54		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-009E Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-009 Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-009

Order: 94192  
Page: 51 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-009 Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-009F Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	3.2		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	1.9	E1	µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-009

Order: 94192  
Page: 52 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-009F Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	5.9		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	11		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	4.3		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	1.7		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	29		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	51		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	13		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	28		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	13		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	41		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-009

Order: 94192  
Page: 53 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-009 Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-009

Order: 94192  
Page: 54 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-009 Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	7.0		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-009B Matrix: Ground Water  
Description: MW-101-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.3	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:45	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-009

Order: 94192  
Page: 55 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-101-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>16:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-009B** **Matrix: Ground Water**  
**Description: MW-101-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>55000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-009A** **Matrix: Ground Water**  
**Description: MW-101-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>500000</b>	H	µg/L	50000	1.3	12/20/19	WH19L20B	12/23/19	WH19L20B	CMB

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-009C** **Matrix: Ground Water**  
**Description: MW-101-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3800</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-010

Order: 94192  
Page: 56 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-010D Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.013		mg/L	0.0050	1.0	12/17/19	PW19L17D	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-010E Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	140		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	33		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	12		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-010E Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-010 Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-010

Order: 94192  
Page: 57 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-010 Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-010F Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-010

Order: 94192  
Page: 58 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-010F Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-010

Order: 94192  
Page: 59 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-010  
Description: TMW-26-121219  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-010

Order: 94192  
Page: 60 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-121219	Chain of Custody:	181434
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-010 Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-010B Matrix: Ground Water  
Description: TMW-26-121219

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.7	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:42	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-010

Order: 94192  
Page: 61 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>TMW-26-121219</b>	Chain of Custody:	<b>181434</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:45</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-010B** **Matrix: Ground Water**  
**Description: TMW-26-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	U		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-010A** **Matrix: Ground Water**  
**Description: TMW-26-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>710000</b>	H	µg/L	51000	1.3	12/20/19	WH19L20B	12/23/19	WH19L20B	CMB

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-010C** **Matrix: Ground Water**  
**Description: TMW-26-121219**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>2700</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-011

Order: 94192  
Page: 62 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUP-MW	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-011D Matrix: Ground Water  
Description: DUP-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	12/17/19	PW19L17D	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-011E Matrix: Ground Water  
Description: DUP-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	290		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	47		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	13		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	U		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-011E Matrix: Ground Water  
Description: DUP-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-011 Matrix: Ground Water  
Description: DUP-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-011

Order: 94192  
Page: 63 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUP-MW	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-011  
Description: DUP-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-011F  
Description: DUP-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-011

Order: 94192  
Page: 64 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUP-MW	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-011F  
Description: DUP-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-011

Order: 94192  
Page: 65 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUP-MW	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/12/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-011  
Description: DUP-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-011

Order: 94192  
Page: 66 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>DUP-MW</b>	Chain of Custody:	<b>181435</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 94192-011**  
**Description: DUP-MW**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 94192-011B**  
**Description: DUP-MW**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:53	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-011

Order: 94192  
Page: 67 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>DUP-MW</b>	Chain of Custody:	<b>181435</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/12/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-011B** **Matrix: Ground Water**  
**Description: DUP-MW**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>48000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-011A** **Matrix: Ground Water**  
**Description: DUP-MW**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1200000</b>	H	µg/L	50000	1.3	12/20/19	WH19L20B	12/23/19	WH19L20B	CMB

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-011C** **Matrix: Ground Water**  
**Description: DUP-MW**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>4300</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-012

Order: 94192  
Page: 68 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-121119	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 94192-012D Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.17		mg/L	0.025	5.0	12/17/19	PW19L17D	12/17/19	WQ19L17C	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 94192-012E Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8.4		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
2. Barium	U		µg/L	100	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
3. Chromium	U		µg/L	10	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
4. Copper	U		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
5. Lead	3.4		µg/L	3.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
6. Manganese	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
7. Nickel	U		µg/L	20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
8. Selenium	U		µg/L	5.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
9. Silver	U		µg/L	0.20	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
10. Vanadium	9.3		µg/L	4.0	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA
11. Zinc	U		µg/L	50	10	12/18/19	PT19L18D	12/19/19	T419L19B	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 94192-012E Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	12/18/19	PM19L18A	12/18/19	M719L18A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-012 Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-012

Order: 94192  
Page: 69 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-121119	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 94192-012 Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	12/19/19	PS19L19A	12/21/19	SF19L21B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-012F Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
3. Benzene	1.1		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
4. Bromobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
5. Bromochloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
7. Bromoform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
8. Bromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
9. 2-Butanone	U		µg/L	25	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
15. Chlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
16. Chloroethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
17. Chloroform	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
18. Chloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
22. Dibromomethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-012

Order: 94192  
Page: 70 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-121119	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 94192-012F Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
35. Ethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
37. 2-Hexanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
40. Methylene Chloride	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
42. MTBE	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
43. Naphthalene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
45. Styrene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
49. Toluene	4.7		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
53. Trichloroethene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
60. m&p-Xylene	U		µg/L	2.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
61. o-Xylene	U		µg/L	1.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/18/19	VB19L18B	12/18/19	VB19L18B	ZJJ

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-012

Order: 94192  
Page: 71 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-121119	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-012 Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
3. Aniline	U	V-	µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
4. Anthracene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
23. Chrysene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
28. 2,4-Dimethylphenol	34		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
34. Fluorene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-012

Order: 94192  
Page: 72 of 74  
Date: 12/26/19

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-121119	Chain of Custody:	181435
Client Project Name:	1-10860	Sample No:		Collect Date:	12/11/19
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 94192-012 Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
40. Isophorone	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
43. 2-Methylphenol	6.6		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
‡ 44. 3&4-Methylphenol	29		µg/L	10	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
59. Phenol	30		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
60. Pyrene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/18/19	PS19L18E	12/19/19	S519L19B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 94192-012B Matrix: Ground Water  
Description: MW-105-121119

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.7	H	pH Units	-1.00	1.0	NA	NA	12/18/19 15:55	WD19L18A	CMB

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Analytical Laboratory Report  
Laboratory Project Number: 94192  
Laboratory Sample Number: 94192-012

Order: 94192  
Page: 73 of 74  
Date: 12/26/19

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-105-121119</b>	Chain of Custody:	<b>181435</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>12/11/19</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 94192-012B** **Matrix: Ground Water**  
**Description: MW-105-121119**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>40000</b>		µg/L	10000	1.0	12/17/19	PW19L17E	12/17/19	WC19L17A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 94192-012A** **Matrix: Ground Water**  
**Description: MW-105-121119**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>610000</b>	H	µg/L	50000	1.3	12/20/19	WH19L20B	12/23/19	WH19L20B	CMB

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 94192-012C** **Matrix: Ground Water**  
**Description: MW-105-121119**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>8000</b>		µg/L	10	1.0	12/17/19	PW19L17A	12/17/19	WU19L17B	SEM

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

- E** : This flag identifies compounds whose response exceed the response of the highest standard in the initial calibration range of the instrument for that specific analysis.  
**E1** : The reported value is estimated due to the presence of interference.  
**H** : Hold time exceeded.  
**L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.  
**L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.  
**V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Tuesday, April 07, 2020

Fibertec Project Number: 95575  
Project Identification: 1-10860 /1-10860  
Submittal Date: 03/20/2020

Ms. Allison Rogowski  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Ms. Rogowski,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink, appearing to read "Rikki Lott". The signature is fluid and cursive.

By Rikki Lott at 3:30 PM, Apr 07, 2020

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-001

Order: 95575  
Page: 2 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 95575-001C Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	3.2		mg/L	0.50	100	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 95575-001D Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	18		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	U		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	U		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	U		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 95575-001D Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-001 Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-001

Order: 95575  
Page: 3 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-001 Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-001E Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
3. Benzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
5. Bromochloromethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
7. Bromoform	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
8. Bromomethane	U	Y1	µg/L	10	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
9. 2-Butanone	U	Y1	µg/L	25	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
14. Carbon Tetrachloride	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
16. Chloroethane	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
17. Chloroform	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
18. Chloromethane	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
27. 1,1-Dichloroethane	21	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-001

Order: 95575  
Page: 4 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-001E Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
37. 2-Hexanone	U	Y1	µg/L	50	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	15	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
42. MTBE	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
43. Naphthalene	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
45. Styrene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
49. Toluene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	10	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
59. Vinyl Chloride	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
60. m&p-Xylene	U	Y1	µg/L	5.0	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
61. o-Xylene	U	Y1	µg/L	2.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 62. Xylenes	U	Y1	µg/L	7.5	5.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-001

Order: 95575  
Page: 5 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-001  
Description: MW-104-031820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	360		µg/L	20	20	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-001

Order: 95575  
Page: 6 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-001 Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	10		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	98		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	U	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-001A Matrix: Ground Water  
Description: MW-104-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.0	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:32	WD20C24C	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-001

Order: 95575  
Page: 7 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-104-031820</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/18/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:10</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-001A** **Matrix: Ground Water**  
**Description: MW-104-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>310000</b>		µg/L	10000	5.0	03/25/20	PW20C24B	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-001A** **Matrix: Ground Water**  
**Description: MW-104-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>920000</b>		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-001B** **Matrix: Ground Water**  
**Description: MW-104-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>19000</b>		µg/L	20	2.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-002

Order: 95575  
Page: 8 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 95575-002C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.2		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 95575-002D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5.5		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	130		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	U		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	U		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

**Mercury by CVAAS, Total** Aliquot ID: 95575-002D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 95575-002 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-002

Order: 95575  
Page: 9 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-002  
Description: MW-101-031820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-002E  
Description: MW-101-031820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
10. n-Butylbenzene	2.7	E1	µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
11. sec-Butylbenzene	1.7	E1	µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-002

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-002E Matrix: Ground Water  
Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
35. Ethylbenzene	5.1		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
43. Naphthalene	7.6		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
44. n-Propylbenzene	4.1		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
49. Toluene	1.6		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 56. 1,2,3-Trimethylbenzene	25		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
57. 1,2,4-Trimethylbenzene	40		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
58. 1,3,5-Trimethylbenzene	11		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
60. m&p-Xylene	23		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
61. o-Xylene	10.0		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 62. Xylenes	33		µg/L	3.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-002

Order: 95575  
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Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-101-031820** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/18/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **14:00**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-002 Matrix: Ground Water  
Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
2. Acenaphthylene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
3. Aniline	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
4. Anthracene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
6. Benzo(a)anthracene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
7. Benzo(a)pyrene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
9. Benzo(ghi)perylene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
11. Benzyl Alcohol	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
‡ 18. Carbazole	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
23. Chrysene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
25. Dibenzofuran	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
30. 2,4-Dinitrophenol	U		µg/L	100	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
33. Fluoranthene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
34. Fluorene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
36. Hexachlorobutadiene	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-002

Order: 95575  
Page: 12 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-002 Matrix: Ground Water  
Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
40. Isophorone	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	50	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
43. 2-Methylphenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
45. Naphthalene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
46. 2-Nitroaniline	U		µg/L	20	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
47. 3-Nitroaniline	U		µg/L	20	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
49. Nitrobenzene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
51. 4-Nitrophenol	U	L+	µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
52. N-Nitrosodimethylamine	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
57. Pentachlorophenol	U	V-	µg/L	100	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
58. Phenanthrene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
59. Phenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
60. Pyrene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
61. Pyridine	U	L-	µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-002A Matrix: Ground Water  
Description: MW-101-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.7	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:35	WD20C24C	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-002

Order: 95575  
Page: 13 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-101-031820</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/18/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:00</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-002A** **Matrix: Ground Water**  
**Description: MW-101-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>64000</b>		µg/L	10000	1.0	03/24/20	PW20C24B	03/24/20	WC20C24A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-002A** **Matrix: Ground Water**  
**Description: MW-101-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>520000</b>		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-002B** **Matrix: Ground Water**  
**Description: MW-101-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3200</b>		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-003

Order: 95575  
Page: 14 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-003C Matrix: Ground Water  
Method: ASTM D7237-10 Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0052		mg/L	0.0050	1.0	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-003D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	U		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	20		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	9.4		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	U		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	4.1	LLV-	µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-003D Matrix: Ground Water  
Method: EPA 7470A Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-003 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-003

Order: 95575  
Page: 15 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-003 Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-003E Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-003

Order: 95575  
Page: 16 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-003E Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-003

Order: 95575  
Page: 17 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **TMW-26-031820** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/18/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **16:45**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-003 Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-003

Order: 95575  
Page: 18 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-003  
Description: TMW-26-031820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	U	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-003A  
Description: TMW-26-031820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.1	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:37	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-003

Order: 95575  
Page: 19 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 95575-003A Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	U		µg/L	10000	1.0	03/24/20	PW20C24B	03/24/20	WC20C24A	CMB

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 95575-003A Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	640000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 95575-003B Matrix: Ground Water  
Description: TMW-26-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	1900		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-004

Order: 95575  
Page: 20 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 95575-004C Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.31		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 95575-004D Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	210		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	U		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	6.2		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	6.4		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	75		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	13	LLV-	µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 95575-004D Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-004 Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-004

Order: 95575  
Page: 21 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-004 Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-004E Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	Y1	µg/L	50	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/L	10	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	26	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U	Y1	µg/L	10	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U	Y1	µg/L	20	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U	Y1	µg/L	25	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	25	Y1	µg/L	10	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U	Y1	µg/L	10	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-004

Order: 95575  
Page: 22 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-004E Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	20	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U	Y1	µg/L	50	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	30	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	11	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	5.9	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	20	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	5.6	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	8.7	E1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	21	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	12	Y1	µg/L	10	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	5.6	Y1	µg/L	5.0	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	17	Y1	µg/L	15	10	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-004

Order: 95575  
Page: 23 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-100i-031920** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **14:20**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-004 Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	7.1		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	14		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	1.6		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-004

Order: 95575  
Page: 24 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-004 Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	18		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	48		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	11		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	3.5	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	44		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-004A Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	10.7	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:39	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-004

Order: 95575  
Page: 25 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 95575-004A Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	110000		µg/L	10000	2.0	03/25/20	PW20C24B	03/25/20	WC20C25A	CMB

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 95575-004A Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	2400000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 95575-004B Matrix: Ground Water  
Description: MW-100i-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	21000		µg/L	40	4.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-005

Order: 95575  
Page: 26 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-005C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-103-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.5		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-005D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-103-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	400		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	U		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	U		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	4.2	LLV-	µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-005D Matrix: Ground Water  
Method: EPA 7470A Description: MW-103-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-005 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-103-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-005

Order: 95575  
Page: 27 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-005  
Description: MW-103-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/25/20	SF20C25B	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-005E  
Description: MW-103-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
27. 1,1-Dichloroethane	3.7		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-005

Order: 95575  
Page: 28 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 95575-005E** **Matrix: Ground Water**  
**Description: MW-103-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 41. 2-Methylnaphthalene	14		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
43. Naphthalene	23		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
53. Trichloroethene	1.0		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-005

Order: 95575  
Page: 29 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-103-031920** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **15:35**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-005 Matrix: Ground Water  
Description: MW-103-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
2. Acenaphthylene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
3. Aniline	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
4. Anthracene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
6. Benzo(a)anthracene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
7. Benzo(a)pyrene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
9. Benzo(ghi)perylene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
11. Benzyl Alcohol	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
‡ 18. Carbazole	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
23. Chrysene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
25. Dibenzofuran	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
28. 2,4-Dimethylphenol	30		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
30. 2,4-Dinitrophenol	U		µg/L	100	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
33. Fluoranthene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
34. Fluorene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
36. Hexachlorobutadiene	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-005

Order: 95575  
Page: 30 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-005**  
**Description: MW-103-031920**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
40. Isophorone	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	50	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
42. 2-Methylnaphthalene	13		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
43. 2-Methylphenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
45. Naphthalene	18		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
46. 2-Nitroaniline	U		µg/L	20	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
47. 3-Nitroaniline	U		µg/L	20	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
49. Nitrobenzene	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
51. 4-Nitrophenol	U	L+	µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
52. N-Nitrosodimethylamine	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
57. Pentachlorophenol	U	V-	µg/L	100	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
58. Phenanthrene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
59. Phenol	9.6		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
60. Pyrene	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
61. Pyridine	U	L-	µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	25	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	5.0	5.0	03/24/20	PS20C24A	03/25/20	SN20C25A	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-005A**  
**Description: MW-103-031920**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:42	WD20C24C	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-005

Order: 95575  
Page: 31 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-005A** **Matrix: Ground Water**  
**Description: MW-103-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	25000		µg/L	10000	1.0	03/24/20	PW20C24B	03/24/20	WC20C24A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-005A** **Matrix: Ground Water**  
**Description: MW-103-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	1500000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-005B** **Matrix: Ground Water**  
**Description: MW-103-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	2500		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-006

Order: 95575  
Page: 32 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-006C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.2		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-006D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	51		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	190		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	U		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	U		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-006D Matrix: Ground Water  
Method: EPA 7470A Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-006 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-006

Order: 95575  
Page: 33 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-006 Matrix: Ground Water  
Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/25/20	PS20C25C	03/26/20	SF20C26A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-006E Matrix: Ground Water  
Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
3. Benzene	18		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
23. 1,2-Dichlorobenzene	1.8		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-006

Order: 95575  
Page: 34 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100S-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 95575-006E** **Matrix: Ground Water**  
**Description: MW-100S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	3.3		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
35. Ethylbenzene	2.2		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 41. 2-Methylnaphthalene	5.8		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
43. Naphthalene	55		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
44. n-Propylbenzene	1.9		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
49. Toluene	5.0		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 56. 1,2,3-Trimethylbenzene	3.0		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
57. 1,2,4-Trimethylbenzene	4.6		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
58. 1,3,5-Trimethylbenzene	4.4		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
59. Vinyl Chloride	4.5		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
60. m&p-Xylene	13		µg/L	2.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
61. o-Xylene	6.2		µg/L	1.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF
‡ 62. Xylenes	19		µg/L	3.0	1.0	03/23/20	VM20C23A	03/23/20	VM20C23A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-006

Order: 95575  
Page: 35 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100S-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-006 Matrix: Ground Water  
Description: MW-100S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	29		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-006

Order: 95575  
Page: 36 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100S-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-006** **Matrix: Ground Water**  
**Description: MW-100S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	45		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	42		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	4.1	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	23		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-006A** **Matrix: Ground Water**  
**Description: MW-100S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:44	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-006

Order: 95575  
Page: 37 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100S-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-006A** **Matrix: Ground Water**  
**Description: MW-100S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>79000</b>		µg/L	10000	1.0	03/24/20	PW20C24B	03/24/20	WC20C24A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-006A** **Matrix: Ground Water**  
**Description: MW-100S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1400000</b>		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-006B** **Matrix: Ground Water**  
**Description: MW-100S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>9100</b>		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-007

Order: 95575  
Page: 38 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 95575-007C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.11		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 95575-007D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	U		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	U		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	U		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	U	LLV-	µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

**Mercury by CVAAS, Total** Aliquot ID: 95575-007D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/24/20	PM20C24B	03/24/20	M720C24B	JLH

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 95575-007 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-007

Order: 95575  
Page: 39 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-007 Matrix: Ground Water  
Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-007E Matrix: Ground Water  
Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-007

Order: 95575  
Page: 40 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102D-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 95575-007E** **Matrix: Ground Water**  
**Description: MW-102D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-007

Order: 95575  
Page: 41 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-102D-031920** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **10:30**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-007 Matrix: Ground Water  
Description: MW-102D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-007

Order: 95575  
Page: 42 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102D-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-007**  
**Description: MW-102D-031920**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	U	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-007A**  
**Description: MW-102D-031920**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	<b>8.08</b>	H	pH Units	-1.00	1.0	NA	NA	03/24/20 14:17	WD20C24A	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-007

Order: 95575  
Page: 43 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102D-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-007A** **Matrix: Ground Water**  
**Description: MW-102D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>16000</b>		µg/L	10000	1.0	03/24/20	PW20C24B	03/24/20	WC20C24A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-007A** **Matrix: Ground Water**  
**Description: MW-102D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>320000</b>		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-007B** **Matrix: Ground Water**  
**Description: MW-102D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>61</b>		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-008

Order: 95575  
Page: 44 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 95575-008C Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.072		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 95575-008D Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
2. Barium	520		µg/L	100	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
3. Chromium	U		µg/L	10	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
4. Copper	U		µg/L	4.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
5. Lead	U		µg/L	3.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
6. Manganese	120		µg/L	50	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
9. Silver	U		µg/L	0.20	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/25/20	PT20C25A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/25/20	PT20C25A	03/25/20	T420C25A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 95575-008D Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-008 Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-008

Order: 95575  
Page: 45 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-008 Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-008E Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/L	50	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
3. Benzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
5. Bromochloromethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
7. Bromoform	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
8. Bromomethane	U	Y1	µg/L	10	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
9. 2-Butanone	U	Y1	µg/L	25	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
14. Carbon Tetrachloride	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
16. Chloroethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
17. Chloroform	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
18. Chloromethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
27. 1,1-Dichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-008

Order: 95575  
Page: 46 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-008E Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
37. 2-Hexanone	U	Y1	µg/L	50	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	15	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
42. MTBE	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
43. Naphthalene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
45. Styrene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
49. Toluene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	10	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
59. Vinyl Chloride	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
60. m&p-Xylene	6.3	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
61. o-Xylene	2.8	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 62. Xylenes	9.1	Y1	µg/L	7.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-008

Order: 95575  
Page: 47 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-031820	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-008 Matrix: Ground Water  
Description: MW-109D-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-008

Order: 95575  
Page: 48 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-109D-031820</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/18/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-008** **Matrix: Ground Water**  
**Description: MW-109D-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	2.3	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-008A** **Matrix: Ground Water**  
**Description: MW-109D-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.6	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:48	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-008

Order: 95575  
Page: 49 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-109D-031820</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/18/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-008A** **Matrix: Ground Water**  
**Description: MW-109D-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	32000		µg/L	10000	1.0	03/24/20	PW20C24B	03/24/20	WC20C24A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-008A** **Matrix: Ground Water**  
**Description: MW-109D-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	2000000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-008B** **Matrix: Ground Water**  
**Description: MW-109D-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	2900		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-009

Order: 95575  
Page: 50 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW107D-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 95575-009C Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.51		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 95575-009D Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	U		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	U		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	4.9		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	U		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	79		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 95575-009D Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-009 Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-009

Order: 95575  
Page: 51 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW107D-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-009 Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-009E Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-009

Order: 95575  
Page: 52 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW107D-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-009E Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-009

Order: 95575  
Page: 53 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW107D-031920** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **15:20**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-009 Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-009

Order: 95575  
Page: 54 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW107D-031920** Chain of Custody: **184260**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **15:20**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-009** **Matrix: Ground Water**  
**Description: MW107D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	U	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-009A** **Matrix: Ground Water**  
**Description: MW107D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.12	H	pH Units	-1.00	1.0	NA	NA	03/24/20 14:27	WD20C24A	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-009

Order: 95575  
Page: 55 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW107D-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 95575-009A Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	24000		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 95575-009A Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	380000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 95575-009B Matrix: Ground Water  
Description: MW107D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	430		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-010

Order: 95575  
Page: 56 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-010C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	4.0		mg/L	0.50	100	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-010D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	U		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	U		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	U		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	U		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U	LLV-	µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-010D Matrix: Ground Water  
Method: EPA 7470A Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-010 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-010

Order: 95575  
Page: 57 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-010 Matrix: Ground Water  
Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/31/20	SF20C30A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-010E Matrix: Ground Water  
Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	1.7		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	1.1		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	4.5		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	4.4		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-010

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-010E Matrix: Ground Water  
Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	1.1		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	12		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	140		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	3.4		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	4.9		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	4.2		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	1.6		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	3.3		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	3.1		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	6.4		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-010

Order: 95575  
Page: 59 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-010 Matrix: Ground Water  
Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	5.6		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	5.1		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	140		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-010

Order: 95575  
Page: 60 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-031920	Chain of Custody:	184260
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-010 Matrix: Ground Water  
Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	8.9		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	7.2		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	83		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	110		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	2.5	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	37		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-010A Matrix: Ground Water  
Description: MW-107S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.1	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:49	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-010

Order: 95575  
Page: 61 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107S-031920</b>	Chain of Custody:	<b>184260</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>16:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-010A** **Matrix: Ground Water**  
**Description: MW-107S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>28000</b>		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-010A** **Matrix: Ground Water**  
**Description: MW-107S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>840000</b>		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-010B** **Matrix: Ground Water**  
**Description: MW-107S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>11000</b>		µg/L	20	2.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-011

Order: 95575  
Page: 62 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 95575-011C Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.16		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 95575-011D Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	200		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	19		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	12		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	4.3		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 95575-011D Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-011 Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-011

Order: 95575  
Page: 63 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-011 Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/27/20	PS20C27A	03/27/20	SF20C27A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-011E Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-011

Order: 95575  
Page: 64 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-011E Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-011

Order: 95575  
Page: 65 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-106-031920** Chain of Custody: **184259**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **14:20**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-011 Matrix: Ground Water  
Description: MW-106-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
3. Aniline	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
8. Benzo(b)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
10. Benzo(k)fluoranthene	U	L+	µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
15. 4-Bromophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
22. 4-Chlorophenyl Phenylether	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
25. Dibenzofuran	U	L+	µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
27. Diethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
29. Dimethyl Phthalate	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
31. 2,4-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
32. 2,6-Dinitrotoluene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-011

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-011  
Description: MW-106-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
41. 2-Methyl-4,6-dinitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
48. 4-Nitroaniline	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
50. 2-Nitrophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
51. 4-Nitrophenol	U	L+	µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
54. N-Nitrosodiphenylamine	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
57. Pentachlorophenol	U		µg/L	20	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
58. Phenanthrene	U	L+	µg/L	2.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
59. Phenol	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
63. 2,4,5-Trichlorophenol	U	L+	µg/L	5.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/24/20	PS20C24A	03/24/20	SN20C24B	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-011A  
Description: MW-106-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:51	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-011

Order: 95575  
Page: 67 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-106-031920</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-011A** **Matrix: Ground Water**  
**Description: MW-106-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>38000</b>		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-011A** **Matrix: Ground Water**  
**Description: MW-106-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1300000</b>		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-011B** **Matrix: Ground Water**  
**Description: MW-106-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>990</b>		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-012

Order: 95575  
Page: 68 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-031820	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 95575-012C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.32		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 95575-012D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7.3		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	U		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	U		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	U		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	U		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

**Mercury by CVAAS, Total** Aliquot ID: 95575-012D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 95575-012 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-012

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-031820	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-012 Matrix: Ground Water  
Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-012E Matrix: Ground Water  
Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	1.1		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-012

Order: 95575  
Page: 70 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-031820	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-012E Matrix: Ground Water  
Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	4.7		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-012

Order: 95575  
Page: 71 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-031820	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/18/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-012 Matrix: Ground Water  
Description: MW-105-031820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
3. Aniline	U	*	µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
28. 2,4-Dimethylphenol	21	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
35. Hexachlorobenzene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
36. Hexachlorobutadiene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-012

Order: 95575  
Page: 72 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-105-031820** Chain of Custody: **184259**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/18/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **15:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-012** **Matrix: Ground Water**  
**Description: MW-105-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
43. 2-Methylphenol	6.3	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 44. 3&4-Methylphenol	30	G+	µg/L	10	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
51. 4-Nitrophenol	U	G+	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
59. Phenol	36	*	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-012A** **Matrix: Ground Water**  
**Description: MW-105-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.9	H	pH Units	-1.00	1.0	NA	NA	03/24/20 15:54	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-012

Order: 95575  
Page: 73 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-105-031820</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/18/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:10</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-012A** **Matrix: Ground Water**  
**Description: MW-105-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	24000		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-012A** **Matrix: Ground Water**  
**Description: MW-105-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	620000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-012B** **Matrix: Ground Water**  
**Description: MW-105-031820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	3900		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-013

Order: 95575  
Page: 74 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-013C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.062		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-013D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	510		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	17		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	4.5		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	7.2		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-013D Matrix: Ground Water  
Method: EPA 7470A Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-013 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-013

Order: 95575  
Page: 75 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-013 Matrix: Ground Water  
Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-013E Matrix: Ground Water  
Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/L	50	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 2. Acrylonitrile	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
3. Benzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
5. Bromochloromethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
7. Bromoform	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
8. Bromomethane	U	Y1	µg/L	10	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
9. 2-Butanone	U	Y1	µg/L	25	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
14. Carbon Tetrachloride	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
16. Chloroethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
17. Chloroform	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
18. Chloromethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
25. 1,4-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
27. 1,1-Dichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-013

Order: 95575  
Page: 76 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-013E Matrix: Ground Water  
Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
37. 2-Hexanone	U	Y1	µg/L	50	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	15	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
42. MTBE	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
43. Naphthalene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
45. Styrene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
49. Toluene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	10	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
55. 1,2,3-Trichloropropane	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
59. Vinyl Chloride	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
60. m&p-Xylene	U	Y1	µg/L	5.0	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
61. o-Xylene	U	Y1	µg/L	2.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF
‡ 62. Xylenes	U	Y1	µg/L	7.5	5.0	03/26/20	VM20C26A	03/26/20	VM20C26A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-013

Order: 95575  
Page: 77 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-013 Matrix: Ground Water  
Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
3. Aniline	U	*	µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-013

Order: 95575  
Page: 78 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-013 Matrix: Ground Water  
Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
59. Phenol	U	*	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
60. Pyrene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-013A Matrix: Ground Water  
Description: MW-110D-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	H	pH Units	-1.00	1.0	NA	NA	03/24/20 16:01	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-013

Order: 95575  
Page: 79 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110D-031920</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:10</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-013A** **Matrix: Ground Water**  
**Description: MW-110D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	39000		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-013A** **Matrix: Ground Water**  
**Description: MW-110D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	1800000		µg/L	50000	1.3	03/25/20	WH20C25A	03/26/20	WH20C25A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-013B** **Matrix: Ground Water**  
**Description: MW-110D-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	3100		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-014

Order: 95575  
Page: 80 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-014C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-014D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	310		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	48		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	5.6		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	U		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-014D Matrix: Ground Water  
Method: EPA 7470A Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-014 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-014

Order: 95575  
Page: 81 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-014 Matrix: Ground Water  
Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-014E Matrix: Ground Water  
Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-014

Order: 95575  
Page: 82 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-014E Matrix: Ground Water  
Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-014

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-014 Matrix: Ground Water  
Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
3. Aniline	U	*	µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-014

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-014 Matrix: Ground Water  
Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
59. Phenol	U	*	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
60. Pyrene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-014A Matrix: Ground Water  
Description: MW-110S-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	03/24/20 16:03	WD20C24C	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-014

Order: 95575  
Page: 85 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110S-031920</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-014A** **Matrix: Ground Water**  
**Description: MW-110S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>46000</b>		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-014A** **Matrix: Ground Water**  
**Description: MW-110S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1300000</b>		µg/L	50000	1.3	03/26/20	WH20C26A	03/27/20	WH20C26A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-014B** **Matrix: Ground Water**  
**Description: MW-110S-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3700</b>		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-015

Order: 95575  
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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 95575-015C Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 95575-015D Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	330		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	26		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	78		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	72		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 95575-015D Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-015 Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

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Laboratory Sample Number: 95575-015

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Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-015 Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-015E Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Laboratory Sample Number: 95575-015

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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-015E Matrix: Ground Water  
Description: MW-108-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Laboratory Sample Number: 95575-015

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Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-015  
Description: MW-108-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
3. Aniline	U	*	µg/L	4.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-015

Order: 95575  
Page: 90 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-015  
Description: MW-108-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
45. Naphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
59. Phenol	U	*	µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
60. Pyrene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/26/20	SN20C26A	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 95575-015A  
Description: MW-108-031920  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.3	H	pH Units	-1.00	1.0	NA	NA	03/24/20 16:04	WD20C24C AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-015

Order: 95575  
Page: 91 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-108-031920</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-015A** **Matrix: Ground Water**  
**Description: MW-108-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>28000</b>		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-015A** **Matrix: Ground Water**  
**Description: MW-108-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1200000</b>		µg/L	50000	1.3	03/26/20	WH20C26A	03/27/20	WH20C26A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-015B** **Matrix: Ground Water**  
**Description: MW-108-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>1500</b>		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-016

Order: 95575  
Page: 92 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUPLICATE-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 95575-016C Matrix: Ground Water  
Method: ASTM D7237-10 Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.1		mg/L	0.050	10	03/27/20	PW20C27A	03/27/20	WQ20C27A	CMB

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 95575-016D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
2. Barium	400		µg/L	100	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
3. Chromium	U		µg/L	10	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
4. Copper	U		µg/L	4.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
5. Lead	U		µg/L	3.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
6. Manganese	U		µg/L	50	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
7. Nickel	U		µg/L	20	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
8. Selenium	U		µg/L	5.0	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
9. Silver	U		µg/L	0.20	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA
10. Vanadium	U LLV-		µg/L	4.0	10	03/26/20	PT20C26A	04/07/20	T420D07A	JLH
11. Zinc	U		µg/L	50	10	03/26/20	PT20C26A	03/26/20	T420C26A	CJA

Mercury by CVAAS, Total Aliquot ID: 95575-016D Matrix: Ground Water  
Method: EPA 7470A Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	03/27/20	PM20C27A	03/27/20	M720C27A	JLH

Polychlorinated Biphenyls (PCBs) Aliquot ID: 95575-016 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
2. Aroclor-1221	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
3. Aroclor-1232	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
4. Aroclor-1242	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
5. Aroclor-1248	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
6. Aroclor-1254	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
7. Aroclor-1260	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-016

Order: 95575  
Page: 93 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUPLICATE-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 95575-016 Matrix: Ground Water  
Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	03/26/20	PS20C26A	03/26/20	SF20C26A	RDK

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-016E Matrix: Ground Water  
Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
3. Benzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
4. Bromobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
5. Bromochloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
6. Bromodichloromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
7. Bromoform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
8. Bromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
9. 2-Butanone	U		µg/L	25	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
10. n-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
11. sec-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
12. tert-Butylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
13. Carbon Disulfide	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
15. Chlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
16. Chloroethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
17. Chloroform	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
18. Chloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
21. Dibromochloromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
22. Dibromomethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
27. 1,1-Dichloroethane	3.0		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-016

Order: 95575  
Page: 94 of 98  
Date: 04/07/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	DUPLICATE-031920	Chain of Custody:	184259
Client Project Name:	1-10860	Sample No:		Collect Date:	03/19/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 95575-016E Matrix: Ground Water  
Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
35. Ethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
36. Ethylene Dibromide	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
37. 2-Hexanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
38. Isopropylbenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
40. Methylene Chloride	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 41. 2-Methylnaphthalene	15		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
42. MTBE	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
43. Naphthalene	22		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
44. n-Propylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
45. Styrene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
48. Tetrachloroethene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
49. Toluene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
53. Trichloroethene	1.1		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
59. Vinyl Chloride	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
60. m&p-Xylene	U		µg/L	2.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
61. o-Xylene	U		µg/L	1.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF
‡ 62. Xylenes	U		µg/L	3.0	1.0	03/24/20	VM20C24A	03/24/20	VM20C24A	JMF

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-016

Order: 95575  
Page: 95 of 98  
Date: 04/07/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **DUPLICATE-031920** Chain of Custody: **184259**  
Client Project Name: **1-10860** Sample No: Collect Date: **03/19/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **NA**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 95575-016 Matrix: Ground Water  
Description: DUPLICATE-031920

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
3. Aniline	U	*	µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
4. Anthracene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
23. Chrysene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
28. 2,4-Dimethylphenol	43		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
34. Fluorene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-016

Order: 95575  
Page: 96 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>DUPLICATE-031920</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 95575-016** **Matrix: Ground Water**  
**Description: DUPLICATE-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
40. Isophorone	U	L+	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
42. 2-Methylnaphthalene	12		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
45. Naphthalene	18		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
58. Phenanthrene	3.9		µg/L	2.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
59. Phenol	7.2	*	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
60. Pyrene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
61. Pyridine	U	L-	µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	03/25/20	PS20C25E	03/25/20	SN20C25A	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 95575-016A** **Matrix: Ground Water**  
**Description: DUPLICATE-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	H	pH Units	-1.00	1.0	NA	NA	03/24/20 16:05	WD20C24C	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 95575  
Laboratory Sample Number: 95575-016

Order: 95575  
Page: 97 of 98  
Date: 04/07/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>DUPLICATE-031920</b>	Chain of Custody:	<b>184259</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>03/19/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 95575-016A** **Matrix: Ground Water**  
**Description: DUPLICATE-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	26000		µg/L	10000	1.0	03/25/20	PW20C25C	03/25/20	WC20C25A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 95575-016A** **Matrix: Ground Water**  
**Description: DUPLICATE-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	1500000		µg/L	50000	1.3	03/26/20	WH20C26A	03/27/20	WH20C26A	VO

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 95575-016B** **Matrix: Ground Water**  
**Description: DUPLICATE-031920**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	2900		µg/L	10	1.0	04/03/20	PW20D03A	04/03/20	WU20D03A	RKB

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

- \*** : Duplicate analysis not within control limits.  
**E1** : The reported value is estimated due to the presence of interference.  
**G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.  
**H** : Hold time exceeded.  
**L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.  
**L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.  
**LLV-** : Recovery in the associated low-level continuing calibration verification sample (LLCCV) exceeds the lower control limit. Results may be biased low.  
**V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.  
**V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.  
**Y1** : Sample was diluted due to a sample matrix issue.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Thursday, June 11, 2020

Fibertec Project Number: 96300  
Project Identification: 1-10860 /1-10860  
Submittal Date: 05/28/2020

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Please note that due to high results on samples -001 & -002 the LLHg test was changed to Total Mercury.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Rikki Lott". The signature is fluid and cursive.

By Rikki Lott at 4:07 PM, Jun 11, 2020

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-001

Order: 96300  
Page: 2 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100s-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:06</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAAS, Total**  
**Method: EPA 7470A**

**Aliquot ID: 96300-001** **Matrix: Ground Water**  
**Description: MW-100s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>0.110</b>		µg/L	0.025	1.0	06/03/20	PM20F03D	06/03/20	M720F2B.	AVC

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-002

Order: 96300  
Page: 3 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100i-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAAS, Total**  
**Method: EPA 7470A**

**Aliquot ID: 96300-002** **Matrix: Ground Water**  
**Description: MW-100i-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>0.424</b>		µg/L	0.025	1.0	06/03/20	PM20F03D	06/03/20	M720F2B.	AVC

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-003

Order: 96300  
Page: 4 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:37</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-003** **Matrix: Ground Water**  
**Description: MW-102-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>0.88</b>		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-004

Order: 96300  
Page: 5 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:45</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-004** **Matrix: Ground Water**  
**Description: MW-103-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	27		ng/L	2.0	4.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-005

Order: 96300  
Page: 6 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-104-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:55</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-005** **Matrix: Ground Water**  
**Description: MW-104-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	22		ng/L	2.0	4.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-006

Order: 96300  
Page: 7 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107s-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:06</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-006** **Matrix: Ground Water**  
**Description: MW-107s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	47		ng/L	5.0	10	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-007

Order: 96300  
Page: 8 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107D-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:05</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-007** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-008

Order: 96300  
Page: 9 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>TMW-26-052720</b>	Chain of Custody:	<b>187649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:37</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-008** **Matrix: Ground Water**  
**Description: TMW-26-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>20</b>		ng/L	2.0	4.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-009

Order: 96300  
Page: 10 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-105-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>08:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-009** **Matrix: Ground Water**  
**Description: MW-105-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>5.6</b>		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-010

Order: 96300  
Page: 11 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-106-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>09:25</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-010** **Matrix: Ground Water**  
**Description: MW-106-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>0.82</b>		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-011

Order: 96300  
Page: 12 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-108-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-011** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.78		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-012

Order: 96300  
Page: 13 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-109D-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-012** **Matrix: Ground Water**  
**Description: MW-109D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>1.2</b>		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-013

Order: 96300  
Page: 14 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110s-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-013** **Matrix: Ground Water**  
**Description: MW-110s-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>0.69</b>		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-014

Order: 96300  
Page: 15 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110D-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-014** **Matrix: Ground Water**  
**Description: MW-110D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	<b>1.8</b>		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-015

Order: 96300  
Page: 16 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-101-052820</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-015** **Matrix: Ground Water**  
**Description: MW-101-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	12		ng/L	1.0	2.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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Analytical Laboratory Report  
Laboratory Project Number: 96300  
Laboratory Sample Number: 96300-016

Order: 96300  
Page: 17 of 18  
Date: 06/11/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>DUP-MW</b>	Chain of Custody:	<b>189212</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Mercury by CVAFS, Low-Level, Total**  
**Method: EPA 1631E**

**Aliquot ID: 96300-016**  
**Description: DUP-MW**

**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.75		ng/L	0.50	1.0	06/03/20	PM20F03E	06/04/20	M520F04A	CJA

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Friday, June 19, 2020

Fibertec Project Number: 96319  
Project Identification: 1-10860 /1-10860  
Submittal Date: 05/28/2020

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Please note that samples 1, 2, 4, 12, 13, 14, 16, for mentals analysis, arrived at the lab with a pH outside of the specified criteria of  $\leq 2$ . The pH was adjusted at the lab. Results may be biased low.

Please note that sample 001 for Total Phosphorus analysis arrived at the lab with a pH outside of the specified criteria of  $\leq 2$ . The pH as adjusted at the lab. Results may be biased low.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink, appearing to read "Jesse Alton". The signature is fluid and cursive.

*By Jesse Alton at 9:57 AM, Jun 19, 2020*

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-001

Order: 96319  
Page: 2 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-001D Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.59		mg/L	0.050	10	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-001E Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	15		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	670		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	35		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	9.0		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U LLV-		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U LLV+		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-001E Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.098		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-001 Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
2. Aroclor-1221	U Y1		µg/L	1.5	10	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-001

Order: 96319  
Page: 3 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-001 Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-001F Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	57	Y1	µg/L	50	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	10	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
3. Benzene	76	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
5. Bromochloromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
7. Bromoform	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
8. Bromomethane	U	Y1	µg/L	25	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
9. 2-Butanone	U	Y1	µg/L	25	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
13. Carbon Disulfide	9.6	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
16. Chloroethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
17. Chloroform	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
18. Chloromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
23. 1,2-Dichlorobenzene	5.7	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-001

Order: 96319  
Page: 4 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100s-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:06</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-001F** **Matrix: Ground Water**  
**Description: MW-100s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	5.3	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
35. Ethylbenzene	9.3	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
37. 2-Hexanone	U	Y1	µg/L	50	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	25	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
42. MTBE	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
43. Naphthalene	240	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
45. Styrene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
49. Toluene	20	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 56. 1,2,3-Trimethylbenzene	9.9	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
57. 1,2,4-Trimethylbenzene	15	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
58. 1,3,5-Trimethylbenzene	12	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
59. Vinyl Chloride	7.6	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
60. m&p-Xylene	55	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
61. o-Xylene	29	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 62. Xylenes	84	Y1	µg/L	7.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-001

Order: 96319  
Page: 5 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-001 Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	6.0	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
3. Aniline	7.3	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 18. Carbazole	7.8	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
25. Dibenzofuran	4.2	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
28. 2,4-Dimethylphenol	39	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
33. Fluoranthene	1.1	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-001

Order: 96319  
Page: 6 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-001 Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
42. 2-Methylnaphthalene	7.3	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
43. 2-Methylphenol	8.9	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 44. 3&4-Methylphenol	150	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
45. Naphthalene	170	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
58. Phenanthrene	5.8	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
59. Phenol	57	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-001B Matrix: Ground Water  
Description: MW-100s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.6	H	pH Units	-1.00	1.0	NA	NA	06/03/20 21:05	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-001**

Order: 96319  
Page: 7 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100s-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>14:06</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-001B** **Matrix: Ground Water**  
**Description: MW-100s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>290000</b>		µg/L	10000	10	06/06/20	PW20F05D	06/06/20	WC20F06A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-001A** **Matrix: Ground Water**  
**Description: MW-100s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>2900000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-001C** **Matrix: Ground Water**  
**Description: MW-100s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>29000</b>		µg/L	50	5.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-002

Order: 96319  
Page: 8 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-002D Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.45		mg/L	0.050	10	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-002E Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	400		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	12		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	27		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	29		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	240		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	15 LLV-		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	60 LLV+		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-002E Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.139		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-002 Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
2. Aroclor-1221	U	Y1	µg/L	0.75	5.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-002

Order: 96319  
Page: 9 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-002 Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/08/20	SF20F08A	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-002F Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	Y1	µg/L	100	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	40	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
3. Benzene	24	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
4. Bromobenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
5. Bromochloromethane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
6. Bromodichloromethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
7. Bromoform	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
8. Bromomethane	U	Y1	µg/L	100	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
9. 2-Butanone	U	Y1	µg/L	100	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
10. n-Butylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
11. sec-Butylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
12. tert-Butylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
13. Carbon Disulfide	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
15. Chlorobenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
16. Chloroethane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
17. Chloroform	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
18. Chloromethane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
21. Dibromochloromethane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
22. Dibromomethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
23. 1,2-Dichlorobenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-002

Order: 96319  
Page: 10 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-002F Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	20	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
35. Ethylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
36. Ethylene Dibromide	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
37. 2-Hexanone	U	Y1	µg/L	100	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
38. Isopropylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
40. Methylene Chloride	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	100	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
42. MTBE	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
43. Naphthalene	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
44. n-Propylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
45. Styrene	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
48. Tetrachloroethene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
49. Toluene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
53. Trichloroethene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
59. Vinyl Chloride	22	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
60. m&p-Xylene	U	Y1	µg/L	20	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
61. o-Xylene	U	Y1	µg/L	10	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 62. Xylenes	U	Y1	µg/L	30	20	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-002

Order: 96319  
Page: 11 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-002  
Description: MW-100i-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
6. Benzo(a)anthracene	1.0	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
8. Benzo(b)fluoranthene	1.3	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
28. 2,4-Dimethylphenol	7.2	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
33. Fluoranthene	3.1	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-002

Order: 96319  
Page: 12 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-002 Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
43. 2-Methylphenol	13	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 44. 3&4-Methylphenol	31	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
45. Naphthalene	5.9	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
58. Phenanthrene	4.4	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
59. Phenol	24	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-002B Matrix: Ground Water  
Description: MW-100i-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	10.7	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:53	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-002**

Order: 96319  
Page: 13 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-100i-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-002B** **Matrix: Ground Water**  
**Description: MW-100i-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>140000</b>		µg/L	10000	5.0	06/06/20	PW20F05D	06/06/20	WC20F06A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-002A** **Matrix: Ground Water**  
**Description: MW-100i-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>2600000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-002C** **Matrix: Ground Water**  
**Description: MW-100i-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>23000</b>		µg/L	50	5.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-003

Order: 96319  
Page: 14 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:12

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-003D Matrix: Ground Water  
Description: MW-102-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0059		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-003E Matrix: Ground Water  
Description: MW-102-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U	LLV+	µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-003E Matrix: Ground Water  
Description: MW-102-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-003 Matrix: Ground Water  
Description: MW-102-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-003

Order: 96319  
Page: 15 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:12

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-003  
Description: MW-102-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-003F  
Description: MW-102-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-003

Order: 96319  
Page: 16 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:12</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-003F**  
**Description: MW-102-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
37. 2-Hexanone	U	V+	µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
40. Methylene Chloride	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-003

Order: 96319  
Page: 17 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:12

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-003 Matrix: Ground Water  
Description: MW-102-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-003

Order: 96319  
Page: 18 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:12

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-003  
Description: MW-102-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-003B  
Description: MW-102-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.25	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:36	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-003**

Order: 96319  
Page: 19 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-102-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:12</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-003B** **Matrix: Ground Water**  
**Description: MW-102-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>17000</b>		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-003A** **Matrix: Ground Water**  
**Description: MW-102-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>300000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-003C** **Matrix: Ground Water**  
**Description: MW-102-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>58</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-004

Order: 96319  
Page: 20 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-004D Matrix: Ground Water  
Description: MW-103-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.14		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-004E Matrix: Ground Water  
Description: MW-103-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	450		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	5.9		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U	LLV+	µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-004E Matrix: Ground Water  
Description: MW-103-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-004 Matrix: Ground Water  
Description: MW-103-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-004**

Order: 96319  
Page: 21 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:45</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 96319-004** **Matrix: Ground Water**  
**Description: MW-103-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-004F** **Matrix: Ground Water**  
**Description: MW-103-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	Y1	µg/L	50	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	10	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
3. Benzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
5. Bromochloromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
7. Bromoform	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
8. Bromomethane	U	Y1	µg/L	25	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
9. 2-Butanone	U	Y1	µg/L	25	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
16. Chloroethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
17. Chloroform	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
18. Chloromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-004

Order: 96319  
Page: 22 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:45</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-004F**  
**Description: MW-103-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
37. 2-Hexanone	U	Y1	µg/L	50	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
40. Methylene Chloride	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	25	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
42. MTBE	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
43. Naphthalene	18	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
45. Styrene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
49. Toluene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
59. Vinyl Chloride	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
60. m&p-Xylene	U	Y1	µg/L	5.0	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
61. o-Xylene	U	Y1	µg/L	2.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 62. Xylenes	U	Y1	µg/L	7.5	5.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-004

Order: 96319  
Page: 23 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-004  
Description: MW-103-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
28. 2,4-Dimethylphenol	26	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-004

Order: 96319  
Page: 24 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-004  
Description: MW-103-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
42. 2-Methylnaphthalene	15	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
45. Naphthalene	19	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
58. Phenanthrene	4.4	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
59. Phenol	5.7	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-004B  
Description: MW-103-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:40	WD20F03A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-004

Order: 96319  
Page: 25 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:45</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-004B** **Matrix: Ground Water**  
**Description: MW-103-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>24000</b>		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-004A** **Matrix: Ground Water**  
**Description: MW-103-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1600000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-004C** **Matrix: Ground Water**  
**Description: MW-103-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>2800</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-005

Order: 96319  
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Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-005D Matrix: Ground Water  
Description: MW-104-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	14		mg/L	0.50	100	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-005E Matrix: Ground Water  
Description: MW-104-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	9.2	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	0.36		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	4.6	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-005E Matrix: Ground Water  
Description: MW-104-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-005 Matrix: Ground Water  
Description: MW-104-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-005

Order: 96319  
Page: 27 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-005  
Description: MW-104-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-005F  
Description: MW-104-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 2. Acrylonitrile	U		µg/L	20	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
3. Benzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
4. Bromobenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
5. Bromochloromethane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
6. Bromodichloromethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
7. Bromoform	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
8. Bromomethane	U		µg/L	50	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
9. 2-Butanone	U		µg/L	50	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
10. n-Butylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
11. sec-Butylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
12. tert-Butylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
13. Carbon Disulfide	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
14. Carbon Tetrachloride	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
15. Chlorobenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
16. Chloroethane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
17. Chloroform	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
18. Chloromethane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
21. Dibromochloromethane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
22. Dibromomethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
27. 1,1-Dichloroethane	27		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
28. 1,2-Dichloroethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
29. 1,1-Dichloroethene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-005

Order: 96319  
Page: 28 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-005F Matrix: Ground Water  
Description: MW-104-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
32. 1,2-Dichloropropane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
35. Ethylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
36. Ethylene Dibromide	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
37. 2-Hexanone	U	V+	µg/L	50	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
38. Isopropylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
40. Methylene Chloride	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	50	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
42. MTBE	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
43. Naphthalene	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
44. n-Propylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
45. Styrene	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
48. Tetrachloroethene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
49. Toluene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
53. Trichloroethene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
54. Trichlorofluoromethane	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
59. Vinyl Chloride	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
60. m&p-Xylene	U		µg/L	10	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
61. o-Xylene	U		µg/L	5.0	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 62. Xylenes	U		µg/L	15	10	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-005

Order: 96319  
Page: 29 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-005  
Description: MW-104-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
2. Acenaphthylene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
3. Aniline	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
4. Anthracene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 5. Azobenzene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
6. Benzo(a)anthracene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
7. Benzo(a)pyrene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
8. Benzo(b)fluoranthene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
9. Benzo(ghi)perylene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
10. Benzo(k)fluoranthene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
11. Benzyl Alcohol	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
13. Bis(2-chloroethyl)ether	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
16. Butyl Benzyl Phthalate	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 18. Carbazole	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
21. 2-Chlorophenol	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
23. Chrysene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
24. Dibenzo(a,h)anthracene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
25. Dibenzofuran	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
27. Diethyl Phthalate	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
28. 2,4-Dimethylphenol	340		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
30. 2,4-Dinitrophenol	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
33. Fluoranthene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
34. Fluorene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
36. Hexachlorobutadiene	U	V+	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
37. Hexachlorocyclopentadiene	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-005

Order: 96319  
Page: 30 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-005  
Description: MW-104-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
39. Indeno(1,2,3-cd)pyrene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
40. Isophorone	U	Y1	µg/L	10	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
41. 2-Methyl-4,6-dinitrophenol	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
43. 2-Methylphenol	8.0		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 44. 3&4-Methylphenol	95		µg/L	10	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
45. Naphthalene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
46. 2-Nitroaniline	U		µg/L	20	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
47. 3-Nitroaniline	U		µg/L	20	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
48. 4-Nitroaniline	U		µg/L	20	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
49. Nitrobenzene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
50. 2-Nitrophenol	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
51. 4-Nitrophenol	U	V-	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
52. N-Nitrosodimethylamine	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
55. Di-n-octyl Phthalate	U	Y1	µg/L	10	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
57. Pentachlorophenol	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
58. Phenanthrene	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
59. Phenol	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
60. Pyrene	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
61. Pyridine	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
62. 1,2,4-Trichlorobenzene	U	Y1	µg/L	25	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
64. 2,4,6-Trichlorophenol	U	Y1	µg/L	5.0	5.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-005B  
Description: MW-104-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	10.9	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:55	WD20F03A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-005

Order: 96319  
Page: 31 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-104-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>15:55</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-005B**  
**Description: MW-104-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>220000</b>		µg/L	10000	10	06/06/20	PW20F05D	06/06/20	WC20F06A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-005A**  
**Description: MW-104-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>800000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-005C**  
**Description: MW-104-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>19000</b>		µg/L	50	5.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-006

Order: 96319  
Page: 32 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-006D Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	4.9		mg/L	0.25	50	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-006E Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	4.1	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-006E Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.049		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-006 Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-006

Order: 96319  
Page: 33 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-006 Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-006F Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	V+	µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
3. Benzene	1.4		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
15. Chlorobenzene	1.4		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
23. 1,2-Dichlorobenzene	7.6		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
25. 1,4-Dichlorobenzene	1.3		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
27. 1,1-Dichloroethane	3.1		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-006

Order: 96319  
Page: 34 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107s-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:06</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-006F**  
**Description: MW-107s-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
35. Ethylbenzene	1.1		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
37. 2-Hexanone	U	V+	µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
40. Methylene Chloride	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 41. 2-Methylnaphthalene	11	V+	µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
43. Naphthalene	120		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
49. Toluene	3.2		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 56. 1,2,3-Trimethylbenzene	5.4		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
57. 1,2,4-Trimethylbenzene	4.3		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
58. 1,3,5-Trimethylbenzene	1.5		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
60. m&p-Xylene	3.2		µg/L	2.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
61. o-Xylene	2.9		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 62. Xylenes	6.0		µg/L	3.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-006

Order: 96319  
Page: 35 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-006 Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
28. 2,4-Dimethylphenol	59	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-006

Order: 96319  
Page: 36 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107s-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-006 Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
42. 2-Methylnaphthalene	6.7	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
‡ 44. 3&4-Methylphenol	30	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
45. Naphthalene	71	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
59. Phenol	9.3	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/03/20	SN20F03D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-006B Matrix: Ground Water  
Description: MW-107s-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.1	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:47	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-006**

Order: 96319  
Page: 37 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107s-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:06</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-006B** **Matrix: Ground Water**  
**Description: MW-107s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>21000</b>		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-006A** **Matrix: Ground Water**  
**Description: MW-107s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>810000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-006C** **Matrix: Ground Water**  
**Description: MW-107s-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>8400</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-007

Order: 96319  
Page: 38 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-007D Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	1.3		mg/L	0.050	10	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-007E Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-007E Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-007 Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-007**

Order: 96319  
Page: 39 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107D-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:05</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 96319-007** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-007F** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
8. Bromomethane	U	L-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-007

Order: 96319  
Page: 40 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107D-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:05</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-007F** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-007

Order: 96319  
Page: 41 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-007 Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-007

Order: 96319  
Page: 42 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-007 Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-007B Matrix: Ground Water  
Description: MW-107D-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.06	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:51	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-007**

Order: 96319  
Page: 43 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-107D-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>17:05</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-007B** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>24000</b>		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-007A** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>350000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-007C** **Matrix: Ground Water**  
**Description: MW-107D-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>480</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-008

Order: 96319  
Page: 44 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-008D Matrix: Ground Water  
Description: TMW-26-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0066		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-008E Matrix: Ground Water  
Description: TMW-26-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	22		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	11		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	9.1	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-008E Matrix: Ground Water  
Description: TMW-26-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.031		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-008 Matrix: Ground Water  
Description: TMW-26-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-008**

Order: 96319  
Page: 45 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>TMW-26-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 96319-008** **Matrix: Ground Water**  
**Description: TMW-26-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-008F** **Matrix: Ground Water**  
**Description: TMW-26-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-008

Order: 96319  
Page: 46 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>TMW-26-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-008F**  
**Description: TMW-26-052720**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
40. Methylene Chloride	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-008

Order: 96319  
Page: 47 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-008  
Description: TMW-26-052720  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
35. Hexachlorobenzene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-008

Order: 96319  
Page: 48 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-052720	Chain of Custody:	187648
Client Project Name:	1-10860	Sample No:		Collect Date:	05/27/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-008 Matrix: Ground Water  
Description: TMW-26-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/02/20	PS20F02I	06/04/20	SN20F03F	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-008B Matrix: Ground Water  
Description: TMW-26-052720

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.0	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:46	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-008**

Order: 96319  
Page: 49 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>TMW-26-052720</b>	Chain of Custody:	<b>187648</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/27/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>11:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-008B** **Matrix: Ground Water**  
**Description: TMW-26-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	U		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-008A** **Matrix: Ground Water**  
**Description: TMW-26-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>560000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-008C** **Matrix: Ground Water**  
**Description: TMW-26-052720**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>2100</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-009

Order: 96319  
Page: 50 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-009D Matrix: Ground Water  
Description: MW-105-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.097		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-009E Matrix: Ground Water  
Description: MW-105-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	U		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	30		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-009E Matrix: Ground Water  
Description: MW-105-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-009 Matrix: Ground Water  
Description: MW-105-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-009

Order: 96319  
Page: 51 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-009 Matrix: Ground Water  
Description: MW-105-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-009F Matrix: Ground Water  
Description: MW-105-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-009

Order: 96319  
Page: 52 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-105-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>08:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-009F** **Matrix: Ground Water**  
**Description: MW-105-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
40. Methylene Chloride	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-009

Order: 96319  
Page: 53 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-009  
Description: MW-105-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-009

Order: 96319  
Page: 54 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-009  
Description: MW-105-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/04/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-009B  
Description: MW-105-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.2	H	pH Units	-1.00	1.0	NA	NA	06/03/20 21:01	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-009**

Order: 96319  
Page: 55 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-105-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>08:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-009B** **Matrix: Ground Water**  
**Description: MW-105-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	U		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-009A** **Matrix: Ground Water**  
**Description: MW-105-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>450000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-009C** **Matrix: Ground Water**  
**Description: MW-105-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>830</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-010

Order: 96319  
Page: 56 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:16

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-010D Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-010E Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	180		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	43		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	5.1		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	6.2		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-010E Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-010 Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-010

Order: 96319  
Page: 57 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:16

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-010 Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-010F Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-010

Order: 96319  
Page: 58 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:16

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-010F Matrix: Ground Water  
Description: MW-106-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
40. Methylene Chloride	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/03/20	VB20F03A	06/03/20	VB20F03A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-010

Order: 96319  
Page: 59 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:16

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-010  
Description: MW-106-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-010

Order: 96319  
Page: 60 of 100  
Date: 06/19/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-106-052820** Chain of Custody: **184649**  
Client Project Name: **1-10860** Sample No: Collect Date: **05/28/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **08:16**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS**  
**Method: EPA 3510C/EPA 8270E**

**Aliquot ID: 96319-010** **Matrix: Ground Water**  
**Description: MW-106-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

**pH, Electrometric**  
**Method: EPA 9040C**

**Aliquot ID: 96319-010B** **Matrix: Ground Water**  
**Description: MW-106-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.3	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:37	WD20F03A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-010

Order: 96319  
Page: 61 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-106-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>08:16</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-010B**  
**Description: MW-106-052820**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>37000</b>		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-010A**  
**Description: MW-106-052820**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1300000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-010C**  
**Description: MW-106-052820**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>1000</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-011

Order: 96319  
Page: 62 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-011D Matrix: Ground Water  
Description: MW-108-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-011E Matrix: Ground Water  
Description: MW-108-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	380		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	29		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	13		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	46		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-011E Matrix: Ground Water  
Description: MW-108-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.113		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-011 Matrix: Ground Water  
Description: MW-108-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-011**

Order: 96319  
Page: 63 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-108-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 96319-011** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-011F** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-011

Order: 96319  
Page: 64 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-108-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-011F** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
42. MTBE	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
45. Styrene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
49. Toluene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-011

Order: 96319  
Page: 65 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-011  
Description: MW-108-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-011

Order: 96319  
Page: 66 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-011  
Description: MW-108-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-011B  
Description: MW-108-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.3	H	pH Units	-1.00	1.0	NA	NA	06/03/20 21:02	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-011**

Order: 96319  
Page: 67 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-108-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-011B** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	28000		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-011A** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	1300000		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-011C** **Matrix: Ground Water**  
**Description: MW-108-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	1500		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-012

Order: 96319  
Page: 68 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-012D Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.25		mg/L	0.025	5.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-012E Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	500		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	160		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-012E Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.114		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-012 Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-012

Order: 96319  
Page: 69 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-012 Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-012F Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	Y1	µg/L	50	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	10	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
5. Bromochloromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
7. Bromoform	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
8. Bromomethane	U	L-	µg/L	25	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
9. 2-Butanone	U	Y1	µg/L	25	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
16. Chloroethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
17. Chloroform	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
18. Chloromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-012

Order: 96319  
Page: 70 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-012F Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
37. 2-Hexanone	U	Y1	µg/L	50	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	25	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
42. MTBE	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
43. Naphthalene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
45. Styrene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
49. Toluene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
59. Vinyl Chloride	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
60. m&p-Xylene	6.9	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
61. o-Xylene	2.9	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 62. Xylenes	9.8	Y1	µg/L	7.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-012

Order: 96319  
Page: 71 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-012 Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-012

Order: 96319  
Page: 72 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-012 Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	3.3	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-012B Matrix: Ground Water  
Description: MW-109D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:31	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-012**

Order: 96319  
Page: 73 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-109D-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>10:35</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-012B** **Matrix: Ground Water**  
**Description: MW-109D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>32000</b>		µg/L	10000	1.0	06/05/20	PW20F05D	06/05/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-012A** **Matrix: Ground Water**  
**Description: MW-109D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1900000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-012C** **Matrix: Ground Water**  
**Description: MW-109D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3400</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-013

Order: 96319  
Page: 74 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110s-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-013D Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-013E Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	330		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	52		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-013E Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.103		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-013 Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-013

Order: 96319  
Page: 75 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110s-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-013 Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-013F Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
8. Bromomethane	U	L-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-013

Order: 96319  
Page: 76 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110s-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-013F Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-013

Order: 96319  
Page: 77 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110s-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-013  
Description: MW-110s-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-013

Order: 96319  
Page: 78 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110s-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-013 Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-013B Matrix: Ground Water  
Description: MW-110s-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:57	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-013**

Order: 96319  
Page: 79 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110s-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>13:20</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-013B** **Matrix: Ground Water**  
**Description: MW-110s-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>51000</b>		µg/L	10000	1.0	06/06/20	PW20F05D	06/06/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-013A** **Matrix: Ground Water**  
**Description: MW-110s-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1500000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-013C** **Matrix: Ground Water**  
**Description: MW-110s-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3400</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-014

Order: 96319  
Page: 80 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-014D Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-014E Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	540		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	32		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	9.4		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	14		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-014E Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.105		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-014 Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-014

Order: 96319  
Page: 81 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-014 Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-014F Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	Y1	µg/L	50	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 2. Acrylonitrile	U	Y1	µg/L	10	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
4. Bromobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
5. Bromochloromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
6. Bromodichloromethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
7. Bromoform	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
8. Bromomethane	U	L-	µg/L	25	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
9. 2-Butanone	U	Y1	µg/L	25	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
10. n-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
11. sec-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
12. tert-Butylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
13. Carbon Disulfide	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
14. Carbon Tetrachloride	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
15. Chlorobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
16. Chloroethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
17. Chloroform	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
18. Chloromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
19. 2-Chlorotoluene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
21. Dibromochloromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
22. Dibromomethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
23. 1,2-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
24. 1,3-Dichlorobenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
25. 1,4-Dichlorobenzene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
26. Dichlorodifluoromethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
27. 1,1-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
28. 1,2-Dichloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
29. 1,1-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-014

Order: 96319  
Page: 82 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-014F Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
31. trans-1,2-Dichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
32. 1,2-Dichloropropane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
33. cis-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
34. trans-1,3-Dichloropropene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
35. Ethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
36. Ethylene Dibromide	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
37. 2-Hexanone	U	Y1	µg/L	50	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
38. Isopropylbenzene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
39. 4-Methyl-2-pentanone	U	Y1	µg/L	50	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U	Y1	µg/L	25	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
42. MTBE	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
43. Naphthalene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
44. n-Propylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
45. Styrene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
46. 1,1,1,2-Tetrachloroethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
47. 1,1,2,2-Tetrachloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
49. Toluene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
50. 1,2,4-Trichlorobenzene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
51. 1,1,1-Trichloroethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 52. 1,1,2-Trichloroethane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
53. Trichloroethene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
54. Trichlorofluoromethane	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
55. 1,2,3-Trichloropropane	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
57. 1,2,4-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
58. 1,3,5-Trimethylbenzene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
59. Vinyl Chloride	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
60. m&p-Xylene	U	Y1	µg/L	5.0	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
61. o-Xylene	U	Y1	µg/L	2.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 62. Xylenes	U	Y1	µg/L	7.5	5.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-014

Order: 96319  
Page: 83 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-014 Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-014

Order: 96319  
Page: 84 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-014 Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-014B Matrix: Ground Water  
Description: MW-110D-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:33	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-014**

Order: 96319  
Page: 85 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-110D-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:15</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-014B** **Matrix: Ground Water**  
**Description: MW-110D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>39000</b>		µg/L	10000	1.0	06/06/20	PW20F05D	06/06/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-014A** **Matrix: Ground Water**  
**Description: MW-110D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1700000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-014C** **Matrix: Ground Water**  
**Description: MW-110D-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3100</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-015

Order: 96319  
Page: 86 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-015D Matrix: Ground Water  
Description: MW-101-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	2.6		mg/L	0.25	50	06/04/20	PW20F04B	06/04/20	WQ20F04A	AMW

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-015E Matrix: Ground Water  
Description: MW-101-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7.2	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	130		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	U		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	U		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	U		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	0.63		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-015E Matrix: Ground Water  
Description: MW-101-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.096		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-015 Matrix: Ground Water  
Description: MW-101-052820

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-015

Order: 96319  
Page: 87 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-015  
Description: MW-101-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-015F  
Description: MW-101-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
10. n-Butylbenzene	3.3	E1	µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
11. sec-Butylbenzene	1.8	E1	µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-015

Order: 96319  
Page: 88 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-101-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-015F** **Matrix: Ground Water**  
**Description: MW-101-052820**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
35. Ethylbenzene	5.2		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
42. MTBE	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
43. Naphthalene	8.7		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
44. n-Propylbenzene	4.4		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
45. Styrene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
49. Toluene	1.6		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 56. 1,2,3-Trimethylbenzene	30		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
57. 1,2,4-Trimethylbenzene	50		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
58. 1,3,5-Trimethylbenzene	13		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
60. m&p-Xylene	25		µg/L	2.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
61. o-Xylene	11		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 62. Xylenes	36		µg/L	3.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-015

Order: 96319  
Page: 89 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-101-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-015  
Description: MW-101-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-015

Order: 96319  
Page: 90 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-052820	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-015  
Description: MW-101-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-015B  
Description: MW-101-052820  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.5	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:43	WD20F03A	JMK

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**Analytical Laboratory Report**  
**Laboratory Project Number: 96319**  
**Laboratory Sample Number: 96319-015**

Order: 96319  
Page: 91 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-101-052820</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:30</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-015B**  
**Description: MW-101-052820**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>68000</b>		µg/L	10000	1.0	06/06/20	PW20F05D	06/06/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-015A**  
**Description: MW-101-052820**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>490000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-015C**  
**Description: MW-101-052820**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>3400</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-016

Order: 96319  
Page: 92 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-MW	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 96319-016D Matrix: Ground Water  
Description: Dup-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0091		mg/L	0.0050	1.0	06/04/20	PW20F04B	06/04/20	WQ20F04A	VO

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 96319-016E Matrix: Ground Water  
Description: Dup-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U	LLV-	µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
2. Barium	390		µg/L	100	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
3. Chromium	32		µg/L	10	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
4. Copper	12		µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
5. Lead	44		µg/L	3.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
6. Manganese	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
7. Nickel	U		µg/L	20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
8. Selenium	U		µg/L	5.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
9. Silver	U		µg/L	0.20	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
10. Vanadium	U	LLV-	µg/L	4.0	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH
11. Zinc	U		µg/L	50	10	06/04/20	PT20F04A	06/04/20	T420F04B	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 96319-016E Matrix: Ground Water  
Description: Dup-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.094		µg/L	0.025	1.0	06/02/20	PM20F02B	06/02/20	M720F2B.	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-016 Matrix: Ground Water  
Description: Dup-MW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
5. Aroclor-1248	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-016

Order: 96319  
Page: 93 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-MW	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 96319-016  
Description: Dup-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	06/03/20	PS20F03E	06/04/20	SF20F04C	TKT

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-016F  
Description: Dup-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-016

Order: 96319  
Page: 94 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>Dup-MW</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-016F**  
**Description: Dup-MW**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
37. 2-Hexanone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
40. Methylene Chloride	U	V-	µg/L	5.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
42. MTBE	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
45. Styrene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/04/20	VB20F04A	06/04/20	VB20F04A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
49. Toluene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/03/20	VB20F03B	06/04/20	VB20F03B	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-016

Order: 96319  
Page: 95 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-MW	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-016  
Description: Dup-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
9. Benzo(ghi)perylene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
14. Bis(2-ethylhexyl)phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
15. 4-Bromophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
16. Butyl Benzyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
17. Di-n-butyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
22. 4-Chlorophenyl Phenylether	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
30. 2,4-Dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
35. Hexachlorobenzene	U	L+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
36. Hexachlorobutadiene	U	V+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
37. Hexachlorocyclopentadiene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-016

Order: 96319  
Page: 96 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup-MW	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 96319-016  
Description: Dup-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
39. Indeno(1,2,3-cd)pyrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
51. 4-Nitrophenol	U	V-	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
55. Di-n-octyl Phthalate	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
57. Pentachlorophenol	U	G+	µg/L	20	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
60. Pyrene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	06/04/20	PS20F04A	06/05/20	SN20F04D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 96319-016B  
Description: Dup-MW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	06/03/20 20:59	WD20F03A	JMK

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-016

Order: 96319  
Page: 97 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>Dup-MW</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Inorganic Anions by IC**  
**Method: EPA 9056A**

**Aliquot ID: 96319-016B**  
**Description: Dup-MW**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	<b>28000</b>		µg/L	10000	1.0	06/06/20	PW20F05D	06/06/20	WC20F05A	CMB

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

**Aliquot ID: 96319-016A**  
**Description: Dup-MW**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	<b>1400000</b>		µg/L	52000	1.3	06/03/20	WH20F03A	06/04/20	WH20F03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

**Aliquot ID: 96319-016C**  
**Description: Dup-MW**  
**Matrix: Ground Water**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Ammonia-N	<b>1200</b>		µg/L	10	1.0	06/02/20	PW20F02A	06/02/20	WU20F02A	VO

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-017

Order: 96319  
Page: 98 of 100  
Date: 06/19/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Trip Blank	Chain of Custody:	184649
Client Project Name:	1-10860	Sample No:		Collect Date:	05/28/20
Client Project No:	1-10860	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 96319-017  
Description: Trip Blank  
Matrix: Blank: Trip

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
3. Benzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
7. Bromoform	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
9. 2-Butanone	U		µg/L	25	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
17. Chloroform	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
35. Ethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
36. Ethylene Dibromide	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
37. 2-Hexanone	U	V+	µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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Analytical Laboratory Report  
Laboratory Project Number: 96319  
Laboratory Sample Number: 96319-017

Order: 96319  
Page: 99 of 100  
Date: 06/19/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>Trip Blank</b>	Chain of Custody:	<b>184649</b>
Client Project Name:	<b>1-10860</b>	Sample No:		Collect Date:	<b>05/28/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Blank: Trip</b>	Collect Time:	<b>NA</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 96319-017**  
**Description: Trip Blank**  
**Matrix: Blank: Trip**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Isopropylbenzene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
40. Methylene Chloride	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 41. 2-Methylnaphthalene	U	V+	µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
42. MTBE	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
43. Naphthalene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
44. n-Propylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
45. Styrene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
48. Tetrachloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
49. Toluene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
53. Trichloroethene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
59. Vinyl Chloride	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
60. m&p-Xylene	U		µg/L	2.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
61. o-Xylene	U		µg/L	1.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM
‡ 62. Xylenes	U		µg/L	3.0	1.0	06/02/20	VB20F02A	06/02/20	VB20F02A	JLM

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

- E1** : The reported value is estimated due to the presence of interference.  
**G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.  
**H** : Hold time exceeded.  
**L-** : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.  
**L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.  
**LLV-** : Recovery in the associated low-level continuing calibration verification sample (LLCCV) exceeds the lower control limit. Results may be biased low.  
**LLV+** : Recovery in the associated low-level continuing calibration verification sample (LLCCV) exceeds the upper control limit. Results may be biased high.  
**V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.  
**V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.  
**Y1** : Sample was diluted due to a sample matrix issue.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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Wednesday, August 12, 2020

Fibertec Project Number: 97294  
Project Identification: RTTR (1-10860) /1-10860  
Submittal Date: 07/31/2020

Mr. Greg Oslosky  
Applied Science & Technology, Inc. - Brighton  
10448 Citation  
Suite 100  
Brighton, MI 48116

Dear Mr. Oslosky,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Due to the pH being  $\geq 12$ , sample -001 could not be analyzed for Low Level Mercury.

Please note that samples -001, -002, -005, -008, -009, -011, -012, -013, -014 and -016 for metals analysis arrived at the lab with a pH that exceeded criteria of  $\leq 2$ . The pH for the noted samples ranged from 3-13.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink, appearing to read "Rikki Lott".

By Rikki Lott at 9:46 AM, Aug 12, 2020

For Daryl P. Strandbergh  
Laboratory Director

Enclosures

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-001

Order: 97294  
Page: 2 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 97294-001C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.86		mg/L	0.25	50	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 97294-001D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	470		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	U		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	22		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	24		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	16		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total Aliquot ID: 97294-001D Matrix: Ground Water  
Method: EPA 7470A Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.20		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs) Aliquot ID: 97294-001 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-001

Order: 97294  
Page: 3 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-001 Matrix: Ground Water  
Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/06/20	SO20H06A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-001E Matrix: Ground Water  
Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	20		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	14		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-001

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-001E Matrix: Ground Water  
Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	22		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	75		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,1,2,2-Tetrachloroethane	11		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	22		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	22		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-001

Order: 97294  
Page: 5 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-001  
Description: MW-100i-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	7.1		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
33. Fluoranthene	1.7		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-001

Order: 97294  
Page: 6 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-001  
Description: MW-100i-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
38. Hexachloroethane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
43. 2-Methylphenol	15		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	33		µg/L	10	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
45. Naphthalene	5.6		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
58. Phenanthrene	4.0		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
59. Phenol	29		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-001A  
Description: MW-100i-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. pH	9.80	H	pH Units	-1.00	1.0	NA	NA	08/04/20 13:31	WD20H04A AMW	
‡ 2. Temperature	20		°C	1.0	1.0	NA	NA	08/04/20 13:31	WD20H04A AMW	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-001

Order: 97294  
Page: 7 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100i-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-001A Matrix: Ground Water  
Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	120000		µg/L	10000	5.0	08/05/20	PW20H03C	08/05/20	WC20H04A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-001A Matrix: Ground Water  
Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	2800000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-001B Matrix: Ground Water  
Description: MW-100i-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Ammonia-N	25000		µg/L	50	5.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-002

Order: 97294  
Page: 8 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-002C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.46		mg/L	0.10	20	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-002F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	45		ng/L	4.9	9.9	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-002D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	8.8		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	320		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-002D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-002 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-002

Order: 97294  
Page: 9 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-002 Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/07/20	SO20H07B	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-002E Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	19		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-002

Order: 97294  
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Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-100s-073020** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/30/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **08:55**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

Aliquot ID: **97294-002E** Matrix: **Ground Water**  
Description: **MW-100s-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	61		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-002

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-002E Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-002 Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	30		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-002

Order: 97294  
Page: 12 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-002 Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
33. Fluoranthene	1.2		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	5.4		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	46		µg/L	10	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
45. Naphthalene	59		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
58. Phenanthrene	5.4		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
59. Phenol	23		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-002

Order: 97294  
Page: 13 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-100s-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:55

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-002A Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	08/04/20 20:56	WD20H04D	JMK
‡ 2. Temperature	22		°C	1.0	1.0	NA	NA	08/04/20 20:56	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-002A Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	86000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-002A Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1700000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-002B Matrix: Ground Water  
Description: MW-100s-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	8100		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-003

Order: 97294  
Page: 14 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-073120	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:39

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation)  
Method: ASTM D7237-10

Aliquot ID: 97294-003C Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	2.0		mg/L	0.50	100	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

Mercury by CVAFS, Low-Level, Total  
Method: EPA 1631E

Aliquot ID: 97294-003F Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	14		ng/L	0.99	2.0	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

Trace Elements by ICP/MS, Total Recoverable  
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: 97294-003D Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5.3		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	110		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total  
Method: EPA 7470A

Aliquot ID: 97294-003D Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-003 Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-003

Order: 97294  
Page: 15 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-073120	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:39

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-003  
Description: MW-101-073120  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-003E  
Description: MW-101-073120  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-003

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-073120	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:39

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-003E Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	28		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	42		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	13		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-003

Order: 97294  
Page: 17 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-101-073120	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:39

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-003E Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	24		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	12		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	36		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-003 Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-003

Order: 97294  
Page: 18 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-101-073120** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/31/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **10:39**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-003 Matrix: Ground Water  
Description: MW-101-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
31. 2,4-Dinitrotoluene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
39. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
45. Naphthalene	7.1		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
59. Phenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-003

Order: 97294  
Page: 19 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-101-073120** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/31/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **10:39**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**pH, Electrometric**  
**Method: EPA 9040C**

Aliquot ID: **97294-003A** Matrix: **Ground Water**  
Description: **MW-101-073120**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.5	H	pH Units	-1.00	1.0	NA	NA	08/04/20 20:59	WD20H04D	JMK
‡ 2. Temperature	22		°C	1.0	1.0	NA	NA	08/04/20 20:59	WD20H04D	JMK

**Inorganic Anions by IC**  
**Method: EPA 9056A**

Aliquot ID: **97294-003A** Matrix: **Ground Water**  
Description: **MW-101-073120**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	58000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

**Residue, Filterable (TDS)**  
**Method: SM 2540 C-2011**

Aliquot ID: **97294-003A** Matrix: **Ground Water**  
Description: **MW-101-073120**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	440000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

**Nitrogen, Ammonia (Auto Analyzer)**  
**Method: SM 4500-NH3 G-2011**

Aliquot ID: **97294-003B** Matrix: **Ground Water**  
Description: **MW-101-073120**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	3100		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-004

Order: 97294  
Page: 20 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-004C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.012		mg/L	0.0050	1.0	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-004F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	8.0		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-004D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	110		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	4.5		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	4.5		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	330		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	12		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-004D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-004 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-004

Order: 97294  
Page: 21 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 97294-004** **Matrix: Ground Water**  
**Description: MW-102D-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 97294-004E** **Matrix: Ground Water**  
**Description: MW-102D-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	V+	µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
3. Benzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
4. Bromobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
5. Bromochloromethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
6. Bromodichloromethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
7. Bromoform	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
8. Bromomethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
9. 2-Butanone	U	V+	µg/L	25	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
10. n-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
11. sec-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
12. tert-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
13. Carbon Disulfide	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
15. Chlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
16. Chloroethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
17. Chloroform	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
18. Chloromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
21. Dibromochloromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
22. Dibromomethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-004

Order: 97294  
Page: 22 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-004E Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
35. Ethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
36. Ethylene Dibromide	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
37. 2-Hexanone	U	V+	µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
38. Isopropylbenzene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
40. Methylene Chloride	U	B	µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
42. MTBE	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
43. Naphthalene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
44. n-Propylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
45. Styrene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
47. 1,1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
48. Tetrachloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
49. Toluene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
53. Trichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
54. Trichlorofluoromethane	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
59. Vinyl Chloride	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-004

Order: 97294  
Page: 23 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-004E Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
61. o-Xylene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 62. Xylenes	U		µg/L	3.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-004 Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-004

Order: 97294  
Page: 24 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-102D-073020** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/30/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **11:30**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-004 Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
59. Phenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-004

Order: 97294  
Page: 25 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-102D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-004A Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.42	H	pH Units	-1.00	1.0	NA	NA	08/04/20 13:48	WD20H04A	AMW
‡ 2. Temperature	20		°C	1.0	1.0	NA	NA	08/04/20 13:48	WD20H04A	AMW

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-004A Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	16000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-004A Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	370000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-004B Matrix: Ground Water  
Description: MW-102D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	150		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-005

Order: 97294  
Page: 26 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 97294-005C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	2.4		mg/L	0.25	50	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

Mercury by CVAFS, Low-Level, Total Aliquot ID: 97294-005F Matrix: Ground Water  
Method: EPA 1631E Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	40		ng/L	5.0	9.9	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 97294-005D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	380		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total Aliquot ID: 97294-005D Matrix: Ground Water  
Method: EPA 7470A Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs) Aliquot ID: 97294-005 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-005

Order: 97294  
Page: 27 of 98  
Date: 08/12/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-103-073020</b>	Chain of Custody:	<b>184381</b>
Client Project Name:	<b>RTTR (1-10860)</b>	Sample No:		Collect Date:	<b>07/30/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>12:10</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 97294-005** **Matrix: Ground Water**  
**Description: MW-103-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 97294-005E** **Matrix: Ground Water**  
**Description: MW-103-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-005

Order: 97294  
Page: 28 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-005E Matrix: Ground Water  
Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	22		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-005

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-005E Matrix: Ground Water  
Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-005 Matrix: Ground Water  
Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	36		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-005

Order: 97294  
Page: 30 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-103-073020** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/30/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **12:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-005 Matrix: Ground Water  
Description: MW-103-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
33. Fluoranthene	1.1		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	12		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
45. Naphthalene	22		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
58. Phenanthrene	5.2		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
59. Phenol	6.3		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-005

Order: 97294  
Page: 31 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-103-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	12:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

<b>pH, Electrometric</b>						<b>Aliquot ID:</b>	<b>97294-005A</b>	<b>Matrix: Ground Water</b>		
<b>Method: EPA 9040C</b>						<b>Description:</b>	<b>MW-103-073020</b>			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:01	WD20H04D	JMK
‡ 2. Temperature	22		°C	1.0	1.0	NA	NA	08/04/20 21:01	WD20H04D	JMK

<b>Inorganic Anions by IC</b>						<b>Aliquot ID:</b>	<b>97294-005A</b>	<b>Matrix: Ground Water</b>		
<b>Method: EPA 9056A</b>						<b>Description:</b>	<b>MW-103-073020</b>			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	22000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

<b>Residue, Filterable (TDS)</b>						<b>Aliquot ID:</b>	<b>97294-005A</b>	<b>Matrix: Ground Water</b>		
<b>Method: SM 2540 C-2011</b>						<b>Description:</b>	<b>MW-103-073020</b>			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1400000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

<b>Nitrogen, Ammonia (Auto Analyzer)</b>						<b>Aliquot ID:</b>	<b>97294-005B</b>	<b>Matrix: Ground Water</b>		
<b>Method: SM 4500-NH3 G-2011</b>						<b>Description:</b>	<b>MW-103-073020</b>			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	3600		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-006

Order: 97294  
Page: 32 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-006C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.012		mg/L	0.0050	1.0	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-006F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	18		ng/L	2.0	3.9	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-006D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	50		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	U		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	7.4		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	120		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-006D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-006 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-006

Order: 97294  
Page: 33 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-006 Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-006E Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-006

Order: 97294  
Page: 34 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-006E Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	17		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-006

Order: 97294  
Page: 35 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-006E Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-006 Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	430	G+	µg/L	20	20	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-006

Order: 97294  
Page: 36 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-104-073020** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/30/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **15:40**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-006 Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
43. 2-Methylphenol	8.8	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	78	G+	µg/L	10	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U	G+	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-006

Order: 97294  
Page: 37 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-104-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	15:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-006A Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.0	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:03	WD20H04D	JMK
‡ 2. Temperature	22		°C	1.0	1.0	NA	NA	08/04/20 21:03	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-006A Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	240000		µg/L	10000	10	08/05/20	PW20H03C	08/05/20	WC20H04A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-006A Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	860000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-006B Matrix: Ground Water  
Description: MW-104-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	16000		µg/L	20	2.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-007

Order: 97294  
Page: 38 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 97294-007C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0057		mg/L	0.0050	1.0	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

Mercury by CVAFS, Low-Level, Total Aliquot ID: 97294-007F Matrix: Ground Water  
Method: EPA 1631E Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	26		ng/L	2.0	4.0	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 97294-007D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	11		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	U		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	4.6		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	7.1		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total Aliquot ID: 97294-007D Matrix: Ground Water  
Method: EPA 7470A Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs) Aliquot ID: 97294-007 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-007

Order: 97294  
Page: 39 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-007  
Description: MW-105-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-007E  
Description: MW-105-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
3. Benzene	1.1		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
4. Bromobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
5. Bromochloromethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
6. Bromodichloromethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
7. Bromoform	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
8. Bromomethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
9. 2-Butanone	U	V+	µg/L	25	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
10. n-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
11. sec-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
12. tert-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
13. Carbon Disulfide	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
15. Chlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
16. Chloroethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
17. Chloroform	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
18. Chloromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
21. Dibromochloromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
22. Dibromomethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-007

Order: 97294  
Page: 40 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-007E Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
35. Ethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
36. Ethylene Dibromide	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
37. 2-Hexanone	U	V+	µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
38. Isopropylbenzene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
40. Methylene Chloride	U	B	µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
42. MTBE	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
43. Naphthalene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
44. n-Propylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
45. Styrene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
48. Tetrachloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
49. Toluene	5.8		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
53. Trichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
54. Trichlorofluoromethane	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
59. Vinyl Chloride	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-007

Order: 97294  
Page: 41 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-007E Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
61. o-Xylene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 62. Xylenes	U		µg/L	3.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-007 Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	20		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-007

Order: 97294  
Page: 42 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-105-073020** Chain of Custody: **184381**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/30/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **13:50**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-007 Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
43. 2-Methylphenol	5.9		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	28		µg/L	10	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
59. Phenol	17		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/04/20	PS20H04D	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-007

Order: 97294  
Page: 43 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-105-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	13:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-007A Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	11.9	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:04	WD20H04D	JMK
‡ 2. Temperature	22		°C	1.0	1.0	NA	NA	08/04/20 21:04	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-007A Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	29000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-007A Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	690000		µg/L	50000	1.3	08/03/20	WH20G03A	08/04/20	WH20G03A	JMK

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-007B Matrix: Ground Water  
Description: MW-105-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	5500		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-008

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:58

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 97294-008C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U		mg/L	0.0050	1.0	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

Mercury by CVAFS, Low-Level, Total Aliquot ID: 97294-008F Matrix: Ground Water  
Method: EPA 1631E Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	1.3		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 97294-008D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	240		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	14		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	6.9		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total Aliquot ID: 97294-008D Matrix: Ground Water  
Method: EPA 7470A Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs) Aliquot ID: 97294-008 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-008

Order: 97294  
Page: 45 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:58

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-008 Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-008E Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-008

Order: 97294  
Page: 46 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:58

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-008E Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-008

Order: 97294  
Page: 47 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:58

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-008E Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-008 Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-008

Order: 97294  
Page: 48 of 98  
Date: 08/12/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-106-073020</b>	Chain of Custody:	<b>184381</b>
Client Project Name:	<b>RTTR (1-10860)</b>	Sample No:		Collect Date:	<b>07/30/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>18:58</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-008 Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
31. 2,4-Dinitrotoluene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
39. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
59. Phenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-008

Order: 97294  
Page: 49 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-106-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:58

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-008A Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:06	WD20H04D	JMK
‡ 2. Temperature	22		°C	1.0	1.0	NA	NA	08/04/20 21:06	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-008A Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	47000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-008A Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1500000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-008B Matrix: Ground Water  
Description: MW-106-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	2200		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-009

Order: 97294  
Page: 50 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-009C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	6.0		mg/L	0.50	100	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-009F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	38		ng/L	4.9	9.9	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-009D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5.9		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	U		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-009D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-009 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-009

Order: 97294  
Page: 51 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-009 Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-009E Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-009

Order: 97294  
Page: 52 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-009E Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	96		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-009

Order: 97294  
Page: 53 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-009E Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-009 Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
28. 2,4-Dimethylphenol	170		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-009

Order: 97294  
Page: 54 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-009 Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
31. 2,4-Dinitrotoluene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
39. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
42. 2-Methylnaphthalene	9.1		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
43. 2-Methylphenol	6.0		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 44. 3&4-Methylphenol	69		µg/L	10	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
45. Naphthalene	110		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
59. Phenol	19		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-009

Order: 97294  
Page: 55 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107S-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	17:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-009A Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.0	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:07	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:07	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-009A Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	24000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-009A Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	730000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-009B Matrix: Ground Water  
Description: MW-107S-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	11000		µg/L	20	2.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-010

Order: 97294  
Page: 56 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-010C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.016		mg/L	0.0050	1.0	08/05/20	PW20H05B	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-010F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.97		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-010D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	U		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-010D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-010 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-010

Order: 97294  
Page: 57 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-010 Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-010E Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
3. Benzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
4. Bromobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
5. Bromochloromethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
6. Bromodichloromethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
7. Bromoform	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
8. Bromomethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
9. 2-Butanone	U	V+	µg/L	25	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
10. n-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
11. sec-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
12. tert-Butylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
13. Carbon Disulfide	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
15. Chlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
16. Chloroethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
17. Chloroform	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
18. Chloromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
21. Dibromochloromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
22. Dibromomethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-010

Order: 97294  
Page: 58 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-010E Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
24. 1,3-Dichlorobenzene	1.3		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
35. Ethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
36. Ethylene Dibromide	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
37. 2-Hexanone	U	V+	µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
38. Isopropylbenzene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
40. Methylene Chloride	U	B	µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
42. MTBE	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
43. Naphthalene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
44. n-Propylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
45. Styrene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
48. Tetrachloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
49. Toluene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
53. Trichloroethene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
54. Trichlorofluoromethane	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
59. Vinyl Chloride	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-010

Order: 97294  
Page: 59 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-010E Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	2.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
61. o-Xylene	U		µg/L	1.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS
‡ 62. Xylenes	U		µg/L	3.0	1.0	08/06/20	VM20H06A	08/06/20	VM20H06A	WCS

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-010 Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-010

Order: 97294  
Page: 60 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-010 Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
31. 2,4-Dinitrotoluene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
39. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
59. Phenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
60. Pyrene	U	L+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/07/20	S620H07C	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-010

Order: 97294  
Page: 61 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-107D-073020	Chain of Custody:	184381
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	18:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-010A Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	8.02	H	pH Units	-1.00	1.0	NA	NA	08/04/20 14:42	WD20H04A	AMW
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 14:42	WD20H04A	AMW

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-010A Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	27000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-010A Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	390000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-010B Matrix: Ground Water  
Description: MW-107D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	32		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-011

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 97294-011C Matrix: Ground Water  
Method: ASTM D7237-10 Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0087	*	mg/L	0.0050	1.0	08/05/20	PW20H05C	08/05/20	WQ20H05A	VO

Mercury by CVAFS, Low-Level, Total Aliquot ID: 97294-011F Matrix: Ground Water  
Method: EPA 1631E Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	3.2		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 97294-011D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	340		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	19		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	27		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	64		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	93 LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total Aliquot ID: 97294-011D Matrix: Ground Water  
Method: EPA 7470A Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs) Aliquot ID: 97294-011 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-011

Order: 97294  
Page: 63 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-011 Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-011E Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-011

Order: 97294  
Page: 64 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-011E Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-011

Order: 97294  
Page: 65 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-011E Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-011 Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-011

Order: 97294  
Page: 66 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-011  
Description: MW-108-073120  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
58. Phenanthrene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
59. Phenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-011

Order: 97294  
Page: 67 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-108-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	08:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-011A Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.3	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:09	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:09	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-011A Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	26000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-011A Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1100000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-011B Matrix: Ground Water  
Description: MW-108-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	1800		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-012

Order: 97294  
Page: 68 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-012C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.15	*	mg/L	0.025	5.0	08/05/20	PW20H05C	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-012F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	2.1		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-012D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	510		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	U		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-012D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-012 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-012

Order: 97294  
Page: 69 of 98  
Date: 08/12/20

Client Identification:	<b>Applied Science &amp; Technology, Inc. - Brighton</b>	Sample Description:	<b>MW-109D-073020</b>	Chain of Custody:	<b>184382</b>
Client Project Name:	<b>RTTR (1-10860)</b>	Sample No:		Collect Date:	<b>07/30/20</b>
Client Project No:	<b>1-10860</b>	Sample Matrix:	<b>Ground Water</b>	Collect Time:	<b>16:50</b>

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Polychlorinated Biphenyls (PCBs)**  
**Method: EPA 3510C/EPA 8082A**

**Aliquot ID: 97294-012** **Matrix: Ground Water**  
**Description: MW-109D-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

**Volatile Organic Compounds (VOCs) by GC/MS**  
**Method: EPA 5030C/EPA 8260D**

**Aliquot ID: 97294-012E** **Matrix: Ground Water**  
**Description: MW-109D-073020**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-012

Order: 97294  
Page: 70 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-012E Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-012

Order: 97294  
Page: 71 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-012E Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-012 Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
2. Acenaphthylene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-012

Order: 97294  
Page: 72 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-012 Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
33. Fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
34. Fluorene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
58. Phenanthrene	2.7		µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
59. Phenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-012

Order: 97294  
Page: 73 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-109D-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	16:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-012A Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	E	pH Units	-1.00	1.0	NA	NA	08/04/20 21:14	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:14	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-012A Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	30000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-012A Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	2000000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-012B Matrix: Ground Water  
Description: MW-109D-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	3700		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-013

Order: 97294  
Page: 74 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-013C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	0.0063	*	mg/L	0.0050	1.0	08/05/20	PW20H05C	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-013F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	0.90		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-013D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	390		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	52		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	5.9		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-013D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-013 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-013

Order: 97294  
Page: 75 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-013 Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-013E Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-013

Order: 97294  
Page: 76 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-013E Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-013

Order: 97294  
Page: 77 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-013E Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-013 Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
2. Acenaphthylene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
3. Aniline	U	G+	µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
4. Anthracene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 5. Azobenzene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
6. Benzo(a)anthracene	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 18. Carbazole	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
19. 4-Chloro-3-methylphenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
21. 2-Chlorophenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
23. Chrysene	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U	G+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
25. Dibenzofuran	U	G+	µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
26. 2,4-Dichlorophenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
28. 2,4-Dimethylphenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-013

Order: 97294  
Page: 78 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-110S-073120** Chain of Custody: **184382**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/31/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **10:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-013 Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
30. 2,4-Dinitrophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
31. 2,4-Dinitrotoluene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
32. 2,6-Dinitrotoluene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
33. Fluoranthene	U	G+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
34. Fluorene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
35. Hexachlorobenzene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
36. Hexachlorobutadiene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V-	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
38. Hexachloroethane	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
40. Isophorone	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U	G+	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
42. 2-Methylnaphthalene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	U	G+	µg/L	10	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
45. Naphthalene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U	G+	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
47. 3-Nitroaniline	U	G+	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
48. 4-Nitroaniline	U	G+	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
49. Nitrobenzene	U	G+	µg/L	3.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U	G+	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
52. N-Nitrosodimethylamine	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U	V-	µg/L	20	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
58. Phenanthrene	U	G+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
59. Phenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
61. Pyridine	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U	G+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
64. 2,4,6-Trichlorophenol	U	G+	µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-013

Order: 97294  
Page: 79 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110S-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-013A Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.4	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:15	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:15	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-013A Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	42000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-013A Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1500000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-013B Matrix: Ground Water  
Description: MW-110S-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	4000		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-014

Order: 97294  
Page: 80 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-014C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U	*	mg/L	0.0050	1.0	08/05/20	PW20H05C	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-014F Matrix: Ground Water  
**Method: EPA 1631E** Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	3.6		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-014D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	530		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	34		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	5.8		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	10		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-014D Matrix: Ground Water  
**Method: EPA 7470A** Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-014 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-014

Order: 97294  
Page: 81 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-014 Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-014E Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-014

Order: 97294  
Page: 82 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-014E Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-014

Order: 97294  
Page: 83 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-014E Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-014 Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
2. Acenaphthylene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
3. Aniline	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
4. Anthracene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 5. Azobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
8. Benzo(b)fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
9. Benzo(ghi)perylene	U	L+	µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
10. Benzo(k)fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
11. Benzyl Alcohol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
13. Bis(2-chloroethyl)ether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 18. Carbazole	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
20. 2-Chloronaphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
21. 2-Chlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
25. Dibenzofuran	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
26. 2,4-Dichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
27. Diethyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
28. 2,4-Dimethylphenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-014

Order: 97294  
Page: 84 of 98  
Date: 08/12/20

Client Identification: **Applied Science & Technology, Inc. - Brighton** Sample Description: **MW-110D-073120** Chain of Custody: **184382**  
Client Project Name: **RTTR (1-10860)** Sample No: Collect Date: **07/31/20**  
Client Project No: **1-10860** Sample Matrix: **Ground Water** Collect Time: **11:30**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-014 Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
30. 2,4-Dinitrophenol	U		µg/L	100	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
31. 2,4-Dinitrotoluene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
32. 2,6-Dinitrotoluene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
33. Fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
34. Fluorene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
35. Hexachlorobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
36. Hexachlorobutadiene	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
37. Hexachlorocyclopentadiene	U	V+	µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
38. Hexachloroethane	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
40. Isophorone	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
42. 2-Methylnaphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
43. 2-Methylphenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 44. 3&4-Methylphenol	U		µg/L	10	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
45. Naphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
46. 2-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
47. 3-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
48. 4-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
49. Nitrobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
50. 2-Nitrophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
51. 4-Nitrophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
52. N-Nitrosodimethylamine	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
54. N-Nitrosodiphenylamine	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
57. Pentachlorophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
58. Phenanthrene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
59. Phenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
60. Pyrene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
62. 1,2,4-Trichlorobenzene	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
64. 2,4,6-Trichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-014

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	MW-110D-073120	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/31/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-014A Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	E	pH Units	-1.00	1.0	NA	NA	08/04/20 21:16	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:16	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-014A Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	37000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-014A Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1800000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-014B Matrix: Ground Water  
Description: MW-110D-073120

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	3500		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-015

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Page: 86 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

**Cyanide, Free (without distillation)** Aliquot ID: 97294-015C Matrix: Ground Water  
**Method: ASTM D7237-10** Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U	*	mg/L	0.0050	1.0	08/05/20	PW20H05C	08/05/20	WQ20H05A	VO

**Mercury by CVAFS, Low-Level, Total** Aliquot ID: 97294-015F Matrix: Ground Water  
**Method: EPA 1631E** Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	30		ng/L	5.0	9.9	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

**Trace Elements by ICP/MS, Total Recoverable** Aliquot ID: 97294-015D Matrix: Ground Water  
**Method: EPA 3005A (Total Recoverable)/EPA 6020A** Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	U		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	14		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	11		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	U		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	14		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

**Mercury by CVAAS, Total** Aliquot ID: 97294-015D Matrix: Ground Water  
**Method: EPA 7470A** Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

**Polychlorinated Biphenyls (PCBs)** Aliquot ID: 97294-015 Matrix: Ground Water  
**Method: EPA 3510C/EPA 8082A** Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-015

Order: 97294  
Page: 87 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-015  
Description: TMW-26-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-015E  
Description: TMW-26-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-015

Order: 97294  
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Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-015E Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-015

Order: 97294  
Page: 89 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-015E Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-015 Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acenaphthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
2. Acenaphthylene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
3. Aniline	U		µg/L	4.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
4. Anthracene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 5. Azobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
9. Benzo(ghi)perylene	U	L+	µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
11. Benzyl Alcohol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 18. Carbazole	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
20. 2-Chloronaphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
21. 2-Chlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
25. Dibenzofuran	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
27. Diethyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-015

Order: 97294  
Page: 90 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-015  
Description: TMW-26-073020  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
30. 2,4-Dinitrophenol	U		µg/L	100	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
31. 2,4-Dinitrotoluene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
32. 2,6-Dinitrotoluene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
33. Fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
34. Fluorene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
35. Hexachlorobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
37. Hexachlorocyclopentadiene	U	V+	µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
38. Hexachloroethane	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	2.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
40. Isophorone	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
43. 2-Methylphenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
45. Naphthalene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
46. 2-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
47. 3-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
48. 4-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
49. Nitrobenzene	U		µg/L	3.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
50. 2-Nitrophenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
51. 4-Nitrophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
54. N-Nitrosodiphenylamine	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
55. Di-n-octyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
57. Pentachlorophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
58. Phenanthrene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
59. Phenol	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
60. Pyrene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
64. 2,4,6-Trichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-015

Order: 97294  
Page: 91 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	TMW-26-073020	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	14:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-015A Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.0	H	pH Units	-1.00	1.0	NA	NA	08/04/20 21:23	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:23	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-015A Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	U		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-015A Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	540000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-015B Matrix: Ground Water  
Description: TMW-26-073020

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	3300		µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-016

Order: 97294  
Page: 92 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup3-GW	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Free (without distillation) Aliquot ID: 97294-016C Matrix: Ground Water  
Method: ASTM D7237-10 Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Cyanide, Free	U	*	mg/L	0.0050	1.0	08/05/20	PW20H05C	08/05/20	WQ20H05A	VO

Mercury by CVAFS, Low-Level, Total Aliquot ID: 97294-016F Matrix: Ground Water  
Method: EPA 1631E Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	3.7		ng/L	0.50	0.99	08/07/20	PM20H07B	08/07/20	M520H07A	CJA

Trace Elements by ICP/MS, Total Recoverable Aliquot ID: 97294-016D Matrix: Ground Water  
Method: EPA 3005A (Total Recoverable)/EPA 6020A Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
2. Barium	520		µg/L	100	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
3. Chromium	33		µg/L	10	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
4. Copper	7.1		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
5. Lead	9.9		µg/L	3.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
6. Manganese	U		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
7. Nickel	U		µg/L	20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
8. Selenium	U		µg/L	5.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
9. Silver	U		µg/L	0.20	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
10. Vanadium	U		µg/L	4.0	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH
11. Zinc	U LLV+		µg/L	50	10	08/06/20	PT20H06B	08/06/20	T420H06A	JLH

Mercury by CVAAS, Total Aliquot ID: 97294-016D Matrix: Ground Water  
Method: EPA 7470A Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/L	0.20	1.0	08/04/20	PM20H04B	08/05/20	M720H05A	AVC

Polychlorinated Biphenyls (PCBs) Aliquot ID: 97294-016 Matrix: Ground Water  
Method: EPA 3510C/EPA 8082A Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-016

Order: 97294  
Page: 93 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup3-GW	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs)  
Method: EPA 3510C/EPA 8082A

Aliquot ID: 97294-016  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
2. Aroclor-1221	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
3. Aroclor-1232	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
4. Aroclor-1242	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
5. Aroclor-1248	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
6. Aroclor-1254	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
7. Aroclor-1260	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	08/05/20	PS20H05E	08/05/20	SO20H05A	BDA

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-016E  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/L	200	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 2. Acrylonitrile	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
3. Benzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
4. Bromobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
5. Bromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
6. Bromodichloromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
7. Bromoform	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
8. Bromomethane	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
9. 2-Butanone	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
10. n-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
11. sec-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
12. tert-Butylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
13. Carbon Disulfide	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
14. Carbon Tetrachloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
15. Chlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
16. Chloroethane	U		µg/L	40	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
17. Chloroform	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
18. Chloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
19. 2-Chlorotoluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
21. Dibromochloromethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
22. Dibromomethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-016

Order: 97294  
Page: 94 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup3-GW	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-016E  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
23. 1,2-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
24. 1,3-Dichlorobenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
25. 1,4-Dichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
26. Dichlorodifluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
27. 1,1-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
28. 1,2-Dichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
29. 1,1-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
30. cis-1,2-Dichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
31. trans-1,2-Dichloroethene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
32. 1,2-Dichloropropane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
33. cis-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
34. trans-1,3-Dichloropropene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
35. Ethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
36. Ethylene Dibromide	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
37. 2-Hexanone	U	V+	µg/L	50	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
38. Isopropylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
39. 4-Methyl-2-pentanone	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
40. Methylene Chloride	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 41. 2-Methylnaphthalene	U		µg/L	100	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
42. MTBE	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
43. Naphthalene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
44. n-Propylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
45. Styrene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
46. 1,1,1,2-Tetrachloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
47. 1,1,2,2-Tetrachloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
48. Tetrachloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
49. Toluene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
50. 1,2,4-Trichlorobenzene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
51. 1,1,1-Trichloroethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 52. 1,1,2-Trichloroethane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
53. Trichloroethene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
54. Trichlorofluoromethane	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
55. 1,2,3-Trichloropropane	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
57. 1,2,4-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
58. 1,3,5-Trimethylbenzene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
59. Vinyl Chloride	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-016

Order: 97294  
Page: 95 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup3-GW	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS  
Method: EPA 5030C/EPA 8260D

Aliquot ID: 97294-016E Matrix: Ground Water  
Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. m&p-Xylene	U		µg/L	20	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
61. o-Xylene	U		µg/L	10	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM
‡ 62. Xylenes	U		µg/L	30	20	08/05/20	VB20H05A	08/05/20	VB20H05A	KCM

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-016 Matrix: Ground Water  
Description: Dup3-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
2. Acenaphthylene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
3. Aniline	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
4. Anthracene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 5. Azobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
7. Benzo(a)pyrene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
8. Benzo(b)fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
9. Benzo(ghi)perylene	U	L+	µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
10. Benzo(k)fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
11. Benzyl Alcohol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
13. Bis(2-chloroethyl)ether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
14. Bis(2-ethylhexyl)phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
16. Butyl Benzyl Phthalate	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
17. Di-n-butyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 18. Carbazole	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
19. 4-Chloro-3-methylphenol	12		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
20. 2-Chloronaphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
21. 2-Chlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
23. Chrysene	U		µg/L	1.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
24. Dibenzo(a,h)anthracene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
25. Dibenzofuran	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
26. 2,4-Dichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
27. Diethyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
28. 2,4-Dimethylphenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-016

Order: 97294  
Page: 96 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup3-GW	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS  
Method: EPA 3510C/EPA 8270E

Aliquot ID: 97294-016  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. Dimethyl Phthalate	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
30. 2,4-Dinitrophenol	U		µg/L	100	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
31. 2,4-Dinitrotoluene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
32. 2,6-Dinitrotoluene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
33. Fluoranthene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
34. Fluorene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
35. Hexachlorobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
36. Hexachlorobutadiene	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
37. Hexachlorocyclopentadiene	U	V+	µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
38. Hexachloroethane	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
39. Indeno(1,2,3-cd)pyrene	U	L+	µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
40. Isophorone	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
41. 2-Methyl-4,6-dinitrophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
42. 2-Methylnaphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
43. 2-Methylphenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
‡ 44. 3&4-Methylphenol	U		µg/L	10	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
45. Naphthalene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
46. 2-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
47. 3-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
48. 4-Nitroaniline	U		µg/L	20	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
49. Nitrobenzene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
50. 2-Nitrophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
51. 4-Nitrophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
52. N-Nitrosodimethylamine	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
54. N-Nitrosodiphenylamine	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
55. Di-n-octyl Phthalate	U	L+	µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
57. Pentachlorophenol	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
58. Phenanthrene	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
59. Phenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
60. Pyrene	U	V+	µg/L	5.0	1.0	08/06/20	PS20H06G	08/08/20	S620H07D	GJP
61. Pyridine	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
62. 1,2,4-Trichlorobenzene	U		µg/L	25	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS
64. 2,4,6-Trichlorophenol	U		µg/L	5.0	5.0	08/06/20	PS20H06G	08/11/20	SN20H10C	ALS

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Analytical Laboratory Report  
Laboratory Project Number: 97294  
Laboratory Sample Number: 97294-016

Order: 97294  
Page: 97 of 98  
Date: 08/12/20

Client Identification:	Applied Science & Technology, Inc. - Brighton	Sample Description:	Dup3-GW	Chain of Custody:	184382
Client Project Name:	RTTR (1-10860)	Sample No:		Collect Date:	07/30/20
Client Project No:	1-10860	Sample Matrix:	Ground Water	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

pH, Electrometric  
Method: EPA 9040C

Aliquot ID: 97294-016A  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. pH	12.5	E	pH Units	-1.00	1.0	NA	NA	08/04/20 21:24	WD20H04D	JMK
‡ 2. Temperature	21		°C	1.0	1.0	NA	NA	08/04/20 21:25	WD20H04D	JMK

Inorganic Anions by IC  
Method: EPA 9056A

Aliquot ID: 97294-016A  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	37000		µg/L	10000	1.0	08/04/20	PW20H03C	08/04/20	WC20H03A	VO

Residue, Filterable (TDS)  
Method: SM 2540 C-2011

Aliquot ID: 97294-016A  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	1900000		µg/L	50000	1.3	08/05/20	WH20H05C	08/07/20	WH20H05C	CMB

Nitrogen, Ammonia (Auto Analyzer)  
Method: SM 4500-NH3 G-2011

Aliquot ID: 97294-016B  
Description: Dup3-GW  
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	3500	F-	µg/L	10	1.0	08/07/20	PW20H07A	08/07/20	WU20H07B	AMW

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**Definitions/ Qualifiers:**

- A:** Spike recovery or precision unusable due to dilution.  
**B:** The analyte was detected in the associated method blank.  
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.  
**J:** The concentration is an estimated value.  
**M:** Modified Method  
**U:** The analyte was not detected at or above the reporting limit.  
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.  
**W:** Results reported on a wet-weight basis.  
**\*:** Value reported is outside QC limits

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**Exception Summary:**

- \*** : Duplicate analysis not within control limits.  
**B** : Analyte is found in the associated method blank as well as in the sample.  
**E** : This flag identifies compounds whose response exceed the response of the highest standard in the initial calibration range of the instrument for that specific analysis.  
**F-** : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).  
**G+** : Recovery of the associated Surrogate Compound exceeds the upper control limit. Results may be biased high.  
**H** : Hold time exceeded.  
**L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.  
**LLV+** : Recovery in the associated low-level continuing calibration verification sample (LLCCV) exceeds the upper control limit. Results may be biased high.  
**V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.  
**V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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**Attachment D**  
**ProUCL Output Files**

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2	Northern Flow Zone											
3	User Selected Options								RTRR - Riverview			
4	Date/Time of Computation			ProUCL 5.13/31/2021 2:01:33 PM					ASTI Project Number: 10860			
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	Arsenic											
12												
13	General Statistics											
14	Total Number of Observations				8		Number of Distinct Observations				8	
15							Number of Missing Observations				0	
16	Minimum				8.8		Mean				161.6	
17	Maximum				470		Median				75.5	
18	SD				181.4		Std. Error of Mean				64.15	
19	Coefficient of Variation				1.123		Skewness				1.046	
20												
21	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
22	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
23	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
24	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
25												
26	Normal GOF Test											
27	Shapiro Wilk Test Statistic				0.816		Shapiro Wilk GOF Test					
28	5% Shapiro Wilk Critical Value				0.818		Data Not Normal at 5% Significance Level					
29	Lilliefors Test Statistic				0.258		Lilliefors GOF Test					
30	5% Lilliefors Critical Value				0.283		Data appear Normal at 5% Significance Level					
31	Data appear Approximate Normal at 5% Significance Level											
32												
33	Assuming Normal Distribution											
34	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
35	95% Student's-t UCL				283.1		95% Adjusted-CLT UCL (Chen-1995)				292.5	
36							95% Modified-t UCL (Johnson-1978)				287.1	
37												
38	Gamma GOF Test											
39	A-D Test Statistic				0.286		Anderson-Darling Gamma GOF Test					
40	5% A-D Critical Value				0.744		Detected data appear Gamma Distributed at 5% Significance Level					
41	K-S Test Statistic				0.174		Kolmogorov-Smimov Gamma GOF Test					
42	5% K-S Critical Value				0.304		Detected data appear Gamma Distributed at 5% Significance Level					
43	Detected data appear Gamma Distributed at 5% Significance Level											
44												
45	Gamma Statistics											
46	k hat (MLE)				0.777		k star (bias corrected MLE)				0.569	
47	Theta hat (MLE)				207.9		Theta star (bias corrected MLE)				284	
48	nu hat (MLE)				12.44		nu star (bias corrected)				9.106	
49	MLE Mean (bias corrected)				161.6		MLE Sd (bias corrected)				214.2	
50							Approximate Chi Square Value (0.05)				3.391	
51	Adjusted Level of Significance				0.0195		Adjusted Chi Square Value				2.57	
52												
53	Assuming Gamma Distribution											
54	95% Approximate Gamma UCL (use when n>=50))				434		95% Adjusted Gamma UCL (use when n<50)				572.5	

	A	B	C	D	E	F	G	H	I	J	K	L
55												
56	Lognormal GOF Test											
57	Shapiro Wilk Test Statistic				0.947		Shapiro Wilk Lognormal GOF Test					
58	5% Shapiro Wilk Critical Value				0.818		Data appear Lognormal at 5% Significance Level					
59	Lilliefors Test Statistic				0.133		Lilliefors Lognormal GOF Test					
60	5% Lilliefors Critical Value				0.283		Data appear Lognormal at 5% Significance Level					
61	Data appear Lognormal at 5% Significance Level											
62												
63	Lognormal Statistics											
64	Minimum of Logged Data				2.175		Mean of logged Data				4.319	
65	Maximum of Logged Data				6.153		SD of logged Data				1.469	
66												
67	Assuming Lognormal Distribution											
68	95% H-UCL				2930		90% Chebyshev (MVUE) UCL				457.5	
69	95% Chebyshev (MVUE) UCL				584.1		97.5% Chebyshev (MVUE) UCL				759.8	
70	99% Chebyshev (MVUE) UCL				1105							
71												
72	Nonparametric Distribution Free UCL Statistics											
73	Data appear to follow a Discernible Distribution at 5% Significance Level											
74												
75	Nonparametric Distribution Free UCLs											
76	95% CLT UCL				267.1		95% Jackknife UCL				283.1	
77	95% Standard Bootstrap UCL				259.6		95% Bootstrap-t UCL				412.8	
78	95% Hall's Bootstrap UCL				323.5		95% Percentile Bootstrap UCL				271.6	
79	95% BCA Bootstrap UCL				284.9							
80	90% Chebyshev(Mean, Sd) UCL				354		95% Chebyshev(Mean, Sd) UCL				441.2	
81	97.5% Chebyshev(Mean, Sd) UCL				562.2		99% Chebyshev(Mean, Sd) UCL				799.9	
82												
83	Suggested UCL to Use											
84	95% Student's-t UCL				283.1							
85												
86	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
87	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
88												
89	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
90	Recommendations are based upon data size, data distribution, and skewness.											
91	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
92	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
93												
94	Total Chromium											
95												
96	General Statistics											
97	Total Number of Observations				8		Number of Distinct Observations				2	
98	Number of Detects				1		Number of Non-Detects				7	
99	Number of Distinct Detects				1		Number of Distinct Non-Detects				1	
100												
101	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
102	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
103												
104	The data set for variable Total Chromium was not processed!											
105												
106												
107	Mercury											
108												

	A	B	C	D	E	F	G	H	I	J	K	L
109	General Statistics											
110	Total Number of Observations					8	Number of Distinct Observations					4
111	Number of Detects					4	Number of Non-Detects					4
112	Number of Distinct Detects					4	Number of Distinct Non-Detects					1
113	Minimum Detect					0.045	Minimum Non-Detect					0.2
114	Maximum Detect					0.424	Maximum Non-Detect					0.2
115	Variance Detects					0.0274	Percent Non-Detects					50%
116	Mean Detects					0.195	SD Detects					0.166
117	Median Detects					0.155	CV Detects					0.85
118	Skewness Detects					1.188	Kurtosis Detects					1.229
119	Mean of Logged Detects					-1.944	SD of Logged Detects					0.949
120												
121	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
122	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
123	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
124	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
125												
126	Normal GOF Test on Detects Only											
127	Shapiro Wilk Test Statistic					0.924	Shapiro Wilk GOF Test					
128	5% Shapiro Wilk Critical Value					0.748	Detected Data appear Normal at 5% Significance Level					
129	Lilliefors Test Statistic					0.237	Lilliefors GOF Test					
130	5% Lilliefors Critical Value					0.375	Detected Data appear Normal at 5% Significance Level					
131	Detected Data appear Normal at 5% Significance Level											
132												
133	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
134	KM Mean					0.136	KM Standard Error of Mean					0.0514
135	KM SD					0.119	95% KM (BCA) UCL					N/A
136	95% KM (t) UCL					0.233	95% KM (Percentile Bootstrap) UCL					N/A
137	95% KM (z) UCL					0.221	95% KM Bootstrap t UCL					N/A
138	90% KM Chebyshev UCL					0.29	95% KM Chebyshev UCL					0.36
139	97.5% KM Chebyshev UCL					0.457	99% KM Chebyshev UCL					0.647
140												
141	Gamma GOF Tests on Detected Observations Only											
142	A-D Test Statistic					0.197	Anderson-Darling GOF Test					
143	5% A-D Critical Value					0.661	Detected data appear Gamma Distributed at 5% Significance Level					
144	K-S Test Statistic					0.173	Kolmogorov-Smirnov GOF					
145	5% K-S Critical Value					0.399	Detected data appear Gamma Distributed at 5% Significance Level					
146	Detected data appear Gamma Distributed at 5% Significance Level											
147												
148	Gamma Statistics on Detected Data Only											
149	k hat (MLE)					1.772	k star (bias corrected MLE)					0.61
150	Theta hat (MLE)					0.11	Theta star (bias corrected MLE)					0.319
151	nu hat (MLE)					14.18	nu star (bias corrected)					4.878
152	Mean (detects)					0.195						
153												
154	Gamma ROS Statistics using Imputed Non-Detects											
155	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
156	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
157	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
158	This is especially true when the sample size is small.											
159	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
160	Minimum					0.01	Mean					0.133
161	Maximum					0.424	Median					0.0988
162	SD					0.132	CV					0.999



	A	B	C	D	E	F	G	H	I	J	K	L
163	k hat (MLE)					1.202	k star (bias corrected MLE)					0.835
164	Theta hat (MLE)					0.11	Theta star (bias corrected MLE)					0.159
165	nu hat (MLE)					19.23	nu star (bias corrected)					13.35
166	Adjusted Level of Significance ( $\beta$ )					0.0195						
167	Approximate Chi Square Value (13.35, $\alpha$ )					6.131	Adjusted Chi Square Value (13.35, $\beta$ )					4.949
168	95% Gamma Approximate UCL (use when n>=50)					0.289	95% Gamma Adjusted UCL (use when n<50)					N/A
169												
170	Estimates of Gamma Parameters using KM Estimates											
171	Mean (KM)					0.136	SD (KM)					0.119
172	Variance (KM)					0.0142	SE of Mean (KM)					0.0514
173	k hat (KM)					1.301	k star (KM)					0.897
174	nu hat (KM)					20.82	nu star (KM)					14.35
175	theta hat (KM)					0.105	theta star (KM)					0.152
176	80% gamma percentile (KM)					0.221	90% gamma percentile (KM)					0.322
177	95% gamma percentile (KM)					0.424	99% gamma percentile (KM)					0.663
178												
179	Gamma Kaplan-Meier (KM) Statistics											
180	Approximate Chi Square Value (14.35, $\alpha$ )					6.81	Adjusted Chi Square Value (14.35, $\beta$ )					5.551
181	95% Gamma Approximate KM-UCL (use when n>=50)					0.287	95% Gamma Adjusted KM-UCL (use when n<50)					0.352
182												
183	Lognormal GOF Test on Detected Observations Only											
184	Shapiro Wilk Test Statistic					0.998	Shapiro Wilk GOF Test					
185	5% Shapiro Wilk Critical Value					0.748	Detected Data appear Lognormal at 5% Significance Level					
186	Lilliefors Test Statistic					0.141	Lilliefors GOF Test					
187	5% Lilliefors Critical Value					0.375	Detected Data appear Lognormal at 5% Significance Level					
188	Detected Data appear Lognormal at 5% Significance Level											
189												
190	Lognormal ROS Statistics Using Imputed Non-Detects											
191	Mean in Original Scale					0.134	Mean in Log Scale					-2.333
192	SD in Original Scale					0.129	SD in Log Scale					0.831
193	95% t UCL (assumes normality of ROS data)					0.22	95% Percentile Bootstrap UCL					0.209
194	95% BCA Bootstrap UCL					0.229	95% Bootstrap t UCL					0.352
195	95% H-UCL (Log ROS)					0.354						
196												
197	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
198	KM Mean (logged)					-2.299	KM Geo Mean					0.1
199	KM SD (logged)					0.751	95% Critical H Value (KM-Log)					2.843
200	KM Standard Error of Mean (logged)					0.379	95% H-UCL (KM -Log)					0.298
201	KM SD (logged)					0.751	95% Critical H Value (KM-Log)					2.843
202	KM Standard Error of Mean (logged)					0.379						
203												
204	DL/2 Statistics											
205	DL/2 Normal						DL/2 Log-Transformed					
206	Mean in Original Scale					0.147	Mean in Log Scale					-2.123
207	SD in Original Scale					0.12	SD in Log Scale					0.65
208	95% t UCL (Assumes normality)					0.227	95% H-Stat UCL					0.282
209	DL/2 is not a recommended method, provided for comparisons and historical reasons											
210												
211	Nonparametric Distribution Free UCL Statistics											
212	Detected Data appear Normal Distributed at 5% Significance Level											
213												
214	Suggested UCL to Use											
215	95% KM (t) UCL					0.233						
216												

	A	B	C	D	E	F	G	H	I	J	K	L
217	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
218	Recommendations are based upon data size, data distribution, and skewness.											
219	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
220	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
221												
222	Aniline											
223												
224	General Statistics											
225	Total Number of Observations				8		Number of Distinct Observations				2	
226	Number of Detects				1		Number of Non-Detects				7	
227	Number of Distinct Detects				1		Number of Distinct Non-Detects				1	
228												
229	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
230	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
231												
232	The data set for variable Aniline was not processed!											
233												
234												
235	Carbazole											
236												
237	General Statistics											
238	Total Number of Observations				8		Number of Distinct Observations				4	
239	Number of Detects				3		Number of Non-Detects				5	
240	Number of Distinct Detects				3		Number of Distinct Non-Detects				1	
241	Minimum Detect				7.1		Minimum Non-Detect				5	
242	Maximum Detect				12		Maximum Non-Detect				5	
243	Variance Detects				7.023		Percent Non-Detects				62.5%	
244	Mean Detects				8.967		SD Detects				2.65	
245	Median Detects				7.8		CV Detects				0.296	
246	Skewness Detects				1.597		Kurtosis Detects				N/A	
247	Mean of Logged Detects				2.166		SD of Logged Detects				0.28	
248												
249	Warning: Data set has only 3 Detected Values.											
250	This is not enough to compute meaningful or reliable statistics and estimates.											
251												
252												
253	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
254	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
255	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
256	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
257												
258	Normal GOF Test on Detects Only											
259	Shapiro Wilk Test Statistic				0.855		Shapiro Wilk GOF Test					
260	5% Shapiro Wilk Critical Value				0.767		Detected Data appear Normal at 5% Significance Level					
261	Lilliefors Test Statistic				0.337		Lilliefors GOF Test					
262	5% Lilliefors Critical Value				0.425		Detected Data appear Normal at 5% Significance Level					
263	Detected Data appear Normal at 5% Significance Level											
264												
265	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
266	KM Mean				6.488		KM Standard Error of Mean				1.01	
267	KM SD				2.333		95% KM (BCA) UCL				N/A	
268	95% KM (t) UCL				8.402		95% KM (Percentile Bootstrap) UCL				N/A	
269	95% KM (z) UCL				8.149		95% KM Bootstrap t UCL				N/A	
270	90% KM Chebyshev UCL				9.518		95% KM Chebyshev UCL				10.89	

	A	B	C	D	E	F	G	H	I	J	K	L
271	97.5% KM Chebyshev UCL				12.8	99% KM Chebyshev UCL						16.54
272												
273	Gamma GOF Tests on Detected Observations Only											
274	Not Enough Data to Perform GOF Test											
275												
276	Gamma Statistics on Detected Data Only											
277	k hat (MLE)				18.59	k star (bias corrected MLE)						N/A
278	Theta hat (MLE)				0.482	Theta star (bias corrected MLE)						N/A
279	nu hat (MLE)				111.5	nu star (bias corrected)						N/A
280	Mean (detects)				8.967							
281												
282	Gamma ROS Statistics using Imputed Non-Detects											
283	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
284	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
285	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
286	This is especially true when the sample size is small.											
287	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
288	Minimum				0.01	Mean						4.024
289	Maximum				12	Median						2.538
290	SD				4.469	CV						1.11
291	k hat (MLE)				0.387	k star (bias corrected MLE)						0.325
292	Theta hat (MLE)				10.41	Theta star (bias corrected MLE)						12.38
293	nu hat (MLE)				6.186	nu star (bias corrected)						5.199
294	Adjusted Level of Significance ( $\beta$ )				0.0195							
295	Approximate Chi Square Value (5.20, $\alpha$ )				1.245	Adjusted Chi Square Value (5.20, $\beta$ )						0.825
296	95% Gamma Approximate UCL (use when $n \geq 50$ )				16.8	95% Gamma Adjusted UCL (use when $n < 50$ )						N/A
297												
298	Estimates of Gamma Parameters using KM Estimates											
299	Mean (KM)				6.488	SD (KM)						2.333
300	Variance (KM)				5.444	SE of Mean (KM)						1.01
301	k hat (KM)				7.732	k star (KM)						4.916
302	nu hat (KM)				123.7	nu star (KM)						78.65
303	theta hat (KM)				0.839	theta star (KM)						1.32
304	80% gamma percentile (KM)				8.737	90% gamma percentile (KM)						10.41
305	95% gamma percentile (KM)				11.93	99% gamma percentile (KM)						15.15
306												
307	Gamma Kaplan-Meier (KM) Statistics											
308	Approximate Chi Square Value (78.65, $\alpha$ )				59.22	Adjusted Chi Square Value (78.65, $\beta$ )						54.97
309	95% Gamma Approximate KM-UCL (use when $n \geq 50$ )				8.616	95% Gamma Adjusted KM-UCL (use when $n < 50$ )						9.282
310												
311	Lognormal GOF Test on Detected Observations Only											
312	Shapiro Wilk Test Statistic				0.879	Shapiro Wilk GOF Test						
313	5% Shapiro Wilk Critical Value				0.767	Detected Data appear Lognormal at 5% Significance Level						
314	Lilliefors Test Statistic				0.323	Lilliefors GOF Test						
315	5% Lilliefors Critical Value				0.425	Detected Data appear Lognormal at 5% Significance Level						
316	Detected Data appear Lognormal at 5% Significance Level											
317												
318	Lognormal ROS Statistics Using Imputed Non-Detects											
319	Mean in Original Scale				5.331	Mean in Log Scale						1.496
320	SD in Original Scale				3.431	SD in Log Scale						0.641
321	95% t UCL (assumes normality of ROS data)				7.63	95% Percentile Bootstrap UCL						7.297
322	95% BCA Bootstrap UCL				7.736	95% Bootstrap t UCL						8.69
323	95% H-UCL (Log ROS)				10.32							
324												

	A	B	C	D	E	F	G	H	I	J	K	L
325	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
326	KM Mean (logged)				1.818	KM Geo Mean				6.161		
327	KM SD (logged)				0.304	95% Critical H Value (KM-Log)				2.063		
328	KM Standard Error of Mean (logged)				0.132	95% H-UCL (KM -Log)				8.176		
329	KM SD (logged)				0.304	95% Critical H Value (KM-Log)				2.063		
330	KM Standard Error of Mean (logged)				0.132							
331												
332	DL/2 Statistics											
333	DL/2 Normal					DL/2 Log-Transformed						
334	Mean in Original Scale				4.925	Mean in Log Scale				1.385		
335	SD in Original Scale				3.634	SD in Log Scale				0.664		
336	95% t UCL (Assumes normality)				7.359	95% H-Stat UCL				9.711		
337	DL/2 is not a recommended method, provided for comparisons and historical reasons											
338												
339	Nonparametric Distribution Free UCL Statistics											
340	Detected Data appear Normal Distributed at 5% Significance Level											
341												
342	Suggested UCL to Use											
343	95% KM (t) UCL				8.402							
344												
345	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
346	Recommendations are based upon data size, data distribution, and skewness.											
347	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
348	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
349												
350	Dibenzofuran											
351												
352	General Statistics											
353	Total Number of Observations				8	Number of Distinct Observations				2		
354	Number of Detects				1	Number of Non-Detects				7		
355	Number of Distinct Detects				1	Number of Distinct Non-Detects				1		
356												
357	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
358	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
359												
360	The data set for variable Dibenzofuran was not processed!											
361												
362												
363	Fluoranthene											
364												
365	General Statistics											
366	Total Number of Observations				8	Number of Distinct Observations				7		
367	Number of Detects				7	Number of Non-Detects				1		
368	Number of Distinct Detects				6	Number of Distinct Non-Detects				1		
369	Minimum Detect				1.1	Minimum Non-Detect				1		
370	Maximum Detect				3.1	Maximum Non-Detect				1		
371	Variance Detects				0.496	Percent Non-Detects				12.5%		
372	Mean Detects				1.671	SD Detects				0.704		
373	Median Detects				1.6	CV Detects				0.421		
374	Skewness Detects				1.637	Kurtosis Detects				3.014		
375	Mean of Logged Detects				0.45	SD of Logged Detects				0.372		
376												
377	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
378	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											

	A	B	C	D	E	F	G	H	I	J	K	L
379	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
380	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
381												
382	Normal GOF Test on Detects Only											
383	Shapiro Wilk Test Statistic				0.817		Shapiro Wilk GOF Test					
384	5% Shapiro Wilk Critical Value				0.803		Detected Data appear Normal at 5% Significance Level					
385	Lilliefors Test Statistic				0.23		Lilliefors GOF Test					
386	5% Lilliefors Critical Value				0.304		Detected Data appear Normal at 5% Significance Level					
387	Detected Data appear Normal at 5% Significance Level											
388												
389	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
390	KM Mean				1.588		KM Standard Error of Mean				0.248	
391	KM SD				0.649		95% KM (BCA) UCL				1.988	
392	95% KM (t) UCL				2.057		95% KM (Percentile Bootstrap) UCL				1.988	
393	95% KM (z) UCL				1.995		95% KM Bootstrap t UCL				2.308	
394	90% KM Chebyshev UCL				2.331		95% KM Chebyshev UCL				2.668	
395	97.5% KM Chebyshev UCL				3.135		99% KM Chebyshev UCL				4.053	
396												
397	Gamma GOF Tests on Detected Observations Only											
398	A-D Test Statistic				0.443		Anderson-Darling GOF Test					
399	5% A-D Critical Value				0.709		Detected data appear Gamma Distributed at 5% Significance Level					
400	K-S Test Statistic				0.206		Kolmogorov-Smirnov GOF					
401	5% K-S Critical Value				0.312		Detected data appear Gamma Distributed at 5% Significance Level					
402	Detected data appear Gamma Distributed at 5% Significance Level											
403												
404	Gamma Statistics on Detected Data Only											
405	k hat (MLE)				7.959		k star (bias corrected MLE)				4.644	
406	Theta hat (MLE)				0.21		Theta star (bias corrected MLE)				0.36	
407	nu hat (MLE)				111.4		nu star (bias corrected)				65.01	
408	Mean (detects)				1.671							
409												
410	Gamma ROS Statistics using Imputed Non-Detects											
411	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
412	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
413	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
414	This is especially true when the sample size is small.											
415	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
416	Minimum				0.291		Mean				1.499	
417	Maximum				3.1		Median				1.4	
418	SD				0.814		CV				0.543	
419	k hat (MLE)				3.175		k star (bias corrected MLE)				2.068	
420	Theta hat (MLE)				0.472		Theta star (bias corrected MLE)				0.725	
421	nu hat (MLE)				50.8		nu star (bias corrected)				33.09	
422	Adjusted Level of Significance ( $\beta$ )				0.0195							
423	Approximate Chi Square Value (33.09, $\alpha$ )				20.93		Adjusted Chi Square Value (33.09, $\beta$ )				18.53	
424	95% Gamma Approximate UCL (use when n>=50)				2.369		95% Gamma Adjusted UCL (use when n<50)				2.676	
425												
426	Estimates of Gamma Parameters using KM Estimates											
427	Mean (KM)				1.588		SD (KM)				0.649	
428	Variance (KM)				0.421		SE of Mean (KM)				0.248	
429	k hat (KM)				5.985		k star (KM)				3.824	
430	nu hat (KM)				95.76		nu star (KM)				61.18	
431	theta hat (KM)				0.265		theta star (KM)				0.415	
432	80% gamma percentile (KM)				2.2		90% gamma percentile (KM)				2.676	

	A	B	C	D	E	F	G	H	I	J	K	L
433	95% gamma percentile (KM)					3.114	99% gamma percentile (KM)					4.053
434												
435	Gamma Kaplan-Meier (KM) Statistics											
436	Approximate Chi Square Value (61.18, $\alpha$ )					44.19	Adjusted Chi Square Value (61.18, $\beta$ )					40.57
437	95% Gamma Approximate KM-UCL (use when $n \geq 50$ )					2.198	95% Gamma Adjusted KM-UCL (use when $n < 50$ )					2.394
438												
439	Lognormal GOF Test on Detected Observations Only											
440	Shapiro Wilk Test Statistic					0.89	Shapiro Wilk GOF Test					
441	5% Shapiro Wilk Critical Value					0.803	Detected Data appear Lognormal at 5% Significance Level					
442	Lilliefors Test Statistic					0.192	Lilliefors GOF Test					
443	5% Lilliefors Critical Value					0.304	Detected Data appear Lognormal at 5% Significance Level					
444	Detected Data appear Lognormal at 5% Significance Level											
445												
446	Lognormal ROS Statistics Using Imputed Non-Detects											
447	Mean in Original Scale					1.541	Mean in Log Scale					0.336
448	SD in Original Scale					0.748	SD in Log Scale					0.471
449	95% t UCL (assumes normality of ROS data)					2.043	95% Percentile Bootstrap UCL					1.975
450	95% BCA Bootstrap UCL					2.063	95% Bootstrap t UCL					2.243
451	95% H-UCL (Log ROS)					2.358						
452												
453	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
454	KM Mean (logged)					0.393	KM Geo Mean					1.482
455	KM SD (logged)					0.355	95% Critical H Value (KM-Log)					2.131
456	KM Standard Error of Mean (logged)					0.136	95% H-UCL (KM -Log)					2.101
457	KM SD (logged)					0.355	95% Critical H Value (KM-Log)					2.131
458	KM Standard Error of Mean (logged)					0.136						
459												
460	DL/2 Statistics											
461	DL/2 Normal					DL/2 Log-Transformed						
462	Mean in Original Scale					1.525	Mean in Log Scale					0.307
463	SD in Original Scale					0.772	SD in Log Scale					0.531
464	95% t UCL (Assumes normality)					2.042	95% H-Stat UCL					2.537
465	DL/2 is not a recommended method, provided for comparisons and historical reasons											
466												
467	Nonparametric Distribution Free UCL Statistics											
468	Detected Data appear Normal Distributed at 5% Significance Level											
469												
470	Suggested UCL to Use											
471	95% KM (t) UCL					2.057						
472												
473	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
474	Recommendations are based upon data size, data distribution, and skewness.											
475	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
476	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
477												
478												
479	Phenanthrene											
480												
481	General Statistics											
482	Total Number of Observations					8	Number of Distinct Observations					7
483							Number of Missing Observations					0
484	Minimum					3.4	Mean					4.375
485	Maximum					5.8	Median					4.25
486	SD					0.846	Std. Error of Mean					0.299

	A	B	C	D	E	F	G	H	I	J	K	L
487	Coefficient of Variation					0.193	Skewness					0.723
488												
489	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
490	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
491	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
492	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
493												
494	Normal GOF Test											
495	Shapiro Wilk Test Statistic				0.913	Shapiro Wilk GOF Test						
496	5% Shapiro Wilk Critical Value				0.818	Data appear Normal at 5% Significance Level						
497	Lilliefors Test Statistic				0.238	Lilliefors GOF Test						
498	5% Lilliefors Critical Value				0.283	Data appear Normal at 5% Significance Level						
499	Data appear Normal at 5% Significance Level											
500												
501	Assuming Normal Distribution											
502	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
503	95% Student's-t UCL				4.942	95% Adjusted-CLT UCL (Chen-1995)						4.949
504						95% Modified-t UCL (Johnson-1978)						4.955
505												
506	Gamma GOF Test											
507	A-D Test Statistic				0.332	Anderson-Darling Gamma GOF Test						
508	5% A-D Critical Value				0.716	Detected data appear Gamma Distributed at 5% Significance Level						
509	K-S Test Statistic				0.214	Kolmogorov-Smirnov Gamma GOF Test						
510	5% K-S Critical Value				0.294	Detected data appear Gamma Distributed at 5% Significance Level						
511	Detected data appear Gamma Distributed at 5% Significance Level											
512												
513	Gamma Statistics											
514	k hat (MLE)				31.92	k star (bias corrected MLE)						20.03
515	Theta hat (MLE)				0.137	Theta star (bias corrected MLE)						0.218
516	nu hat (MLE)				510.7	nu star (bias corrected)						320.5
517	MLE Mean (bias corrected)				4.375	MLE Sd (bias corrected)						0.977
518						Approximate Chi Square Value (0.05)						280.1
519	Adjusted Level of Significance				0.0195	Adjusted Chi Square Value						270.5
520												
521	Assuming Gamma Distribution											
522	95% Approximate Gamma UCL (use when n>=50))				5.007	95% Adjusted Gamma UCL (use when n<50)						5.185
523												
524	Lognormal GOF Test											
525	Shapiro Wilk Test Statistic				0.935	Shapiro Wilk Lognormal GOF Test						
526	5% Shapiro Wilk Critical Value				0.818	Data appear Lognormal at 5% Significance Level						
527	Lilliefors Test Statistic				0.205	Lilliefors Lognormal GOF Test						
528	5% Lilliefors Critical Value				0.283	Data appear Lognormal at 5% Significance Level						
529	Data appear Lognormal at 5% Significance Level											
530												
531	Lognormal Statistics											
532	Minimum of Logged Data				1.224	Mean of logged Data						1.46
533	Maximum of Logged Data				1.758	SD of logged Data						0.188
534												
535	Assuming Lognormal Distribution											
536	95% H-UCL				5.028	90% Chebyshev (MVUE) UCL						5.247
537	95% Chebyshev (MVUE) UCL				5.643	97.5% Chebyshev (MVUE) UCL						6.192
538	99% Chebyshev (MVUE) UCL				7.272							
539												
540	Nonparametric Distribution Free UCL Statistics											

	A	B	C	D	E	F	G	H	I	J	K	L
541	Data appear to follow a Discernible Distribution at 5% Significance Level											
542												
543	Nonparametric Distribution Free UCLs											
544	95% CLT UCL			4.867	95% Jackknife UCL			4.942				
545	95% Standard Bootstrap UCL			4.831	95% Bootstrap-t UCL			5.266				
546	95% Hall's Bootstrap UCL			5.786	95% Percentile Bootstrap UCL			4.85				
547	95% BCA Bootstrap UCL			4.925								
548	90% Chebyshev(Mean, Sd) UCL			5.273	95% Chebyshev(Mean, Sd) UCL			5.679				
549	97.5% Chebyshev(Mean, Sd) UCL			6.244	99% Chebyshev(Mean, Sd) UCL			7.353				
550												
551	Suggested UCL to Use											
552	95% Student's-t UCL			4.942								
553												
554	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
555	Recommendations are based upon data size, data distribution, and skewness.											
556	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
557	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
558												
559												
560	Benzene											
561												
562	General Statistics											
563	Total Number of Observations			8	Number of Distinct Observations			8				
564					Number of Missing Observations			0				
565	Minimum			13	Mean			29.25				
566	Maximum			76	Median			22				
567	SD			20.29	Std. Error of Mean			7.173				
568	Coefficient of Variation			0.694	Skewness			2.169				
569												
570	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
571	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
572	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
573	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
574												
575	Normal GOF Test											
576	Shapiro Wilk Test Statistic			0.731	Shapiro Wilk GOF Test							
577	5% Shapiro Wilk Critical Value			0.818	Data Not Normal at 5% Significance Level							
578	Lilliefors Test Statistic			0.314	Lilliefors GOF Test							
579	5% Lilliefors Critical Value			0.283	Data Not Normal at 5% Significance Level							
580	Data Not Normal at 5% Significance Level											
581												
582	Assuming Normal Distribution											
583	95% Normal UCL				95% UCLs (Adjusted for Skewness)							
584	95% Student's-t UCL			42.84	95% Adjusted-CLT UCL (Chen-1995)			46.93				
585					95% Modified-t UCL (Johnson-1978)			43.76				
586												
587	Gamma GOF Test											
588	A-D Test Statistic			0.6	Anderson-Darling Gamma GOF Test							
589	5% A-D Critical Value			0.72	Detected data appear Gamma Distributed at 5% Significance Level							
590	K-S Test Statistic			0.263	Kolmogorov-Smirnov Gamma GOF Test							
591	5% K-S Critical Value			0.296	Detected data appear Gamma Distributed at 5% Significance Level							
592	Detected data appear Gamma Distributed at 5% Significance Level											
593												
594	Gamma Statistics											



	A	B	C	D	E	F	G	H	I	J	K	L
595	k hat (MLE)					3.472	k star (bias corrected MLE)					2.253
596	Theta hat (MLE)					8.425	Theta star (bias corrected MLE)					12.98
597	nu hat (MLE)					55.55	nu star (bias corrected)					36.05
598	MLE Mean (bias corrected)					29.25	MLE Sd (bias corrected)					19.49
599							Approximate Chi Square Value (0.05)					23.31
600	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					20.75
601												
602	Assuming Gamma Distribution											
603	95% Approximate Gamma UCL (use when n>=50)					45.24	95% Adjusted Gamma UCL (use when n<50)					50.81
604												
605	Lognormal GOF Test											
606	Shapiro Wilk Test Statistic					0.904	Shapiro Wilk Lognormal GOF Test					
607	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level					
608	Lilliefors Test Statistic					0.226	Lilliefors Lognormal GOF Test					
609	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level					
610	Data appear Lognormal at 5% Significance Level											
611												
612	Lognormal Statistics											
613	Minimum of Logged Data					2.565	Mean of logged Data					3.225
614	Maximum of Logged Data					4.331	SD of logged Data					0.544
615												
616	Assuming Lognormal Distribution											
617	95% H-UCL					48.11	90% Chebyshev (MVUE) UCL					45.28
618	95% Chebyshev (MVUE) UCL					52.84	97.5% Chebyshev (MVUE) UCL					63.34
619	99% Chebyshev (MVUE) UCL					83.96						
620												
621	Nonparametric Distribution Free UCL Statistics											
622	Data appear to follow a Discernible Distribution at 5% Significance Level											
623												
624	Nonparametric Distribution Free UCLs											
625	95% CLT UCL					41.05	95% Jackknife UCL					42.84
626	95% Standard Bootstrap UCL					40.22	95% Bootstrap-t UCL					74.48
627	95% Hall's Bootstrap UCL					101.7	95% Percentile Bootstrap UCL					41.25
628	95% BCA Bootstrap UCL					46.88						
629	90% Chebyshev(Mean, Sd) UCL					50.77	95% Chebyshev(Mean, Sd) UCL					60.52
630	97.5% Chebyshev(Mean, Sd) UCL					74.05	99% Chebyshev(Mean, Sd) UCL					100.6
631												
632	Suggested UCL to Use											
633	95% Adjusted Gamma UCL					50.81						
634												
635	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
636	Recommendations are based upon data size, data distribution, and skewness.											
637	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
638	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
639												
640	Naphthalene											
641												
642	General Statistics											
643	Total Number of Observations					8	Number of Distinct Observations					7
644	Number of Detects					7	Number of Non-Detects					1
645	Number of Distinct Detects					6	Number of Distinct Non-Detects					1
646	Minimum Detect					11	Minimum Non-Detect					20
647	Maximum Detect					240	Maximum Non-Detect					20
648	Variance Detects					6012	Percent Non-Detects					12.5%

	A	B	C	D	E	F	G	H	I	J	K	L
649					Mean Detects	70.86					SD Detects	77.54
650					Median Detects	42					CV Detects	1.094
651					Skewness Detects	2.242					Kurtosis Detects	5.407
652					Mean of Logged Detects	3.857					SD of Logged Detects	0.955
653												
654	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
655	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
656	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
657	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
658												
659	Normal GOF Test on Detects Only											
660					Shapiro Wilk Test Statistic	0.715					Shapiro Wilk GOF Test	
661					5% Shapiro Wilk Critical Value	0.803					Detected Data Not Normal at 5% Significance Level	
662					Lilliefors Test Statistic	0.336					Lilliefors GOF Test	
663					5% Lilliefors Critical Value	0.304					Detected Data Not Normal at 5% Significance Level	
664	Detected Data Not Normal at 5% Significance Level											
665												
666	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
667					KM Mean	63.38					KM Standard Error of Mean	26.74
668					KM SD	70.01					95% KM (BCA) UCL	112.6
669					95% KM (t) UCL	114					95% KM (Percentile Bootstrap) UCL	108.8
670					95% KM (z) UCL	107.4					95% KM Bootstrap t UCL	193.1
671					90% KM Chebyshev UCL	143.6					95% KM Chebyshev UCL	179.9
672					97.5% KM Chebyshev UCL	230.3					99% KM Chebyshev UCL	329.4
673												
674	Gamma GOF Tests on Detected Observations Only											
675					A-D Test Statistic	0.378					Anderson-Darling GOF Test	
676					5% A-D Critical Value	0.723					Detected data appear Gamma Distributed at 5% Significance Level	
677					K-S Test Statistic	0.219					Kolmogorov-Smirnov GOF	
678					5% K-S Critical Value	0.318					Detected data appear Gamma Distributed at 5% Significance Level	
679	Detected data appear Gamma Distributed at 5% Significance Level											
680												
681	Gamma Statistics on Detected Data Only											
682					k hat (MLE)	1.383					k star (bias corrected MLE)	0.885
683					Theta hat (MLE)	51.25					Theta star (bias corrected MLE)	80.04
684					nu hat (MLE)	19.36					nu star (bias corrected)	12.39
685					Mean (detects)	70.86						
686												
687	Gamma ROS Statistics using Imputed Non-Detects											
688	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
689	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
690	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
691	This is especially true when the sample size is small.											
692	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
693					Minimum	0.01					Mean	62
694					Maximum	240					Median	42
695					SD	76.03					CV	1.226
696					k hat (MLE)	0.481					k star (bias corrected MLE)	0.384
697					Theta hat (MLE)	128.8					Theta star (bias corrected MLE)	161.4
698					nu hat (MLE)	7.7					nu star (bias corrected)	6.146
699					Adjusted Level of Significance (β)	0.0195						
700					Approximate Chi Square Value (6.15, α)	1.715					Adjusted Chi Square Value (6.15, β)	1.19
701					95% Gamma Approximate UCL (use when n>=50)	222.2					95% Gamma Adjusted UCL (use when n<50)	320.2
702												

	A	B	C	D	E	F	G	H	I	J	K	L
703	Estimates of Gamma Parameters using KM Estimates											
704	Mean (KM)				63.38	SD (KM)				70.01		
705	Variance (KM)				4901	SE of Mean (KM)				26.74		
706	k hat (KM)				0.819	k star (KM)				0.595		
707	nu hat (KM)				13.11	nu star (KM)				9.528		
708	theta hat (KM)				77.34	theta star (KM)				106.4		
709	80% gamma percentile (KM)				104.5	90% gamma percentile (KM)				165.1		
710	95% gamma percentile (KM)				228.7	99% gamma percentile (KM)				382.5		
711												
712	Gamma Kaplan-Meier (KM) Statistics											
713	Approximate Chi Square Value (9.53, $\alpha$ )				3.649	Adjusted Chi Square Value (9.53, $\beta$ )				2.79		
714	95% Gamma Approximate KM-UCL (use when $n \geq 50$ )				165.5	95% Gamma Adjusted KM-UCL (use when $n < 50$ )				216.5		
715												
716	Lognormal GOF Test on Detected Observations Only											
717	Shapiro Wilk Test Statistic				0.971	Shapiro Wilk GOF Test						
718	5% Shapiro Wilk Critical Value				0.803	Detected Data appear Lognormal at 5% Significance Level						
719	Lilliefors Test Statistic				0.172	Lilliefors GOF Test						
720	5% Lilliefors Critical Value				0.304	Detected Data appear Lognormal at 5% Significance Level						
721	Detected Data appear Lognormal at 5% Significance Level											
722												
723	Lognormal ROS Statistics Using Imputed Non-Detects											
724	Mean in Original Scale				63.27	Mean in Log Scale				3.665		
725	SD in Original Scale				74.93	SD in Log Scale				1.039		
726	95% t UCL (assumes normality of ROS data)				113.5	95% Percentile Bootstrap UCL				110.8		
727	95% BCA Bootstrap UCL				137.3	95% Bootstrap t UCL				195.7		
728	95% H-UCL (Log ROS)				267.2							
729												
730	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
731	KM Mean (logged)				3.675	KM Geo Mean				39.44		
732	KM SD (logged)				0.958	95% Critical H Value (KM-Log)				3.323		
733	KM Standard Error of Mean (logged)				0.366	95% H-UCL (KM -Log)				207.8		
734	KM SD (logged)				0.958	95% Critical H Value (KM-Log)				3.323		
735	KM Standard Error of Mean (logged)				0.366							
736												
737	DL/2 Statistics											
738	DL/2 Normal					DL/2 Log-Transformed						
739	Mean in Original Scale				63.25	Mean in Log Scale				3.663		
740	SD in Original Scale				74.94	SD in Log Scale				1.041		
741	95% t UCL (Assumes normality)				113.4	95% H-Stat UCL				268.9		
742	DL/2 is not a recommended method, provided for comparisons and historical reasons											
743												
744	Nonparametric Distribution Free UCL Statistics											
745	Detected Data appear Gamma Distributed at 5% Significance Level											
746												
747	Suggested UCL to Use											
748	95% KM Bootstrap t UCL				193.1	Adjusted KM-UCL (use when $k \leq 1$ and $15 < n < 50$ but $k \leq 1$ )				216.5		
749												
750	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
751	Recommendations are based upon data size, data distribution, and skewness.											
752	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
753	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
754												
755	Vinyl Chloride											
756												

	A	B	C	D	E	F	G	H	I	J	K	L
757	General Statistics											
758	Total Number of Observations					8	Number of Distinct Observations					7
759	Number of Detects					7	Number of Non-Detects					1
760	Number of Distinct Detects					6	Number of Distinct Non-Detects					1
761	Minimum Detect					4.5	Minimum Non-Detect					10
762	Maximum Detect					29	Maximum Non-Detect					10
763	Variance Detects					90.12	Percent Non-Detects					12.5%
764	Mean Detects					16.23	SD Detects					9.493
765	Median Detects					21	CV Detects					0.585
766	Skewness Detects					-0.094	Kurtosis Detects					-1.974
767	Mean of Logged Detects					2.592	SD of Logged Detects					0.723
768												
769	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
770	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
771	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
772	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
773												
774	Normal GOF Test on Detects Only											
775	Shapiro Wilk Test Statistic					0.87	Shapiro Wilk GOF Test					
776	5% Shapiro Wilk Critical Value					0.803	Detected Data appear Normal at 5% Significance Level					
777	Lilliefors Test Statistic					0.264	Lilliefors GOF Test					
778	5% Lilliefors Critical Value					0.304	Detected Data appear Normal at 5% Significance Level					
779	Detected Data appear Normal at 5% Significance Level											
780												
781	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
782	KM Mean					15.02	KM Standard Error of Mean					3.383
783	KM SD					8.839	95% KM (BCA) UCL					20
784	95% KM (t) UCL					21.43	95% KM (Percentile Bootstrap) UCL					20.15
785	95% KM (z) UCL					20.58	95% KM Bootstrap t UCL					21.48
786	90% KM Chebyshev UCL					25.17	95% KM Chebyshev UCL					29.76
787	97.5% KM Chebyshev UCL					36.14	99% KM Chebyshev UCL					48.68
788												
789	Gamma GOF Tests on Detected Observations Only											
790	A-D Test Statistic					0.629	Anderson-Darling GOF Test					
791	5% A-D Critical Value					0.713	Detected data appear Gamma Distributed at 5% Significance Level					
792	K-S Test Statistic					0.311	Kolmogorov-Smirnov GOF					
793	5% K-S Critical Value					0.314	Detected data appear Gamma Distributed at 5% Significance Level					
794	Detected data appear Gamma Distributed at 5% Significance Level											
795												
796	Gamma Statistics on Detected Data Only											
797	k hat (MLE)					2.717	k star (bias corrected MLE)					1.648
798	Theta hat (MLE)					5.974	Theta star (bias corrected MLE)					9.85
799	nu hat (MLE)					38.03	nu star (bias corrected)					23.07
800	Mean (detects)					16.23						
801												
802	Gamma ROS Statistics using Imputed Non-Detects											
803	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
804	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
805	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
806	This is especially true when the sample size is small.											
807	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
808	Minimum					4.5	Mean					15.19
809	Maximum					29	Median					14.44
810	SD					9.271	CV					0.61

	A	B	C	D	E	F	G	H	I	J	K	L
811	k hat (MLE)					2.725	k star (bias corrected MLE)					1.786
812	Theta hat (MLE)					5.574	Theta star (bias corrected MLE)					8.502
813	nu hat (MLE)					43.59	nu star (bias corrected)					28.58
814	Adjusted Level of Significance ( $\beta$ )					0.0195						
815	Approximate Chi Square Value (28.58, $\alpha$ )					17.38	Adjusted Chi Square Value (28.58, $\beta$ )					15.21
816	95% Gamma Approximate UCL (use when n>=50)					24.97	95% Gamma Adjusted UCL (use when n<50)					28.53
817												
818	Estimates of Gamma Parameters using KM Estimates											
819	Mean (KM)					15.02	SD (KM)					8.839
820	Variance (KM)					78.13	SE of Mean (KM)					3.383
821	k hat (KM)					2.886	k star (KM)					1.887
822	nu hat (KM)					46.18	nu star (KM)					30.2
823	theta hat (KM)					5.203	theta star (KM)					7.957
824	80% gamma percentile (KM)					22.64	90% gamma percentile (KM)					29.61
825	95% gamma percentile (KM)					36.28	99% gamma percentile (KM)					51.14
826												
827	Gamma Kaplan-Meier (KM) Statistics											
828	Approximate Chi Square Value (30.20, $\alpha$ )					18.65	Adjusted Chi Square Value (30.20, $\beta$ )					16.39
829	95% Gamma Approximate KM-UCL (use when n>=50)					24.32	95% Gamma Adjusted KM-UCL (use when n<50)					27.66
830												
831	Lognormal GOF Test on Detected Observations Only											
832	Shapiro Wilk Test Statistic					0.853	Shapiro Wilk GOF Test					
833	5% Shapiro Wilk Critical Value					0.803	Detected Data appear Lognormal at 5% Significance Level					
834	Lilliefors Test Statistic					0.306	Lilliefors GOF Test					
835	5% Lilliefors Critical Value					0.304	Detected Data Not Lognormal at 5% Significance Level					
836	Detected Data appear Approximate Lognormal at 5% Significance Level											
837												
838	Lognormal ROS Statistics Using Imputed Non-Detects											
839	Mean in Original Scale					15.09	Mean in Log Scale					2.513
840	SD in Original Scale					9.361	SD in Log Scale					0.706
841	95% t UCL (assumes normality of ROS data)					21.36	95% Percentile Bootstrap UCL					20.08
842	95% BCA Bootstrap UCL					20.44	95% Bootstrap t UCL					21.7
843	95% H-UCL (Log ROS)					32.93						
844												
845	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
846	KM Mean (logged)					2.499	KM Geo Mean					12.17
847	KM SD (logged)					0.678	95% Critical H Value (KM-Log)					2.69
848	KM Standard Error of Mean (logged)					0.262	95% H-UCL (KM -Log)					30.52
849	KM SD (logged)					0.678	95% Critical H Value (KM-Log)					2.69
850	KM Standard Error of Mean (logged)					0.262						
851												
852	DL/2 Statistics											
853	DL/2 Normal						DL/2 Log-Transformed					
854	Mean in Original Scale					14.83	Mean in Log Scale					2.469
855	SD in Original Scale					9.644	SD in Log Scale					0.754
856	95% t UCL (Assumes normality)					21.28	95% H-Stat UCL					35.37
857	DL/2 is not a recommended method, provided for comparisons and historical reasons											
858												
859	Nonparametric Distribution Free UCL Statistics											
860	Detected Data appear Normal Distributed at 5% Significance Level											
861												
862	Suggested UCL to Use											
863	95% KM (t) UCL					21.43						
864												



A	B	C	D	E	F	G	H	I	J	K	L
919	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)										
920	For such situations, GROS method may yield incorrect values of UCLs and BTVs										
921	This is especially true when the sample size is small.										
922	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates										
923	Minimum			7.768	Mean			27.75			
924	Maximum			84	Median			19.4			
925	SD			24	CV			0.865			
926	k hat (MLE)			2.285	k star (bias corrected MLE)			1.512			
927	Theta hat (MLE)			12.14	Theta star (bias corrected MLE)			18.36			
928	nu hat (MLE)			36.56	nu star (bias corrected)			24.18			
929	Adjusted Level of Significance ( $\beta$ )			0.0195							
930	Approximate Chi Square Value (24.18, $\alpha$ )			13.99	Adjusted Chi Square Value (24.18, $\beta$ )			12.07			
931	95% Gamma Approximate UCL (use when $n \geq 50$ )			47.98	95% Gamma Adjusted UCL (use when $n < 50$ )			55.59			
932											
933	Estimates of Gamma Parameters using KM Estimates										
934	Mean (KM)			27.13	SD (KM)			21.78			
935	Variance (KM)			474.4	SE of Mean (KM)			8.692			
936	k hat (KM)			1.551	k star (KM)			1.053			
937	nu hat (KM)			24.82	nu star (KM)			16.84			
938	theta hat (KM)			17.49	theta star (KM)			25.77			
939	80% gamma percentile (KM)			43.47	90% gamma percentile (KM)			61.67			
940	95% gamma percentile (KM)			79.8	99% gamma percentile (KM)			121.7			
941											
942	Gamma Kaplan-Meier (KM) Statistics										
943	Approximate Chi Square Value (16.84, $\alpha$ )			8.561	Adjusted Chi Square Value (16.84, $\beta$ )			7.119			
944	95% Gamma Approximate KM-UCL (use when $n \geq 50$ )			53.37	95% Gamma Adjusted KM-UCL (use when $n < 50$ )			64.18			
945											
946	Lognormal GOF Test on Detected Observations Only										
947	Shapiro Wilk Test Statistic			0.785	Shapiro Wilk GOF Test						
948	5% Shapiro Wilk Critical Value			0.762	Detected Data appear Lognormal at 5% Significance Level						
949	Lilliefors Test Statistic			0.305	Lilliefors GOF Test						
950	5% Lilliefors Critical Value			0.343	Detected Data appear Lognormal at 5% Significance Level						
951	Detected Data appear Lognormal at 5% Significance Level										
952											
953	Lognormal ROS Statistics Using Imputed Non-Detects										
954	Mean in Original Scale			27.89	Mean in Log Scale			3.139			
955	SD in Original Scale			23.31	SD in Log Scale			0.585			
956	95% t UCL (assumes normality of ROS data)			43.5	95% Percentile Bootstrap UCL			42.79			
957	95% BCA Bootstrap UCL			49.91	95% Bootstrap t UCL			87.09			
958	95% H-UCL (Log ROS)			47.66							
959											
960	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution										
961	KM Mean (logged)			3.114	KM Geo Mean			22.52			
962	KM SD (logged)			0.528	95% Critical H Value (KM-Log)			2.402			
963	KM Standard Error of Mean (logged)			0.217	95% H-UCL (KM -Log)			41.8			
964	KM SD (logged)			0.528	95% Critical H Value (KM-Log)			2.402			
965	KM Standard Error of Mean (logged)			0.217							
966											
967	DL/2 Statistics										
968	DL/2 Normal				DL/2 Log-Transformed						
969	Mean in Original Scale			25.63	Mean in Log Scale			3.032			
970	SD in Original Scale			23.84	SD in Log Scale			0.593			
971	95% t UCL (Assumes normality)			41.59	95% H-Stat UCL			43.49			
972	DL/2 is not a recommended method, provided for comparisons and historical reasons										

	A	B	C	D	E	F	G	H	I	J	K	L
973												
974	Nonparametric Distribution Free UCL Statistics											
975	Detected Data appear Approximate Gamma Distributed at 5% Significance Level											
976												
977	Suggested UCL to Use											
978	95% KM Adjusted Gamma UCL				64.18		95% GROS Adjusted Gamma UCL				55.59	
979												
980	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
981	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
982												
983	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
984	Recommendations are based upon data size, data distribution, and skewness.											
985	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
986	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
987												
988												
989	Methylphenol, 3- and 4-											
990												
991	General Statistics											
992	Total Number of Observations				8		Number of Distinct Observations				8	
993							Number of Missing Observations				0	
994	Minimum				17		Mean				60	
995	Maximum				150		Median				45.5	
996	SD				45.64		Std. Error of Mean				16.14	
997	Coefficient of Variation				0.761		Skewness				1.447	
998												
999	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1000	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1001	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1002	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1003												
1004	Normal GOF Test											
1005	Shapiro Wilk Test Statistic				0.802		Shapiro Wilk GOF Test					
1006	5% Shapiro Wilk Critical Value				0.818		Data Not Normal at 5% Significance Level					
1007	Lilliefors Test Statistic				0.354		Lilliefors GOF Test					
1008	5% Lilliefors Critical Value				0.283		Data Not Normal at 5% Significance Level					
1009	Data Not Normal at 5% Significance Level											
1010												
1011	Assuming Normal Distribution											
1012	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1013	95% Student's-t UCL				90.57		95% Adjusted-CLT UCL (Chen-1995)				95.37	
1014							95% Modified-t UCL (Johnson-1978)				91.95	
1015												
1016	Gamma GOF Test											
1017	A-D Test Statistic				0.502		Anderson-Darling Gamma GOF Test					
1018	5% A-D Critical Value				0.723		Detected data appear Gamma Distributed at 5% Significance Level					
1019	K-S Test Statistic				0.295		Kolmogorov-Smimov Gamma GOF Test					
1020	5% K-S Critical Value				0.297		Detected data appear Gamma Distributed at 5% Significance Level					
1021	Detected data appear Gamma Distributed at 5% Significance Level											
1022												
1023	Gamma Statistics											
1024	k hat (MLE)				2.409		k star (bias corrected MLE)				1.589	
1025	Theta hat (MLE)				24.91		Theta star (bias corrected MLE)				37.76	
1026	nu hat (MLE)				38.55		nu star (bias corrected)				25.42	



	A	B	C	D	E	F	G	H	I	J	K	L
1027	MLE Mean (bias corrected)					60	MLE Sd (bias corrected)					47.6
1028							Approximate Chi Square Value (0.05)					14.94
1029	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					12.95
1030												
1031	Assuming Gamma Distribution											
1032	95% Approximate Gamma UCL (use when n>=50)					102.1	95% Adjusted Gamma UCL (use when n<50)					117.8
1033												
1034	Lognormal GOF Test											
1035	Shapiro Wilk Test Statistic					0.937	Shapiro Wilk Lognormal GOF Test					
1036	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level					
1037	Lilliefors Test Statistic					0.251	Lilliefors Lognormal GOF Test					
1038	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level					
1039	Data appear Lognormal at 5% Significance Level											
1040												
1041	Lognormal Statistics											
1042	Minimum of Logged Data					2.833	Mean of logged Data					3.873
1043	Maximum of Logged Data					5.011	SD of logged Data					0.697
1044												
1045	Assuming Lognormal Distribution											
1046	95% H-UCL					125.8	90% Chebyshev (MVUE) UCL					103.6
1047	95% Chebyshev (MVUE) UCL					123.8	97.5% Chebyshev (MVUE) UCL					151.7
1048	99% Chebyshev (MVUE) UCL					206.6						
1049												
1050	Nonparametric Distribution Free UCL Statistics											
1051	Data appear to follow a Discernible Distribution at 5% Significance Level											
1052												
1053	Nonparametric Distribution Free UCLs											
1054	95% CLT UCL					86.54	95% Jackknife UCL					90.57
1055	95% Standard Bootstrap UCL					85.31	95% Bootstrap-t UCL					163.6
1056	95% Hall's Bootstrap UCL					299.3	95% Percentile Bootstrap UCL					86
1057	95% BCA Bootstrap UCL					91.13						
1058	90% Chebyshev(Mean, Sd) UCL					108.4	95% Chebyshev(Mean, Sd) UCL					130.3
1059	97.5% Chebyshev(Mean, Sd) UCL					160.8	99% Chebyshev(Mean, Sd) UCL					220.6
1060												
1061	Suggested UCL to Use											
1062	95% Adjusted Gamma UCL					117.8						
1063												
1064	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1065	Recommendations are based upon data size, data distribution, and skewness.											
1066	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1067	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1068												
1069												
1070	Chloride											
1071												
1072	General Statistics											
1073	Total Number of Observations					8	Number of Distinct Observations					8
1074							Number of Missing Observations					0
1075	Minimum					54000	Mean					134875
1076	Maximum					290000	Median					115000
1077	SD					76740	Std. Error of Mean					27132
1078	Coefficient of Variation					0.569	Skewness					1.336
1079												
1080	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											

A	B	C	D	E	F	G	H	I	J	K	L
1081	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.										
1082	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).										
1083	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1										
1084											
1085	Normal GOF Test										
1086	Shapiro Wilk Test Statistic				0.886	Shapiro Wilk GOF Test					
1087	5% Shapiro Wilk Critical Value				0.818	Data appear Normal at 5% Significance Level					
1088	Lilliefors Test Statistic				0.223	Lilliefors GOF Test					
1089	5% Lilliefors Critical Value				0.283	Data appear Normal at 5% Significance Level					
1090	Data appear Normal at 5% Significance Level										
1091											
1092	Assuming Normal Distribution										
1093	95% Normal UCL					95% UCLs (Adjusted for Skewness)					
1094	95% Student's-t UCL				186278	95% Adjusted-CLT UCL (Chen-1995)					193199
1095						95% Modified-t UCL (Johnson-1978)					188414
1096											
1097	Gamma GOF Test										
1098	A-D Test Statistic				0.228	Anderson-Darling Gamma GOF Test					
1099	5% A-D Critical Value				0.719	Detected data appear Gamma Distributed at 5% Significance Level					
1100	K-S Test Statistic				0.155	Kolmogorov-Smirnov Gamma GOF Test					
1101	5% K-S Critical Value				0.295	Detected data appear Gamma Distributed at 5% Significance Level					
1102	Detected data appear Gamma Distributed at 5% Significance Level										
1103											
1104	Gamma Statistics										
1105	k hat (MLE)				4.065	k star (bias corrected MLE)					2.624
1106	Theta hat (MLE)				33182	Theta star (bias corrected MLE)					51405
1107	nu hat (MLE)				65.04	nu star (bias corrected)					41.98
1108	MLE Mean (bias corrected)				134875	MLE Sd (bias corrected)					83266
1109						Approximate Chi Square Value (0.05)					28.13
1110	Adjusted Level of Significance				0.0195	Adjusted Chi Square Value					25.29
1111											
1112	Assuming Gamma Distribution										
1113	95% Approximate Gamma UCL (use when n>=50))				201298	95% Adjusted Gamma UCL (use when n<50)					223849
1114											
1115	Lognormal GOF Test										
1116	Shapiro Wilk Test Statistic				0.985	Shapiro Wilk Lognormal GOF Test					
1117	5% Shapiro Wilk Critical Value				0.818	Data appear Lognormal at 5% Significance Level					
1118	Lilliefors Test Statistic				0.128	Lilliefors Lognormal GOF Test					
1119	5% Lilliefors Critical Value				0.283	Data appear Lognormal at 5% Significance Level					
1120	Data appear Lognormal at 5% Significance Level										
1121											
1122	Lognormal Statistics										
1123	Minimum of Logged Data				10.9	Mean of logged Data					11.68
1124	Maximum of Logged Data				12.58	SD of logged Data					0.534
1125											
1126	Assuming Lognormal Distribution										
1127	95% H-UCL				222563	90% Chebyshev (MVUE) UCL					210977
1128	95% Chebyshev (MVUE) UCL				245760	97.5% Chebyshev (MVUE) UCL					294038
1129	99% Chebyshev (MVUE) UCL				388871						
1130											
1131	Nonparametric Distribution Free UCL Statistics										
1132	Data appear to follow a Discernible Distribution at 5% Significance Level										
1133											
1134	Nonparametric Distribution Free UCLs										

	A	B	C	D	E	F	G	H	I	J	K	L
1135	95% CLT UCL					179502	95% Jackknife UCL					186278
1136	95% Standard Bootstrap UCL					176690	95% Bootstrap-t UCL					237014
1137	95% Hall's Bootstrap UCL					452001	95% Percentile Bootstrap UCL					178250
1138	95% BCA Bootstrap UCL					190000						
1139	90% Chebyshev(Mean, Sd) UCL					216270	95% Chebyshev(Mean, Sd) UCL					253139
1140	97.5% Chebyshev(Mean, Sd) UCL					304312	99% Chebyshev(Mean, Sd) UCL					404831
1141												
1142	Suggested UCL to Use											
1143	95% Student's-t UCL					186278						
1144												
1145	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1146	Recommendations are based upon data size, data distribution, and skewness.											
1147	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1148	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1149												
1150												
1151	Total Dissolved Solids											
1152												
1153	General Statistics											
1154	Total Number of Observations					8	Number of Distinct Observations					8
1155							Number of Missing Observations					0
1156	Minimum					1300000	Mean					2150000
1157	Maximum					2900000	Median					2250000
1158	SD					625643	Std. Error of Mean					221198
1159	Coefficient of Variation					0.291	Skewness					-0.252
1160												
1161	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
1162	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
1163	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
1164	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
1165												
1166	Normal GOF Test											
1167	Shapiro Wilk Test Statistic					0.917	Shapiro Wilk GOF Test					
1168	5% Shapiro Wilk Critical Value					0.818	Data appear Normal at 5% Significance Level					
1169	Lilliefors Test Statistic					0.155	Lilliefors GOF Test					
1170	5% Lilliefors Critical Value					0.283	Data appear Normal at 5% Significance Level					
1171	Data appear Normal at 5% Significance Level											
1172												
1173	Assuming Normal Distribution											
1174	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
1175	95% Student's-t UCL					2569077	95% Adjusted-CLT UCL (Chen-1995)					2492780
1176							95% Modified-t UCL (Johnson-1978)					2565792
1177												
1178	Gamma GOF Test											
1179	A-D Test Statistic					0.38	Anderson-Darling Gamma GOF Test					
1180	5% A-D Critical Value					0.715	Detected data appear Gamma Distributed at 5% Significance Level					
1181	K-S Test Statistic					0.187	Kolmogorov-Smimov Gamma GOF Test					
1182	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level					
1183	Detected data appear Gamma Distributed at 5% Significance Level											
1184												
1185	Gamma Statistics											
1186	k hat (MLE)					12.4	k star (bias corrected MLE)					7.831
1187	Theta hat (MLE)					173448	Theta star (bias corrected MLE)					274564
1188	nu hat (MLE)					198.3	nu star (bias corrected)					125.3

	A	B	C	D	E	F	G	H	I	J	K	L
1189	MLE Mean (bias corrected)					2150000	MLE Sd (bias corrected)					768318
1190							Approximate Chi Square Value (0.05)					100.4
1191	Adjusted Level of Significance					0.0195	Adjusted Chi Square Value					94.81
1192												
1193	Assuming Gamma Distribution											
1194	95% Approximate Gamma UCL (use when n>=50))					2681989	95% Adjusted Gamma UCL (use when n<50)					2841070
1195												
1196	Lognormal GOF Test											
1197	Shapiro Wilk Test Statistic					0.9	Shapiro Wilk Lognormal GOF Test					
1198	5% Shapiro Wilk Critical Value					0.818	Data appear Lognormal at 5% Significance Level					
1199	Lilliefors Test Statistic					0.185	Lilliefors Lognormal GOF Test					
1200	5% Lilliefors Critical Value					0.283	Data appear Lognormal at 5% Significance Level					
1201	Data appear Lognormal at 5% Significance Level											
1202												
1203	Lognormal Statistics											
1204	Minimum of Logged Data					14.08	Mean of logged Data					14.54
1205	Maximum of Logged Data					14.88	SD of logged Data					0.313
1206												
1207	Assuming Lognormal Distribution											
1208	95% H-UCL					2771405	90% Chebyshev (MVUE) UCL					2872909
1209	95% Chebyshev (MVUE) UCL					3198551	97.5% Chebyshev (MVUE) UCL					3650531
1210	99% Chebyshev (MVUE) UCL					4538357						
1211												
1212	Nonparametric Distribution Free UCL Statistics											
1213	Data appear to follow a Discernible Distribution at 5% Significance Level											
1214												
1215	Nonparametric Distribution Free UCLs											
1216	95% CLT UCL					2513838	95% Jackknife UCL					2569077
1217	95% Standard Bootstrap UCL					2483232	95% Bootstrap-t UCL					2587236
1218	95% Hall's Bootstrap UCL					2445776	95% Percentile Bootstrap UCL					2487500
1219	95% BCA Bootstrap UCL					2450000						
1220	90% Chebyshev(Mean, Sd) UCL					2813594	95% Chebyshev(Mean, Sd) UCL					3114180
1221	97.5% Chebyshev(Mean, Sd) UCL					3531381	99% Chebyshev(Mean, Sd) UCL					4350893
1222												
1223	Suggested UCL to Use											
1224	95% Student's-t UCL					2569077						
1225												
1226	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
1227	Recommendations are based upon data size, data distribution, and skewness.											
1228	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1229	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1230												
1231	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
1232	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
1233												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.13/31/2021 2:06:00 PM								
5	From File			ProUCL Input File_South Flow Zone.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Total Chromium											
11												
12	General Statistics											
13	Total Number of Observations				20		Number of Distinct Observations				11	
14	Number of Detects				12		Number of Non-Detects				8	
15	Number of Distinct Detects				10		Number of Distinct Non-Detects				1	
16	Minimum Detect				16		Minimum Non-Detect				10	
17	Maximum Detect				52		Maximum Non-Detect				10	
18	Variance Detects				190.1		Percent Non-Detects				40%	
19	Mean Detects				32.42		SD Detects				13.79	
20	Median Detects				30.5		CV Detects				0.425	
21	Skewness Detects				0.315		Kurtosis Detects				-1.53	
22	Mean of Logged Detects				3.391		SD of Logged Detects				0.444	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.889		Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value				0.859		Detected Data appear Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.168		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.243		Detected Data appear Normal at 5% Significance Level					
29	Detected Data appear Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean		23.45		KM Standard Error of Mean				3.504			
33	KM SD		15		95% KM (BCA) UCL				29.05			
34	95% KM (t) UCL		29.51		95% KM (Percentile Bootstrap) UCL				29.5			
35	95% KM (z) UCL		29.21		95% KM Bootstrap t UCL				30.79			
36	90% KM Chebyshev UCL		33.96		95% KM Chebyshev UCL				38.73			
37	97.5% KM Chebyshev UCL		45.33		99% KM Chebyshev UCL				58.32			
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic		0.465		Anderson-Darling GOF Test							
41	5% A-D Critical Value		0.732		Detected data appear Gamma Distributed at 5% Significance Level							
42	K-S Test Statistic		0.185		Kolmogorov-Smirnov GOF							
43	5% K-S Critical Value		0.246		Detected data appear Gamma Distributed at 5% Significance Level							
44	Detected data appear Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)		5.867		k star (bias corrected MLE)				4.456			
48	Theta hat (MLE)		5.525		Theta star (bias corrected MLE)				7.275			
49	nu hat (MLE)		140.8		nu star (bias corrected)				106.9			
50	Mean (detects)		32.42									
51												
52	Gamma ROS Statistics using Imputed Non-Detects											
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											

	A	B	C	D	E	F	G	H	I	J	K	L
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.01					Mean	21.4
59					Maximum	52					Median	18
60					SD	17.6					CV	0.823
61					k hat (MLE)	0.597					k star (bias corrected MLE)	0.541
62					Theta hat (MLE)	35.84					Theta star (bias corrected MLE)	39.57
63					nu hat (MLE)	23.88					nu star (bias corrected)	21.63
64					Adjusted Level of Significance ( $\beta$ )	0.038						
65					Approximate Chi Square Value (21.63, $\alpha$ )	12.06					Adjusted Chi Square Value (21.63, $\beta$ )	11.5
66					95% Gamma Approximate UCL (use when $n \geq 50$ )	38.37					95% Gamma Adjusted UCL (use when $n < 50$ )	40.25
67												
68	<b>Estimates of Gamma Parameters using KM Estimates</b>											
69					Mean (KM)	23.45					SD (KM)	15
70					Variance (KM)	225.1					SE of Mean (KM)	3.504
71					k hat (KM)	2.442					k star (KM)	2.109
72					nu hat (KM)	97.7					nu star (KM)	84.38
73					theta hat (KM)	9.601					theta star (KM)	11.12
74					80% gamma percentile (KM)	34.89					90% gamma percentile (KM)	45.04
75					95% gamma percentile (KM)	54.7					99% gamma percentile (KM)	76.05
76												
77	<b>Gamma Kaplan-Meier (KM) Statistics</b>											
78					Approximate Chi Square Value (84.38, $\alpha$ )	64.2					Adjusted Chi Square Value (84.38, $\beta$ )	62.81
79					95% Gamma Approximate KM-UCL (use when $n \geq 50$ )	30.82					95% Gamma Adjusted KM-UCL (use when $n < 50$ )	31.5
80												
81	<b>Lognormal GOF Test on Detected Observations Only</b>											
82					Shapiro Wilk Test Statistic	0.904					<b>Shapiro Wilk GOF Test</b>	
83					5% Shapiro Wilk Critical Value	0.859					Detected Data appear Lognormal at 5% Significance Level	
84					Lilliefors Test Statistic	0.176					<b>Lilliefors GOF Test</b>	
85					5% Lilliefors Critical Value	0.243					Detected Data appear Lognormal at 5% Significance Level	
86	<b>Detected Data appear Lognormal at 5% Significance Level</b>											
87												
88	<b>Lognormal ROS Statistics Using Imputed Non-Detects</b>											
89					Mean in Original Scale	23.38					Mean in Log Scale	2.929
90					SD in Original Scale	15.57					SD in Log Scale	0.703
91					95% t UCL (assumes normality of ROS data)	29.4					95% Percentile Bootstrap UCL	28.84
92					95% BCA Bootstrap UCL	29.75					95% Bootstrap t UCL	30.59
93					95% H-UCL (Log ROS)	34.37						
94												
95	<b>Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution</b>											
96					KM Mean (logged)	2.956					KM Geo Mean	19.21
97					KM SD (logged)	0.627					95% Critical H Value (KM-Log)	2.152
98					KM Standard Error of Mean (logged)	0.146					95% H-UCL (KM -Log)	31.86
99					KM SD (logged)	0.627					95% Critical H Value (KM-Log)	2.152
100					KM Standard Error of Mean (logged)	0.146						
101												
102	<b>DL/2 Statistics</b>											
103	<b>DL/2 Normal</b>					<b>DL/2 Log-Transformed</b>						
104					Mean in Original Scale	21.45					Mean in Log Scale	2.678
105					SD in Original Scale	17.32					SD in Log Scale	0.957
106					95% t UCL (Assumes normality)	28.15					95% H-Stat UCL	40.49
107	<b>DL/2 is not a recommended method, provided for comparisons and historical reasons</b>											
108												

	A	B	C	D	E	F	G	H	I	J	K	L
109	Nonparametric Distribution Free UCL Statistics											
110	Detected Data appear Normal Distributed at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	95% KM (t) UCL				29.51							
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												
120	Mercury, Total											
121												
122	General Statistics											
123	Total Number of Observations				20		Number of Distinct Observations				11	
124	Number of Detects				10		Number of Non-Detects				10	
125	Number of Distinct Detects				10		Number of Distinct Non-Detects				1	
126	Minimum Detect				9.0000E-4		Minimum Non-Detect				0.2	
127	Maximum Detect				0.113		Maximum Non-Detect				0.2	
128	Variance Detects				0.00223		Percent Non-Detects				50%	
129	Mean Detects				0.0526		SD Detects				0.0472	
130	Median Detects				0.0435		CV Detects				0.898	
131	Skewness Detects				0.183		Kurtosis Detects				-2.052	
132	Mean of Logged Detects				-3.799		SD of Logged Detects				1.765	
133												
134	Normal GOF Test on Detects Only											
135	Shapiro Wilk Test Statistic				0.838		Shapiro Wilk GOF Test					
136	5% Shapiro Wilk Critical Value				0.842		Detected Data Not Normal at 5% Significance Level					
137	Lilliefors Test Statistic				0.221		Lilliefors GOF Test					
138	5% Lilliefors Critical Value				0.262		Detected Data appear Normal at 5% Significance Level					
139	Detected Data appear Approximate Normal at 5% Significance Level											
140												
141	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
142	KM Mean				0.0526		KM Standard Error of Mean				0.0149	
143	KM SD				0.0448		95% KM (BCA) UCL				0.0769	
144	95% KM (t) UCL				0.0784		95% KM (Percentile Bootstrap) UCL				0.0756	
145	95% KM (z) UCL				0.0771		95% KM Bootstrap t UCL				0.0821	
146	90% KM Chebyshev UCL				0.0973		95% KM Chebyshev UCL				0.118	
147	97.5% KM Chebyshev UCL				0.146		99% KM Chebyshev UCL				0.201	
148												
149	Gamma GOF Tests on Detected Observations Only											
150	A-D Test Statistic				0.601		Anderson-Darling GOF Test					
151	5% A-D Critical Value				0.76		Detected data appear Gamma Distributed at 5% Significance Level					
152	K-S Test Statistic				0.228		Kolmogorov-Smirnov GOF					
153	5% K-S Critical Value				0.277		Detected data appear Gamma Distributed at 5% Significance Level					
154	Detected data appear Gamma Distributed at 5% Significance Level											
155												
156	Gamma Statistics on Detected Data Only											
157	k hat (MLE)				0.707		k star (bias corrected MLE)				0.562	
158	Theta hat (MLE)				0.0743		Theta star (bias corrected MLE)				0.0936	
159	nu hat (MLE)				14.14		nu star (bias corrected)				11.23	
160	Mean (detects)				0.0526							
161												
162	Gamma ROS Statistics using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
163	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
164	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
165	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
166	This is especially true when the sample size is small.											
167	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
168				Minimum	9.0000E-4					Mean		0.0526
169				Maximum	0.143					Median		0.0412
170				SD	0.0436					CV		0.829
171				k hat (MLE)	1.007					k star (bias corrected MLE)		0.889
172				Theta hat (MLE)	0.0522					Theta star (bias corrected MLE)		0.0591
173				nu hat (MLE)	40.26					nu star (bias corrected)		35.56
174				Adjusted Level of Significance (β)	0.038							
175				Approximate Chi Square Value (35.56, α)	22.91					Adjusted Chi Square Value (35.56, β)		22.11
176				95% Gamma Approximate UCL (use when n>=50)	0.0816					95% Gamma Adjusted UCL (use when n<50)		0.0845
177												
178	Estimates of Gamma Parameters using KM Estimates											
179				Mean (KM)	0.0526					SD (KM)		0.0448
180				Variance (KM)	0.002					SE of Mean (KM)		0.0149
181				k hat (KM)	1.378					k star (KM)		1.205
182				nu hat (KM)	55.14					nu star (KM)		48.2
183				theta hat (KM)	0.0381					theta star (KM)		0.0436
184				80% gamma percentile (KM)	0.0832					90% gamma percentile (KM)		0.116
185				95% gamma percentile (KM)	0.148					99% gamma percentile (KM)		0.221
186												
187	Gamma Kaplan-Meier (KM) Statistics											
188				Approximate Chi Square Value (48.20, α)	33.27					Adjusted Chi Square Value (48.20, β)		32.29
189				95% Gamma Approximate KM-UCL (use when n>=50)	0.0762					95% Gamma Adjusted KM-UCL (use when n<50)		0.0785
190												
191	Lognormal GOF Test on Detected Observations Only											
192				Shapiro Wilk Test Statistic	0.852					Shapiro Wilk GOF Test		
193				5% Shapiro Wilk Critical Value	0.842					Detected Data appear Lognormal at 5% Significance Level		
194				Lilliefors Test Statistic	0.218					Lilliefors GOF Test		
195				5% Lilliefors Critical Value	0.262					Detected Data appear Lognormal at 5% Significance Level		
196	Detected Data appear Lognormal at 5% Significance Level											
197												
198	Lognormal ROS Statistics Using Imputed Non-Detects											
199				Mean in Original Scale	0.0584					Mean in Log Scale		-3.799
200				SD in Original Scale	0.0754					SD in Log Scale		1.663
201				95% t UCL (assumes normality of ROS data)	0.0875					95% Percentile Bootstrap UCL		0.0864
202				95% BCA Bootstrap UCL	0.0943					95% Bootstrap t UCL		0.104
203				95% H-UCL (Log ROS)	0.367							
204												
205	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
206				KM Mean (logged)	-3.799					KM Geo Mean		0.0224
207				KM SD (logged)	1.674					95% Critical H Value (KM-Log)		3.725
208				KM Standard Error of Mean (logged)	0.558					95% H-UCL (KM -Log)		0.38
209				KM SD (logged)	1.674					95% Critical H Value (KM-Log)		3.725
210				KM Standard Error of Mean (logged)	0.558							
211												
212	DL/2 Statistics											
213	DL/2 Normal					DL/2 Log-Transformed						
214				Mean in Original Scale	0.0763					Mean in Log Scale		-3.051
215				SD in Original Scale	0.0406					SD in Log Scale		1.437
216				95% t UCL (Assumes normality)	0.092					95% H-Stat UCL		0.397



	A	B	C	D	E	F	G	H	I	J	K	L
217	DL/2 is not a recommended method, provided for comparisons and historical reasons											
218												
219	Nonparametric Distribution Free UCL Statistics											
220	Detected Data appear Approximate Normal Distributed at 5% Significance Level											
221												
222	Suggested UCL to Use											
223	95% KM (t) UCL			0.0784								
224												
225	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
226	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
227												
228	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
229	Recommendations are based upon data size, data distribution, and skewness.											
230	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
231	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
232												
233	Silver											
234												
235	General Statistics											
236	Total Number of Observations			20		Number of Distinct Observations				2		
237	Number of Detects			1		Number of Non-Detects				19		
238	Number of Distinct Detects			1		Number of Distinct Non-Detects				1		
239												
240	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
241	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
242												
243	The data set for variable Silver was not processed!											
244												
245												
246	Methylphenol, 3- and 4-											
247												
248	General Statistics											
249	Total Number of Observations			20		Number of Distinct Observations				5		
250	Number of Detects			4		Number of Non-Detects				16		
251	Number of Distinct Detects			4		Number of Distinct Non-Detects				1		
252	Minimum Detect			30		Minimum Non-Detect				10		
253	Maximum Detect			110		Maximum Non-Detect				10		
254	Variance Detects			1111		Percent Non-Detects				80%		
255	Mean Detects			73		SD Detects				33.34		
256	Median Detects			76		CV Detects				0.457		
257	Skewness Detects			-0.502		Kurtosis Detects				0.813		
258	Mean of Logged Detects			4.189		SD of Logged Detects				0.559		
259												
260	Normal GOF Test on Detects Only											
261	Shapiro Wilk Test Statistic			0.986		Shapiro Wilk GOF Test						
262	5% Shapiro Wilk Critical Value			0.748		Detected Data appear Normal at 5% Significance Level						
263	Lilliefors Test Statistic			0.202		Lilliefors GOF Test						
264	5% Lilliefors Critical Value			0.375		Detected Data appear Normal at 5% Significance Level						
265	Detected Data appear Normal at 5% Significance Level											
266												
267	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
268	KM Mean			22.6		KM Standard Error of Mean				7.311		
269	KM SD			28.32		95% KM (BCA) UCL				N/A		
270	95% KM (t) UCL			35.24		95% KM (Percentile Bootstrap) UCL				N/A		

	A	B	C	D	E	F	G	H	I	J	K	L	
271	95% KM (z) UCL					34.63	95% KM Bootstrap t UCL					N/A	
272	90% KM Chebyshev UCL					44.53	95% KM Chebyshev UCL					54.47	
273	97.5% KM Chebyshev UCL					68.26	99% KM Chebyshev UCL					95.34	
274													
275	Gamma GOF Tests on Detected Observations Only												
276	A-D Test Statistic					0.303	Anderson-Darling GOF Test						
277	5% A-D Critical Value					0.659	Detected data appear Gamma Distributed at 5% Significance Level						
278	K-S Test Statistic					0.259	Kolmogorov-Smirnov GOF						
279	5% K-S Critical Value					0.396	Detected data appear Gamma Distributed at 5% Significance Level						
280	Detected data appear Gamma Distributed at 5% Significance Level												
281													
282	Gamma Statistics on Detected Data Only												
283	k hat (MLE)					5.072	k star (bias corrected MLE)					1.435	
284	Theta hat (MLE)					14.39	Theta star (bias corrected MLE)					50.88	
285	nu hat (MLE)					40.58	nu star (bias corrected)					11.48	
286	Mean (detects)					73							
287													
288	Gamma ROS Statistics using Imputed Non-Detects												
289	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs												
290	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)												
291	For such situations, GROS method may yield incorrect values of UCLs and BTVs												
292	This is especially true when the sample size is small.												
293	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates												
294	Minimum					0.01	Mean					15.48	
295	Maximum					110	Median					0.01	
296	SD					32.5	CV					2.1	
297	k hat (MLE)					0.155	k star (bias corrected MLE)					0.165	
298	Theta hat (MLE)					99.91	Theta star (bias corrected MLE)					93.8	
299	nu hat (MLE)					6.198	nu star (bias corrected)					6.602	
300	Adjusted Level of Significance ( $\beta$ )					0.038							
301	Approximate Chi Square Value (6.60, $\alpha$ )					1.955	Adjusted Chi Square Value (6.60, $\beta$ )					1.762	
302	95% Gamma Approximate UCL (use when n>=50)					52.29	95% Gamma Adjusted UCL (use when n<50)					N/A	
303													
304	Estimates of Gamma Parameters using KM Estimates												
305	Mean (KM)					22.6	SD (KM)					28.32	
306	Variance (KM)					801.7	SE of Mean (KM)					7.311	
307	k hat (KM)					0.637	k star (KM)					0.575	
308	nu hat (KM)					25.48	nu star (KM)					22.99	
309	theta hat (KM)					35.48	theta star (KM)					39.32	
310	80% gamma percentile (KM)					37.25	90% gamma percentile (KM)					59.34	
311	95% gamma percentile (KM)					82.59	99% gamma percentile (KM)					139	
312													
313	Gamma Kaplan-Meier (KM) Statistics												
314	Approximate Chi Square Value (22.99, $\alpha$ )					13.09	Adjusted Chi Square Value (22.99, $\beta$ )					12.5	
315	95% Gamma Approximate KM-UCL (use when n>=50)					39.71	95% Gamma Adjusted KM-UCL (use when n<50)					41.58	
316													
317	Lognormal GOF Test on Detected Observations Only												
318	Shapiro Wilk Test Statistic					0.911	Shapiro Wilk GOF Test						
319	5% Shapiro Wilk Critical Value					0.748	Detected Data appear Lognormal at 5% Significance Level						
320	Lilliefors Test Statistic					0.282	Lilliefors GOF Test						
321	5% Lilliefors Critical Value					0.375	Detected Data appear Lognormal at 5% Significance Level						
322	Detected Data appear Lognormal at 5% Significance Level												
323													
324	Lognormal ROS Statistics Using Imputed Non-Detects												

	A	B	C	D	E	F	G	H	I	J	K	L
325	Mean in Original Scale					21.05	Mean in Log Scale					2.16
326	SD in Original Scale					30.42	SD in Log Scale					1.416
327	95% t UCL (assumes normality of ROS data)					32.81	95% Percentile Bootstrap UCL					33.32
328	95% BCA Bootstrap UCL					36.5	95% Bootstrap t UCL					40.58
329	95% H-UCL (Log ROS)					68.68						
330												
331	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
332	KM Mean (logged)					2.68	KM Geo Mean					14.58
333	KM SD (logged)					0.785	95% Critical H Value (KM-Log)					2.34
334	KM Standard Error of Mean (logged)					0.203	95% H-UCL (KM -Log)					30.24
335	KM SD (logged)					0.785	95% Critical H Value (KM-Log)					2.34
336	KM Standard Error of Mean (logged)					0.203						
337												
338	DL/2 Statistics											
339	DL/2 Normal					DL/2 Log-Transformed						
340	Mean in Original Scale					18.6	Mean in Log Scale					2.125
341	SD in Original Scale					30.89	SD in Log Scale					1.082
342	95% t UCL (Assumes normality)					30.54	95% H-Stat UCL					29.77
343	DL/2 is not a recommended method, provided for comparisons and historical reasons											
344												
345	Nonparametric Distribution Free UCL Statistics											
346	Detected Data appear Normal Distributed at 5% Significance Level											
347												
348	Suggested UCL to Use											
349	95% KM (t) UCL					35.24						
350												
351	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
352	Recommendations are based upon data size, data distribution, and skewness.											
353	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
354	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
355												
356	Phenanthrene											
357												
358	General Statistics											
359	Total Number of Observations					20	Number of Distinct Observations					3
360	Number of Detects					1	Number of Non-Detects					19
361	Number of Distinct Detects					1	Number of Distinct Non-Detects					2
362												
363	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
364	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
365												
366	The data set for variable Phenanthrene was not processed!											
367												
368												
369	Naphthalene											
370												
371	General Statistics											
372	Total Number of Observations					20	Number of Distinct Observations					9
373	Number of Detects					7	Number of Non-Detects					13
374	Number of Distinct Detects					7	Number of Distinct Non-Detects					2
375	Minimum Detect					7.6	Minimum Non-Detect					5
376	Maximum Detect					140	Maximum Non-Detect					20
377	Variance Detects					3468	Percent Non-Detects					65%
378	Mean Detects					70.47	SD Detects					58.89

	A	B	C	D	E	F	G	H	I	J	K	L
379	Median Detects					96	CV Detects					0.836
380	Skewness Detects					-0.181	Kurtosis Detects					-2.492
381	Mean of Logged Detects					3.655	SD of Logged Detects					1.373
382												
383	Normal GOF Test on Detects Only											
384	Shapiro Wilk Test Statistic					0.814	Shapiro Wilk GOF Test					
385	5% Shapiro Wilk Critical Value					0.803	Detected Data appear Normal at 5% Significance Level					
386	Lilliefors Test Statistic					0.272	Lilliefors GOF Test					
387	5% Lilliefors Critical Value					0.304	Detected Data appear Normal at 5% Significance Level					
388	Detected Data appear Normal at 5% Significance Level											
389												
390	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
391	KM Mean					28.12	KM Standard Error of Mean					10.82
392	KM SD					44.8	95% KM (BCA) UCL					47.13
393	95% KM (t) UCL					46.83	95% KM (Percentile Bootstrap) UCL					45.23
394	95% KM (z) UCL					45.92	95% KM Bootstrap t UCL					49.45
395	90% KM Chebyshev UCL					60.59	95% KM Chebyshev UCL					75.3
396	97.5% KM Chebyshev UCL					95.71	99% KM Chebyshev UCL					135.8
397												
398	Gamma GOF Tests on Detected Observations Only											
399	A-D Test Statistic					0.874	Anderson-Darling GOF Test					
400	5% A-D Critical Value					0.729	Detected Data Not Gamma Distributed at 5% Significance Level					
401	K-S Test Statistic					0.315	Kolmogorov-Smimov GOF					
402	5% K-S Critical Value					0.32	Detected data appear Gamma Distributed at 5% Significance Level					
403	Detected data follow Appr. Gamma Distribution at 5% Significance Level											
404												
405	Gamma Statistics on Detected Data Only											
406	k hat (MLE)					0.965	k star (bias corrected MLE)					0.647
407	Theta hat (MLE)					73	Theta star (bias corrected MLE)					108.9
408	nu hat (MLE)					13.51	nu star (bias corrected)					9.056
409	Mean (detects)					70.47						
410												
411	Gamma ROS Statistics using Imputed Non-Detects											
412	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
413	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
414	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
415	This is especially true when the sample size is small.											
416	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
417	Minimum					0.01	Mean					25.1
418	Maximum					140	Median					0.01
419	SD					47.6	CV					1.896
420	k hat (MLE)					0.165	k star (bias corrected MLE)					0.173
421	Theta hat (MLE)					152.3	Theta star (bias corrected MLE)					144.7
422	nu hat (MLE)					6.592	nu star (bias corrected)					6.937
423	Adjusted Level of Significance ( $\beta$ )					0.038						
424	Approximate Chi Square Value (6.94, $\alpha$ )					2.136	Adjusted Chi Square Value (6.94, $\beta$ )					1.932
425	95% Gamma Approximate UCL (use when n>=50)					81.52	95% Gamma Adjusted UCL (use when n<50)					90.13
426												
427	Estimates of Gamma Parameters using KM Estimates											
428	Mean (KM)					28.12	SD (KM)					44.8
429	Variance (KM)					2007	SE of Mean (KM)					10.82
430	k hat (KM)					0.394	k star (KM)					0.368
431	nu hat (KM)					15.76	nu star (KM)					14.73
432	theta hat (KM)					71.37	theta star (KM)					76.37

	A	B	C	D	E	F	G	H	I	J	K	L
433	80% gamma percentile (KM)					44.89	90% gamma percentile (KM)					80.55
434	95% gamma percentile (KM)					120.2	99% gamma percentile (KM)					220.8
435												
436	Gamma Kaplan-Meier (KM) Statistics											
437	Approximate Chi Square Value (14.73, $\alpha$ )					7.073	Adjusted Chi Square Value (14.73, $\beta$ )					6.656
438	95% Gamma Approximate KM-UCL (use when n>=50)					58.55	95% Gamma Adjusted KM-UCL (use when n<50)					62.22
439												
440	Lognormal GOF Test on Detected Observations Only											
441	Shapiro Wilk Test Statistic					0.761	Shapiro Wilk GOF Test					
442	5% Shapiro Wilk Critical Value					0.803	Detected Data Not Lognormal at 5% Significance Level					
443	Lilliefors Test Statistic					0.318	Lilliefors GOF Test					
444	5% Lilliefors Critical Value					0.304	Detected Data Not Lognormal at 5% Significance Level					
445	Detected Data Not Lognormal at 5% Significance Level											
446												
447	Lognormal ROS Statistics Using Imputed Non-Detects											
448	Mean in Original Scale					25.85	Mean in Log Scale					1.198
449	SD in Original Scale					47.19	SD in Log Scale					2.291
450	95% t UCL (assumes normality of ROS data)					44.1	95% Percentile Bootstrap UCL					44.27
451	95% BCA Bootstrap UCL					47.51	95% Bootstrap t UCL					55.48
452	95% H-UCL (Log ROS)					580.8						
453												
454	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
455	KM Mean (logged)					2.355	KM Geo Mean					10.53
456	KM SD (logged)					1.222	95% Critical H Value (KM-Log)					2.97
457	KM Standard Error of Mean (logged)					0.297	95% H-UCL (KM -Log)					51.08
458	KM SD (logged)					1.222	95% Critical H Value (KM-Log)					2.97
459	KM Standard Error of Mean (logged)					0.297						
460												
461	DL/2 Statistics											
462	DL/2 Normal					DL/2 Log-Transformed						
463	Mean in Original Scale					27.79	Mean in Log Scale					2.152
464	SD in Original Scale					46.22	SD in Log Scale					1.468
465	95% t UCL (Assumes normality)					45.66	95% H-Stat UCL					78.69
466	DL/2 is not a recommended method, provided for comparisons and historical reasons											
467												
468	Nonparametric Distribution Free UCL Statistics											
469	Detected Data appear Normal Distributed at 5% Significance Level											
470												
471	Suggested UCL to Use											
472	95% KM (t) UCL					46.83						
473												
474	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
475	Recommendations are based upon data size, data distribution, and skewness.											
476	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
477	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
478												
479	1,2,4-Trimethylbenzene											
480												
481	General Statistics											
482	Total Number of Observations					20	Number of Distinct Observations					10
483	Number of Detects					7	Number of Non-Detects					13
484	Number of Distinct Detects					7	Number of Distinct Non-Detects					3
485	Minimum Detect					3.8	Minimum Non-Detect					1
486	Maximum Detect					51	Maximum Non-Detect					10

	A	B	C	D	E	F	G	H	I	J	K	L
487	Variance Detects					511.1	Percent Non-Detects					65%
488	Mean Detects					27.9	SD Detects					22.61
489	Median Detects					40	CV Detects					0.81
490	Skewness Detects					-0.258	Kurtosis Detects					-2.636
491	Mean of Logged Detects					2.786	SD of Logged Detects					1.291
492												
493	Normal GOF Test on Detects Only											
494	Shapiro Wilk Test Statistic					0.77	Shapiro Wilk GOF Test					
495	5% Shapiro Wilk Critical Value					0.803	Detected Data Not Normal at 5% Significance Level					
496	Lilliefors Test Statistic					0.28	Lilliefors GOF Test					
497	5% Lilliefors Critical Value					0.304	Detected Data appear Normal at 5% Significance Level					
498	Detected Data appear Approximate Normal at 5% Significance Level											
499												
500	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
501	KM Mean					10.57	KM Standard Error of Mean					4.293
502	KM SD					17.76	95% KM (BCA) UCL					17.91
503	95% KM (t) UCL					17.99	95% KM (Percentile Bootstrap) UCL					17.43
504	95% KM (z) UCL					17.63	95% KM Bootstrap t UCL					20.38
505	90% KM Chebyshev UCL					23.45	95% KM Chebyshev UCL					29.28
506	97.5% KM Chebyshev UCL					37.38	99% KM Chebyshev UCL					53.29
507												
508	Gamma GOF Tests on Detected Observations Only											
509	A-D Test Statistic					1.007	Anderson-Darling GOF Test					
510	5% A-D Critical Value					0.727	Detected Data Not Gamma Distributed at 5% Significance Level					
511	K-S Test Statistic					0.334	Kolmogorov-Smirnov GOF					
512	5% K-S Critical Value					0.319	Detected Data Not Gamma Distributed at 5% Significance Level					
513	Detected Data Not Gamma Distributed at 5% Significance Level											
514												
515	Gamma Statistics on Detected Data Only											
516	k hat (MLE)					1.056	k star (bias corrected MLE)					0.699
517	Theta hat (MLE)					26.41	Theta star (bias corrected MLE)					39.93
518	nu hat (MLE)					14.79	nu star (bias corrected)					9.783
519	Mean (detects)					27.9						
520												
521	Gamma ROS Statistics using Imputed Non-Detects											
522	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
523	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
524	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
525	This is especially true when the sample size is small.											
526	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
527	Minimum					0.01	Mean					10
528	Maximum					51	Median					0.01
529	SD					18.55	CV					1.854
530	k hat (MLE)					0.185	k star (bias corrected MLE)					0.191
531	Theta hat (MLE)					53.94	Theta star (bias corrected MLE)					52.38
532	nu hat (MLE)					7.419	nu star (bias corrected)					7.64
533	Adjusted Level of Significance (β)					0.038						
534	Approximate Chi Square Value (7.64, α)					2.528	Adjusted Chi Square Value (7.64, β)					2.302
535	95% Gamma Approximate UCL (use when n>=50)					30.23	95% Gamma Adjusted UCL (use when n<50)					33.21
536												
537	Estimates of Gamma Parameters using KM Estimates											
538	Mean (KM)					10.57	SD (KM)					17.76
539	Variance (KM)					315.5	SE of Mean (KM)					4.293
540	k hat (KM)					0.354	k star (KM)					0.334

	A	B	C	D	E	F	G	H	I	J	K	L
541	nu hat (KM)					14.16	nu star (KM)					13.37
542	theta hat (KM)					29.85	theta star (KM)					31.61
543	80% gamma percentile (KM)					16.6	90% gamma percentile (KM)					30.73
544	95% gamma percentile (KM)					46.67	99% gamma percentile (KM)					87.56
545												
546	Gamma Kaplan-Meier (KM) Statistics											
547	Approximate Chi Square Value (13.37, $\alpha$ )					6.145	Adjusted Chi Square Value (13.37, $\beta$ )					5.76
548	95% Gamma Approximate KM-UCL (use when $n \geq 50$ )					23	95% Gamma Adjusted KM-UCL (use when $n < 50$ )					24.54
549												
550	Lognormal GOF Test on Detected Observations Only											
551	Shapiro Wilk Test Statistic					0.723	Shapiro Wilk GOF Test					
552	5% Shapiro Wilk Critical Value					0.803	Detected Data Not Lognormal at 5% Significance Level					
553	Lilliefors Test Statistic					0.329	Lilliefors GOF Test					
554	5% Lilliefors Critical Value					0.304	Detected Data Not Lognormal at 5% Significance Level					
555	Detected Data Not Lognormal at 5% Significance Level											
556												
557	Lognormal ROS Statistics Using Imputed Non-Detects											
558	Mean in Original Scale					10.34	Mean in Log Scale					0.533
559	SD in Original Scale					18.35	SD in Log Scale					2.066
560	95% t UCL (assumes normality of ROS data)					17.44	95% Percentile Bootstrap UCL					17.49
561	95% BCA Bootstrap UCL					18.52	95% Bootstrap t UCL					21.43
562	95% H-UCL (Log ROS)					117.3						
563												
564	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
565	KM Mean (logged)					1.045	KM Geo Mean					2.845
566	KM SD (logged)					1.491	95% Critical H Value (KM-Log)					3.411
567	KM Standard Error of Mean (logged)					0.368	95% H-UCL (KM -Log)					27.74
568	KM SD (logged)					1.491	95% Critical H Value (KM-Log)					3.411
569	KM Standard Error of Mean (logged)					0.368						
570												
571	DL/2 Statistics											
572	DL/2 Normal						DL/2 Log-Transformed					
573	Mean in Original Scale					11.1	Mean in Log Scale					1.122
574	SD in Original Scale					18	SD in Log Scale					1.662
575	95% t UCL (Assumes normality)					18.06	95% H-Stat UCL					50.26
576	DL/2 is not a recommended method, provided for comparisons and historical reasons											
577												
578	Nonparametric Distribution Free UCL Statistics											
579	Detected Data appear Approximate Normal Distributed at 5% Significance Level											
580												
581	Suggested UCL to Use											
582	95% KM (t) UCL					17.99						
583												
584	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
585	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
586												
587	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
588	Recommendations are based upon data size, data distribution, and skewness.											
589	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
590	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
591												
592												
593	Total Dissolved Solids											
594												

	A	B	C	D	E	F	G	H	I	J	K	L
595	General Statistics											
596	Total Number of Observations					20	Number of Distinct Observations					14
597							Number of Missing Observations					0
598	Minimum					440000	Mean					1115000
599	Maximum					1800000	Median					1200000
600	SD					464707	Std. Error of Mean					103912
601	Coefficient of Variation					0.417	Skewness					-0.0102
602												
603	Normal GOF Test											
604	Shapiro Wilk Test Statistic					0.924	Shapiro Wilk GOF Test					
605	5% Shapiro Wilk Critical Value					0.905	Data appear Normal at 5% Significance Level					
606	Lilliefors Test Statistic					0.123	Lilliefors GOF Test					
607	5% Lilliefors Critical Value					0.192	Data appear Normal at 5% Significance Level					
608	Data appear Normal at 5% Significance Level											
609												
610	Assuming Normal Distribution											
611	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
612	95% Student's-t UCL					1294677	95% Adjusted-CLT UCL (Chen-1995)					1285667
613							95% Modified-t UCL (Johnson-1978)					1294638
614												
615	Gamma GOF Test											
616	A-D Test Statistic					0.608	Anderson-Darling Gamma GOF Test					
617	5% A-D Critical Value					0.745	Detected data appear Gamma Distributed at 5% Significance Level					
618	K-S Test Statistic					0.174	Kolmogorov-Smimov Gamma GOF Test					
619	5% K-S Critical Value					0.194	Detected data appear Gamma Distributed at 5% Significance Level					
620	Detected data appear Gamma Distributed at 5% Significance Level											
621												
622	Gamma Statistics											
623	k hat (MLE)					5.305	k star (bias corrected MLE)					4.543
624	Theta hat (MLE)					210175	Theta star (bias corrected MLE)					245451
625	nu hat (MLE)					212.2	nu star (bias corrected)					181.7
626	MLE Mean (bias corrected)					1115000	MLE Sd (bias corrected)					523142
627							Approximate Chi Square Value (0.05)					151.5
628	Adjusted Level of Significance					0.038	Adjusted Chi Square Value					149.4
629												
630	Assuming Gamma Distribution											
631	95% Approximate Gamma UCL (use when n>=50))					1337069	95% Adjusted Gamma UCL (use when n<50)					1356546
632												
633	Lognormal GOF Test											
634	Shapiro Wilk Test Statistic					0.904	Shapiro Wilk Lognormal GOF Test					
635	5% Shapiro Wilk Critical Value					0.905	Data Not Lognormal at 5% Significance Level					
636	Lilliefors Test Statistic					0.191	Lilliefors Lognormal GOF Test					
637	5% Lilliefors Critical Value					0.192	Data appear Lognormal at 5% Significance Level					
638	Data appear Approximate Lognormal at 5% Significance Level											
639												
640	Lognormal Statistics											
641	Minimum of Logged Data					12.99	Mean of logged Data					13.83
642	Maximum of Logged Data					14.4	SD of logged Data					0.473
643												
644	Assuming Lognormal Distribution											
645	95% H-UCL					1404809	90% Chebyshev (MVUE) UCL					1493276
646	95% Chebyshev (MVUE) UCL					1660278	97.5% Chebyshev (MVUE) UCL					1892070
647	99% Chebyshev (MVUE) UCL					2347380						
648												



	A	B	C	D	E	F	G	H	I	J	K	L
649	<b>Nonparametric Distribution Free UCL Statistics</b>											
650	<b>Data appear to follow a Discernible Distribution at 5% Significance Level</b>											
651												
652	<b>Nonparametric Distribution Free UCLs</b>											
653	95% CLT UCL				1285919					95% Jackknife UCL		1294677
654	95% Standard Bootstrap UCL				1282324					95% Bootstrap-t UCL		1292299
655	95% Hall's Bootstrap UCL				1280671					95% Percentile Bootstrap UCL		1276000
656	95% BCA Bootstrap UCL				1283500							
657	90% Chebyshev(Mean, Sd) UCL				1426735					95% Chebyshev(Mean, Sd) UCL		1567940
658	97.5% Chebyshev(Mean, Sd) UCL				1763928					99% Chebyshev(Mean, Sd) UCL		2148908
659												
660	<b>Suggested UCL to Use</b>											
661	95% Student's-t UCL				1294677							
662												
663	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
664	Recommendations are based upon data size, data distribution, and skewness.											
665	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
666	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
667												
668	<b>Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be</b>											
669	<b>reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.</b>											
670												

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