# Periodic Review Report
# Napanoch Paper Mill Site No. 356014
# Wawarsing, New York

*Prepared for*

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

*Prepared by*

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March 2022
Version: FINAL
EA Project No. 1602523.0015

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17 March 2022

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17 March 2022

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March 2022
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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| µg/kg | Microgram(s) per kilogram(s) |
| µg/L | Microgram(s) per liter |
| AST | Aboveground storage tank |
| Aztech | Aztech Environmental Services |
| DER | Division of Environmental Remediation |
| EA | EA Engineering, P.C. and its affiliate EA Science and Technology |
| EPA | U.S. Environmental Protection Agency |
| FS | Feasibility study |
| ft | Foot (feet) |
| GRO | Gasoline range organics |
| IRM | Interim Remedial Measure |
| MCL | Maximum containment level |
| ng/L | Nanogram(s) per liter |
| No. | Number |
| NYSDEC | New York State Department of Environmental Conservation |
| PCB | Poly-chlorinated biphenyl |
| P.E. | Professional Engineer |
| PFAS | Per- and polyfluoroalkyl substances |
| PFOA | Perfluorooctanoic acid |
| PFOS | Perfluorooctane sulfonic acid |
| P.G. | Professional Geologist |
| PRR | Periodic Review Report |
| RI | Remedial investigation |
| ROD | Record of Decision |
| SCO | Soil cleanup objective |
| SI | Site inspection |
| SVOC | Semi-volatile organic compound |
| TCL | Target Compound List |
| UST | Underground storage tank |
| VOC | Volatile organic compound |

# ES. EXECUTIVE SUMMARY

## Table ES-1. Site Summary

| Category | Summary/Results |
|---|---|
| Site Name/Site Number | Napanoch Paper Mill (356014) |
| Engineering Control | Fencing around the property. |
| Institutional Control | • No commercial, industrial, or residential use<br>• No building, roads, or signs<br>• No satellite dishes, no docks, structures, or any improvements<br>• No dumping of waste<br>• No dredging, mining, or harvest of trees, or filling of drainage ways<br>• No use of toxic chemicals<br>• No motorized vehicles<br>• No leasing of the property |
| Site Management Plan | No Site Management Plan is currently in place at this site. |
| Certification/Reporting Period | This report covers the period 30 December 1997 to 31 December 2021. |
| **Inspection** | **Frequency** |
| Site Inspection | As needed |
| **Monitoring** | **Frequency** |
| Groundwater | As needed |
| Prior Periodic Review Report (PRR) Recommendations | This is the first known PRR to be completed for this site. |
| Site Management Activities | • 2017 Groundwater sampling event<br>• 2018 Groundwater sampling event<br>• Site inspection (SI): 22 June 2021<br>• 2021 Groundwater sampling event |
| SI Findings/Concerns | The SI checklist and photographic log can be found in **Appendix A**. A sheen was observed during the June 2021 SI that EA Engineering, P.C. and its affiliate EA Science and Technology (EA) then followed-up with a surface water sampling event. In the surface water sample that contained a sheen, only low levels of carbon disulfide (0.73 micrograms per liter [µg/L]) and gasoline range organics (16 µg/L) were detected. No other issues were identified during the 2021 SI. |
| Groundwater Monitoring Findings/Results | Based on a review of the results from the 2017 and 2018 groundwater sampling event, the following conclusions can be made:<br>• Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) exceeded the New York State Department of Environmental Conservation guidance values in groundwater samples collected from four monitoring wells: MW-4, MW-6, MW-7, and MW-8. The elevated concentrations of per- and polyfluoroalkyl substances are limited to the southeastern area of the site.<br>• In 2018, 1,4-dioxane was detected in two of the seven monitoring wells. Both detected concentrations of 1,4-dioxane were below the New York State Department of Environmental Conservation guidance value of 1 µg/L. Thus 1,4-dioxane is not a constituent of concern at the site.<br>Based on a review of results from the August 2021 groundwater sampling event, the following conclusions can be made:<br>• In the groundwater sample collected from MW-7, PFOA and PFOS concentrations were detected at concentrations exceeding the New York State Department of Environmental |

| | |
|---|---|
| | Conservation guidance values. However, PFOA and PFOS were not detected in groundwater above guidance values in samples collected from downgradient monitoring wells MW-10 and MW-10S. |
| Recommendations | • No additional groundwater monitoring.<br>• No additional surface water sampling.<br>• A visual inspection of the bank area of Rondout Creek be conducted when the local vegetation has died back, where the sheen on the surface water was previously observed, to determine if there is an upland source of the sheen.<br>• Delist the site, provided the findings of the above bank area inspection do not identify a sheen source upland at the site. |

# 1. INTRODUCTION

EA Engineering, P.C. and its affiliate EA Science and Technology (EA) was tasked by the New York State Department of Environmental Conservation (NYSDEC) under State Superfund Standby Contract Work Assignment Number (No.) D009806-23 to prepare a Periodic Review Report (PRR) for the Napanoch Paper Mill Site. The purpose of this PRR is to summarize and evaluate the remedy implemented at the site, relative to the requirements of the Record of Decision (ROD) dated March 1994 (NYSDEC 1994).

The information provided in this report covers the period from 30 December 1997 to 31 December 2021. This report was prepared in accordance with the NYSDEC Division of Environmental Remediation (DER)-10, Technical Guidance for Site Investigation and Remediation. A site summary and applicable remedial program information are summarized in the sections below.

## 1.1 SITE LOCATION, OWNERSHIP, AND DESCRIPTION

The Napanoch Paper Mill Site (formerly the Rondout Paper Mill) is located on NY Route 55 in the Hamlet of Napanoch, Town of Wawarsing, Ulster County, New York (**Figure 1**). The site occupies an area of approximately 19 acres. It is bounded on the south and west by Rondout Creek, the east by private property, and on the north by NY Route 55. There are currently no structures onsite, only remnants of former buildings associated with the paper mill and shallow bedrock outcrops. There is a dam located on Rondout Creek that has created an area of ponded water and sediment on the southwestern end of the property.

The Napanoch Paper Mill (originally the Rondout Paper Mill) was built in 1833–1884. The mill had multiple owners and company names over the years; Napanoch Mills, Frost and Sons, Ulster Tissue Mills, and Rondout Paper Mill. The mill primarily made wrapping paper through approximately 1914. It is uncertain what activities took place onsite between 1914 to 1949. However, at various times the mill produced several forms of paper products. Multiple fires occurred at the plant during its operating history. In 1959, the company was reorganized as Rondout Corporation and was involved in the production of packing and wrapping paper.

In September 1972, a portion of the mill was closed after two small buildings were destroyed by fire. Approximately 7,000 gallons of No. 6 fuel oil from an aboveground tank spilled onsite and resulted in a tank explosion. Approximately 400 gallons of oil remained in the creek and was later contained and removed by NYSDEC, the Ulster Department of Health, and the Town of Wawarsing. Following another series of owner transfers and foreclosures, the plant was completely destroyed by fire in May 1977.

Hazardous waste, containing polychlorinated biphenyls (PCBs), was generated at the site from 1949 to 1977. Part of the paper mill processes included discharge of wastewater into lagoons located on the site. Hazardous waste was discharged with the process water into the lagoons. The likely sources of the hazardous waste were waste oils from equipment maintenance and from the actual pulp paper production process. The overflow from the process wastewater lagoons

ultimately discharged into Rondout Creek (NYSDEC 1994). The lagoons were confirmed to have contained sludge contaminated with PCBs, VOCs, and SVOCs.

The site is currently owned by:

Patricia and Tadasuke Kuwayama
119 22nd Street
New York, New York 10011

## 1.2 REMEDIAL INVESTIGATION AND REMEDIAL ACTIONS

***1986***—In 1986, Engineering-Science, Inc completed a Phase 1 Investigation of the site and found evidence of PCB and volatile organic compound (VOC) contamination in surface water, sediment, and the lagoons (Engineering-Science, Inc 1994).

***1990***—NYSDEC commenced a sitewide investigation to determine the extent of PCB contamination in 1990 (Aztech 2015).

***1991***—An Interim Remedial Measure (IRM) was conducted from July 1991 through October 1992. A total of 7,438 tons of contaminated sludge and 900,000 gallons of contaminated water (from dewatering sludge and soil) were removed from the site (Aztech 2015).

***1992–1994***—A Remedial Investigation (RI)/Feasibility Study (FS) was completed by Engineering-Science Inc., between 1992 and 1994. The RI/FS concluded that PCBs were present in surface soil and sediment along Rondout Creek (Engineering-Science, Inc. 1994). In addition, surface water upstream and downstream of the site were contaminated with lead and groundwater was contaminated with VOCs and metals. Although groundwater quality standards were exceeded for selected organics and metals, the threat of offsite migration is low since groundwater flows towards the creek. Groundwater contour maps (prepared by Engineering Science, Inc.) (**Figure 2**) and water level data suggest that groundwater does not flow from the site towards the residential wells. Groundwater contour maps show that shallow groundwater from the site ultimately discharges to Rondout Creek.

The IRM, which was completed in 1992, included the excavation of six areas or former lagoons (Areas 1 through 6) across a distance of approximately 700 feet (ft). These areas ranged from approximately 150 to 250 ft in width (Engineering-Science, Inc 1994).

***1993***—In September 1993, NYSDEC excavated approximately 3,000 cubic yards of petroleum contaminated soil located in the area of a No. 6 fuel oil aboveground storage tank (AST). During the remedial action, an additional underground storage tank (UST) was discovered and removed (Aztech 2015).

***1994***—The NYSDEC approved ROD was issued for the site. The remedial action required by the ROD included the removal of PCB-contaminated paper rolls from the site, excavation and removal of PCB-contaminated soil and pond sediment containing concentrations of 1.0 part per million or

greater as well as the treatment of any contaminated groundwater and wastewater resulting from these activities (NYSDEC 1994).

***2002—***In April 2002, an *Administrative Order of Consent in the Matter of the Napanoch Paper Mill Site Town of Wawarsing, Ulster County, New York* was issued by the NYSDEC that restricts the use of the property to scenic and open space (NYSDEC 2002).

***2011—***In 2011, Aztech Environmental Services (Aztech) collected concrete, surface water, groundwater samples, and surface and subsurface soil samples to determine if any contamination remained onsite. The sample locations were determined based on extensive research that targeted areas around the site where contamination had been identified historically, as well as along the limits of previous remedial excavations. The sampling event consisted of 4 concrete, 8 surface water, 13 groundwater, 4 subsurface soil, and 33 surface soil samples. Concrete samples were sent for laboratory analysis for PCBs only. All other samples were analyzed for PCBs, full list VOCs, semi-volatile organic compound (SVOCs), and metals. The results of the investigation were reported in *The Napanoch Paper Mill Site Sampling and Investigation Report* (Aztech 2012).

PCBs were detected in 5 soil samples at concentrations between 1 milligram per kilogram (mg/kg) and 63.7 mg/kg. PCBs were detected in one surface water sample at a concentration of 3.13 milligrams per liter. The study found arsenic, chromium, lead and mercury in soil samples at concentrations above the soil cleanup objectives (SCOs) for Residential Use.

***2012—***A meeting was held between Aztech and NYSDEC in April 2012 to discuss an approach to delineate the extent of remaining contamination identified in the soil at the site. An agreement was made to conduct a delineation soil sampling event at 11 locations previously identified to contain concentrations of PCBs, arsenic, chromium, lead, and/or mercury above their respective SCO (Aztech 2015).

A supplemental investigation was completed by Aztech in June 2012 to delineate areas for excavation. The investigation consisted of collecting soil samples at 11 locations at depths of 6 and 18 inches below surface grade where shallow bedrock was not a constraint. Additional samples were collected at radial distances of 10, 25, and 35 ft away from the original location in four compass directions to delineate the extent of contamination. The results of the 2012 supplemental investigation identified 8 of the 11 locations required excavation and removal (Aztech 2015).

***2014—***Between June and September 2014, NYSDEC completed 8 additional soil excavations. A total of 1,390 tons of soil were removed from the site and disposed of as hazardous waste and 626 tons were removed as non-hazardous waste. Approximately 80,000 gallons of impacted water from the lagoon areas was treated using 50 micron filters and activated carbon prior to being discharged at the site (Aztech 2015).

## 1.3 REMAINING CONTAMINATION

After the excavations in 2014 were completed, low levels of metals at concentrations above restricted use SCO criteria[1] remained in soil.

Forty-six post-excavation samples were collected from seven excavation areas. The exceedances are summarized below:

- Arsenic was detected in seven post-excavation soil samples at concentrations greater than the SCO ranging from 16.6 to 77.9 mg/kg. The SCO for arsenic is 16 mg/kg.
- Chromium was detected in one sample at a concentration of 65.1 mg/kg. The SCO for chromium is 36 mg/kg.
- Lead was detected in one sample at a concentration of 3,080 mg/kg. The SCO criteria for lead is 400 mg/kg.
- Mercury was detected in three soil samples at concentrations greater than the SCO ranging from 1.4 to 7 mg/kg. The SCO criteria for mercury is 0.81 mg/kg.
- PCBs were detected in one soil sample at concentrations of 1,800 micrograms per kilogram (µg/kg). The SCO criteria for total PCBs is 1,000 µg/kg.

## 1.4 REGULATORY REQUIREMENTS/REMEDIAL GOALS

As specified in the 1994 ROD (NYSDEC 1994), the remediation goals for the site are to:

- Reduce, control, or eliminate the contamination present, within the soils on site.
- Eliminate the potential for direct human contact with the contaminated soils on site.
- Eliminate the threat to surface water by eliminating any future contaminated surface run-off from the contaminated soils onsite.
- Eliminate the impact to fish and wildlife and surface waters by eliminating any future releases from contaminated sediments.

[1] Restricted Use SCO are NYSDEC Subpart 375-6.8(a) or NYSDEC CP-51 SCO (NYSDEC 2010)

## 1.5 INSTITUTIONAL AND ENGINEERING CONTROL PLAN COMPLIANCE

### 1.5.1 Institutional Controls

The following controls are outlined in the 2002 Administrative Order on Consent (NYSDEC 2002) and Deed Restrictions:

- No commercial, industrial, or residential use
- No building, roads, or signs
- No satellite dishes, no docks, structures, or any improvements
- No dumping of waste
- No dredging, mining, or harvest of trees, or filling of drainage ways
- No use of toxic chemicals
- No motorized vehicles
- No leasing of the property

### 1.5.2 Engineering Controls

Engineering controls are a physical barrier or method employed to actively or passively contain, stabilize, or monitor contamination restricted the movement of contamination to ensure the long-term effectiveness of a remedial program. The site is currently surrounded by a secured chain-link fences to prevent access to the property.

## 1.6 SITE INSPECTION AND MONITORING WELL INSPECTION

On 22 June 2021, an initial site inspection (SI) and monitoring well inspection was completed by EA (**Appendix A**), and a summary of the observations is provided below.

| Monitoring Well | Was the monitoring well locked? | Did the well have a cover? | Well Condition Comments |
|---|---|---|---|
| MW-1 | Yes | Yes | Tubing in well. Replaced lock with combination lock. |
| MW-1S | Yes | Yes | Bailer in well. Replaced lock with combination lock. |
| MW-2 | No | Yes | Tubing in well |
| MW-3 | No | Yes | Tubing in well |
| MW-4 | No | Yes | Tubing in well |
| MW-5 | No | Yes | Tubing in well |
| MW-6 | No | Yes | No comment |
| MW-7 | No | Yes | Tubing in well |
| MW-8 | No | Yes | No comment |
| MW-9 | No | Yes | Tubing in well |
| MW-9S | No | Yes | Tubing in well |
| MW-10 | No | Yes | Tubing in well |
| MW-10S | No | Yes | Tubing and bailer in well |

The monitoring wells located outside of the site fencing (MW-1 and MW-1S) were locked but wells within the site fencing did not have locks. Tubing and bailers, if found within the monitoring well, were removed and disposed of by EA.

During the SI in June 2021, the fencing around the site was observed to be intact and the site has remained an open space. During an inspection of Rondout Creek, a sheen was observed on the water near the area of the former No. 6 fuel oil tank (**Figure 3**).

The results of the June 2021 site inspection will be used to complete the Engineering *Controls - Standby Consultant/Contractor Certification Form* in **Appendix B**.

# 2. GROUNDWATER MONITORING AND SURFACE WATER RESULTS SUMMARY

In 2017 and 2018 as part of the Emerging Contaminant Sampling Initiative, 13 onsite monitoring wells were sampled for per- and polyfluoroalkyl substances (PFAS), and 4 monitoring wells were sampled for 1,4-dioxane (**Table 1**). In 2021, three onsite monitoring wells were sampled for PFAS as a continuation of the Emerging Contaminant Sampling Initiative, to verify that PFAS was not migrating offsite (**Table 2**). The monitoring wells sampled in 2021 included MW-7, MW-10, and MW-10S.

### 2.1.1 Groundwater Gauging

On 4 August 2021, groundwater elevation measurements were collected from 3 monitoring wells (MW-7, MW-10 and MW-10S) after samples had been collected. This was done to prevent possible cross-contamination of the groundwater with PFAS from the water-level meter. The depth to groundwater ranged from 8.72 ft (MW-10) to 18.07 ft (MW-7) below the top of well casings.

### 2.1.2 Groundwater Sampling

On 29 and 30 November 2017, groundwater samples were collected from monitoring wells MW-1D, MW-1S, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8 and analyzed for PFAS. On 22 May 2018, groundwater samples were collected from monitoring wells MW-7, MW-9D, MW-9S, MW-10S, MW-10D and analyzed for PFAS, and groundwater samples collected from MW-1D, MW-3, MW-4, MW-6, MW-7, MW-10D and MW-10S were analyzed for 1,4-dioxne. On 4 August 2021, EA collected groundwater samples from monitoring wells MW-7, MW-10, and MW-10S and analyzed for PFAS (**Figure 3**).

Groundwater sampling methods in 2017 and 2018 were not readily available. Monitoring wells MW-7, MW-10, and MW-10S were purged prior to sample collection using a peristaltic pump with dedicated high-density polyethylene tubing. Purge water was screened using a multi-parameter probe with Horbia U-22 flow-through cell. The wells were purged until values for temperature, pH, and oxidation-reduction potential reached stabilization and turbidity was measured to be below 50 nephelometric turbidity unit(s). Purge water was discharged to the ground surface in the vicinity of the well as directed by the NYSDEC.

Once purging was complete, groundwater samples were collected, placed into appropriate, laboratory-provided containers, and immediately placed in a cooler with ice to maintain a temperature no greater than 4 degrees Celsius.

Non-dedicated sampling equipment was decontaminated between wells. The Monitoring Well Purging and Sampling Records are provided in **Appendix C.**

### 2.1.3 Groundwater Sampling Results

Groundwater sampling results for 2017 and 2018 are presented on **Table 1**, and groundwater sampling results for 2021 are presented on **Table 2** and **Figure 4**. In 2017 and 2018,

perfluorooctane sulfonic acid (PFOS) concentrations ranged from non-detect to 110 nanograms per liter (ng/L) (MW-7 in 2017). PFOS was detected at concentrations greater than the NYSDEC guidance value of 10 ng/L in four monitoring wells: MW-4, MW-6, MW-7, and MW-8. Perfluorooctanoic acid (PFOA) concentrations ranged from non-detect to a maximum of 16 ng/L observed at MW-6 and MW-7 in 2017, exceeding the NYSDEC guidance value of 10 ng/L at these two locations. Other PFAS concentrations detected in 2017 or 2018 (excluding PFOS and PFOA) were less than 100 ng/L. Perfluoropentanoic Acid was the highest detected PFAS (excluding PFOS and PFOA) at 9.9 ng/L (MW-9S in 2018).

1,4-dioxane was detected in two of the seven monitoring wells sampled in 2018 at concentrations ranging from 0.11 micrograms per liter (µg/L) (MW-7) to 0.29 µg/L (MW-4), which are below the NYSDEC guidance value of 1 µg/L.

In 2021, PFOS concentrations ranged from 0.36 ng/L (MW-10S) to 78 ng/L (MW-07) and PFOA concentrations ranged from non-detect to 12 ng/L (MW-7). The NYSDEC guidance values for PFOS and PFOA were exceeded in only one sample at concentrations of 78 ng/L and 12 ng/L, respectively, collected from MW-7. The PFOS concentration observed in 2021 at this location was slightly lower than those observed during previous sampling (110 ng/l and 70 ng/L in 2017 and 2018, respectively). However, the PFOA concentrations were consistent during all sampling events (16 ng/L, 12 ng/L, and 12 ng/L in 2017, 2018, and 2021, respectively). In 2021, other PFAS (excluding PFOS and PFOA) were detected at concentrations less than 3 ng/L. Perfluorohexanesulfonic acid was the highest detected PFAS (excluding PFOS and PFOA) at 2.9 ng/L (MW-7).

Based on the low concentrations of PFAS compounds observed in groundwater from the northern and western portions of the site, PFAS appears to be isolated to the southeastern portion of the site. However, because groundwater from MW-10 and MW-10S (downgradient of MW-7) was consistently low across all sampling events, it is unlikely PFAS compounds are migrating offsite.

Groundwater sampling forms are provided in **Appendixes C**. Laboratory analytical reports are included in **Appendix D**.

### 2.1.4 Surface Water Sampling

To characterize the composition of the sheen that was observed in Rondout Creek during the SI in June 2021, a surface water sample containing the sheen was collected on 4 August 2021. A grab sample was collected and submitted for analysis of Target Compound List (TCL) VOCs, TCL SVOCs, PCBs, diesel range organics, and gasoline range organics (GRO). The location of the surface sheen is shown on **Figure 5.**

### 2.1.5 Surface Water Sampling Results

In the surface water sample that contained the sheen, only low levels of carbon disulfide (0.73 µg/L) and GRO (16 µg/L) were detected (**Table 3**). Based on the low concentrations of carbon disulfide and GRO, and no detections of site-related compounds, no additional surface

water sampling is recommended at this time. It is recommended that a visual inspection of the bank area of Rondout Creek be conducted, where the sheen on the surface water was previously observed, when the local vegetation has died back, to determine if there is an upland source of the sheen.

A photographic log of the sheen observation is provided in **Appendix C**. Laboratory analytical reports are included in **Appendix D.**

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# 3. GREEN REMEDIATION AND CLIMATE CHANGE RESILIENCE

Consistent with NYSDEC DER-31 Green Remediation Policy, this section provides a brief summary and qualitative assessment of the overall environmental impacts or environmental footprint of the site for the current reporting period. In accordance with the NYSDEC's Executive Order No. 24, consideration has been given to reducing the consumption of energy and materials; and thereby, reducing the production of greenhouse gases, in the operation and maintenance of the site. Implementation of NYSDEC DER-31 and Executive Order No. 24 have not compromised the selected remedy's protectiveness of public health and the environment, nor has it hindered achievement of the remedial goals established for the site.

As each discrete step of any site operation and maintenance activity consumes resources and energy, consideration has been given to reducing/eliminating those activities which may not be critical to the protectiveness of the selected remedy.

A critical infrastructure vulnerability assessment (of the monitoring wells and fencing) was not completed during this certifying period. Such an assessment could generally be utilized to evaluate the potential consequences climate changes may have on a site, as well as any ongoing site management activities.

## 3.1 GREEN REMEDIATION ASSESSMENT

In accordance with the NYSDEC's DER-31 Green Remediation Policy, the following section provides a qualitative assessment of the overall environmental impacts, or environmental footprint associated with the remedy.

### 3.1.1 Electric Usage

Implementation of the selected remedy does not directly use electricity as part of site management.

### 3.1.2 Fossil Fuel Usage

Implementation of the selected remedy does not directly use fossil fuels as part of site management.

Indirect fossil fuel use results from completion of the following site-related activities:

- Transportation to and from the site for inspection and sampling
- Offsite transportation and shipment of samples collected for laboratory analysis.
- Disposal of waste (e.g., tubing, gloves, paper towels) generated during sampling.

### 3.1.3 Water Usage

Implementation of the selected remedy does not directly require the use water at this site. However, a *de minimis* quantity of water is used during sampling events for equipment decontamination.

### 3.1.4 Air Emissions

Implementation of the selected remedy does not directly emit contaminants to the air, nor impact air quality other than through the combustion of fossil fuels in vehicles and use in generators, as described above.

### 3.1.5 Consumption of Materials and Generation of Waste

Monitoring, maintenance, and reporting activities associated with groundwater sampling events result in material consumption and the generation of waste. A summary of the current material consumption and waste generation activities for the site are summarized below:

- Personal protective equipment associated with groundwater sampling, such as nitrile gloves, etc.
- Consumables associated with groundwater sampling such as polyethylene tubing, paper towels, trash bags, etc.
- Packaging material and ice used to pack and preserve samples to be submitted for laboratory analysis.
- Paper and office supplies associated with site logs, monitoring logs and report preparation.

## 3.2 CLIMATE CHANGE VULNERABILITY ASSESSMENT

Increases in both the severity and frequency of storms and weather events, an increase in sea-level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuations, resulting from global climate change and instability, have the potential to significantly impact the performance, effectiveness, and protectiveness of a given site remedy. The intent of this vulnerability assessment is to provide information to allow the site remedy to better prepare for the impacts of the increasing frequency and intensity of severe storms, weather events, and associated flooding brought on by global climate changes and instabilities, in order to ultimately enhance the remedy's resilience to such events.

This section briefly summarizes the vulnerability of the site and/or the remedy to severe storms, weather events, and associated flooding.

This assessment included consideration of the following:

- ***Flood Plain***—The site is in a flood plain and low-lying area.
- ***Site Drainage and Stormwater Management***—The site has the potential for flooding or damage to the monitoring well network during severe rain events.

- ***Erosion***—Areas of the site may be susceptible to erosion during periods of severe rain events, which may damage the monitoring well network.

- ***High Wind***—The observation wells are stick-ups and are susceptible to damage from the wind itself or falling objects, such as trees or utility structures during periods of high wind.

## 3.3 CONSIDERATIONS FOR OPTIMIZATION OF PHYSICAL SYSTEMS

Environmental and energy conservation measures and other methods to reduce energy consumption, resource usage, waste generation, and water usage have been considered. During the certifying period, three groundwater sampling events were conducted, which required the purging of water from the observation wells prior to sampling. If future events were required, use of HydraSleeves would significantly reduce or negate the need for purging observation wells and would reduce or negate the need for associated equipment and energy/fuel consumption.

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# 4. CONCLUSIONS AND RECOMMENDATIONS

## 4.1 CONCLUSIONS

Based on a review of results from 2017, 2018, and 2021 groundwater sampling events, and the June 2021 SI, the following conclusions can be made:

- In 2017 and 2018, PFOS and PFOA exceeded the NYSDEC guidance values in groundwater samples collected from four monitoring wells: MW-4, MW-6, MW-7, and MW-8. The elevated concentrations of PFAS are limited to the southeastern area of the site.

- In 2021, PFOA and PFOS exceeded the NYSDEC guidance values in the groundwater sample collected from MW-7. PFOA and PFOS were less than the NYSDEC guidance values in the downgradient monitoring wells MW-10 and MW-10S. Therefore, it is unlikely that PFAS are migrating offsite.

- In 2018, 1,4-dioxane was detected in two of the seven monitoring wells. Both detected concentrations of 1,4-dioxane were below the NYSDEC guidance value of 1 µg/L. Thus 1,4-dioxane is not a constituent of concern at the site.

- In the surface water sample that contained sheen, no site-related contaminants were detected, only low levels of carbon disulfide (0.73 µg/L) and GRO (16 µg/L) were observed. Thus, the sheen does not indicate gross contamination and does not appear to be site-related.

## 4.2 RECOMMENDATIONS

Based on the June 2021 SI and the results of the 2017, 2018, and 2021 groundwater sampling events, the following actions are recommended for the Napanoch Paper Mill Site:

- No additional groundwater monitoring.

- No additional surface water sampling.

- A visual inspection of the bank area of Rondout Creek be conducted when the local vegetation has died back, where the sheen on the surface water was previously observed, to determine if there is an upland source of the sheen.

- Delist the site, provided the findings of the above bank area inspection do not identify a sheen source upland at the site.

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# Figures

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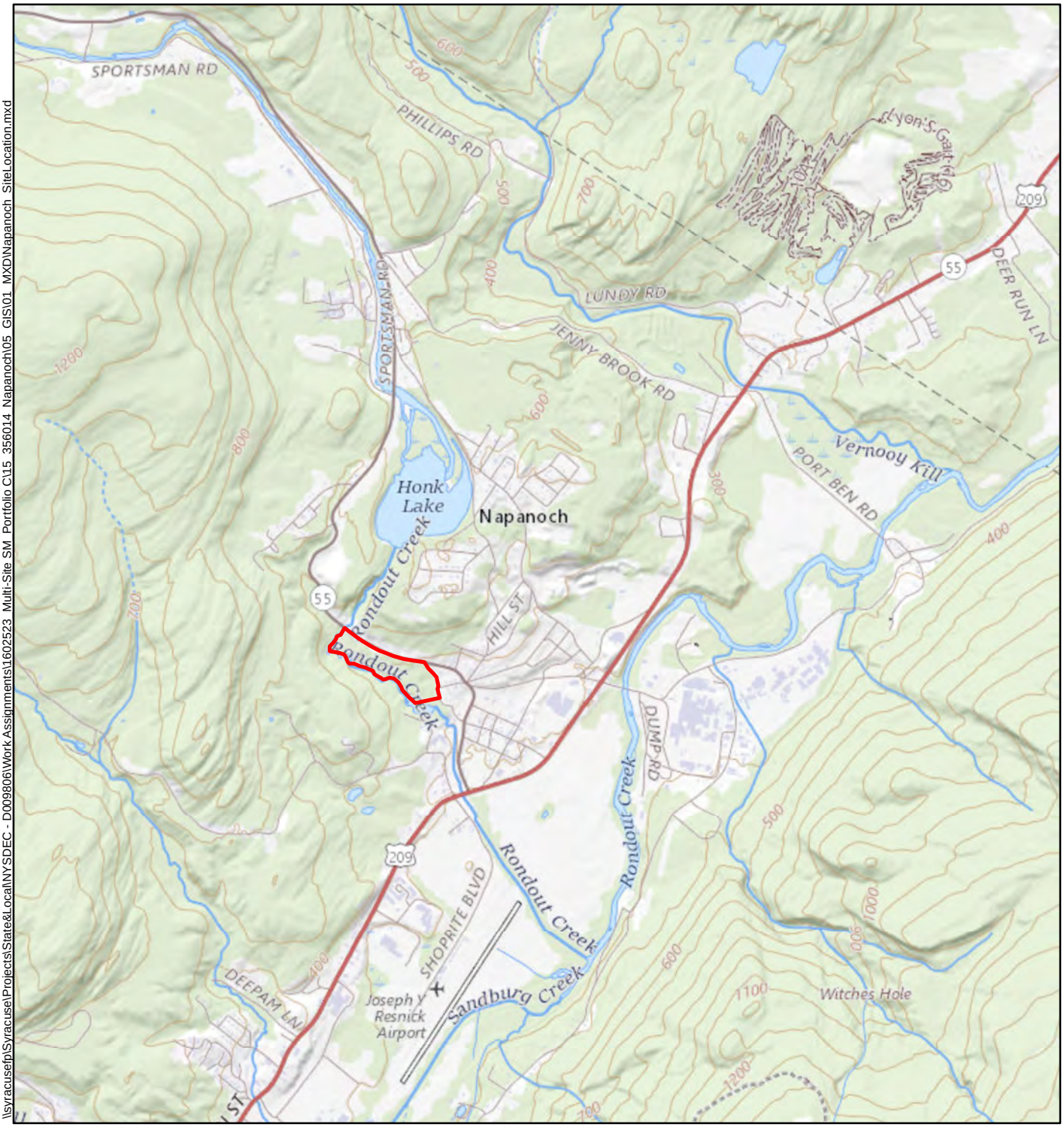


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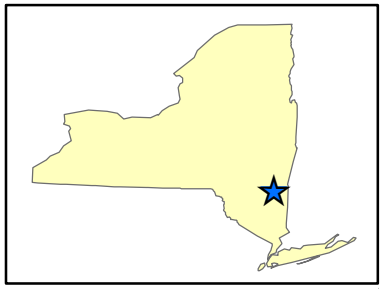

## Legend

Approximate Site Boundary

Site Location

0 4,000

Feet

N

Figure 1
Site Location
Napanoch Papermill (NYSDEC Site 356014)
Wawarsing, NY

Map Date: 1/12/2022
Projection: NAD83 State Plane New York East
FIPS 3102 Feet

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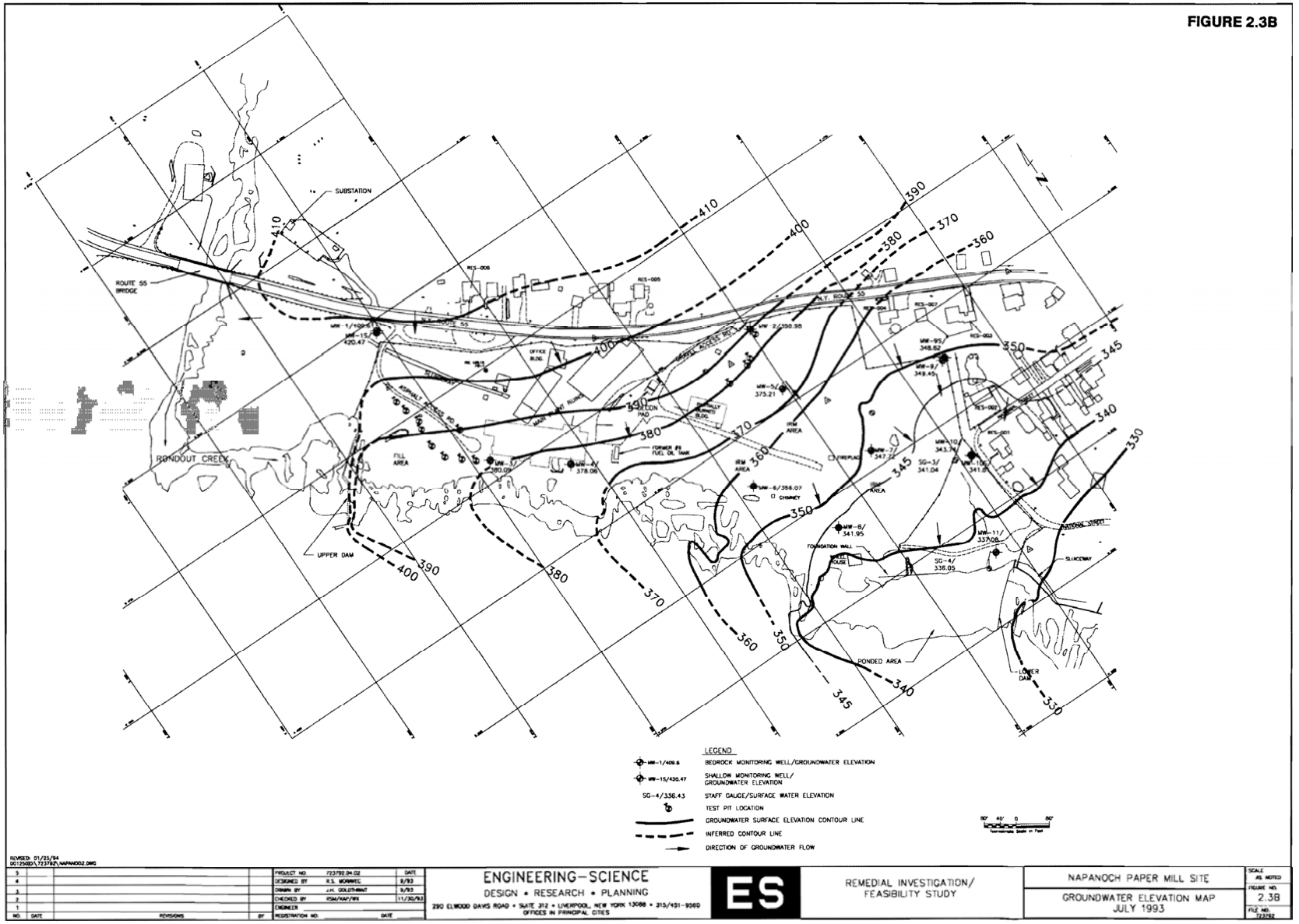


EA Engineering, P.C. and Its Affiliate
EA Science and Technology

Periodic Review Report
Napanoch Papermill (NYSDEC Site 356014)
Wawarsing, NY

Figure 2
1993 Groundwater
Elevation Contour Map

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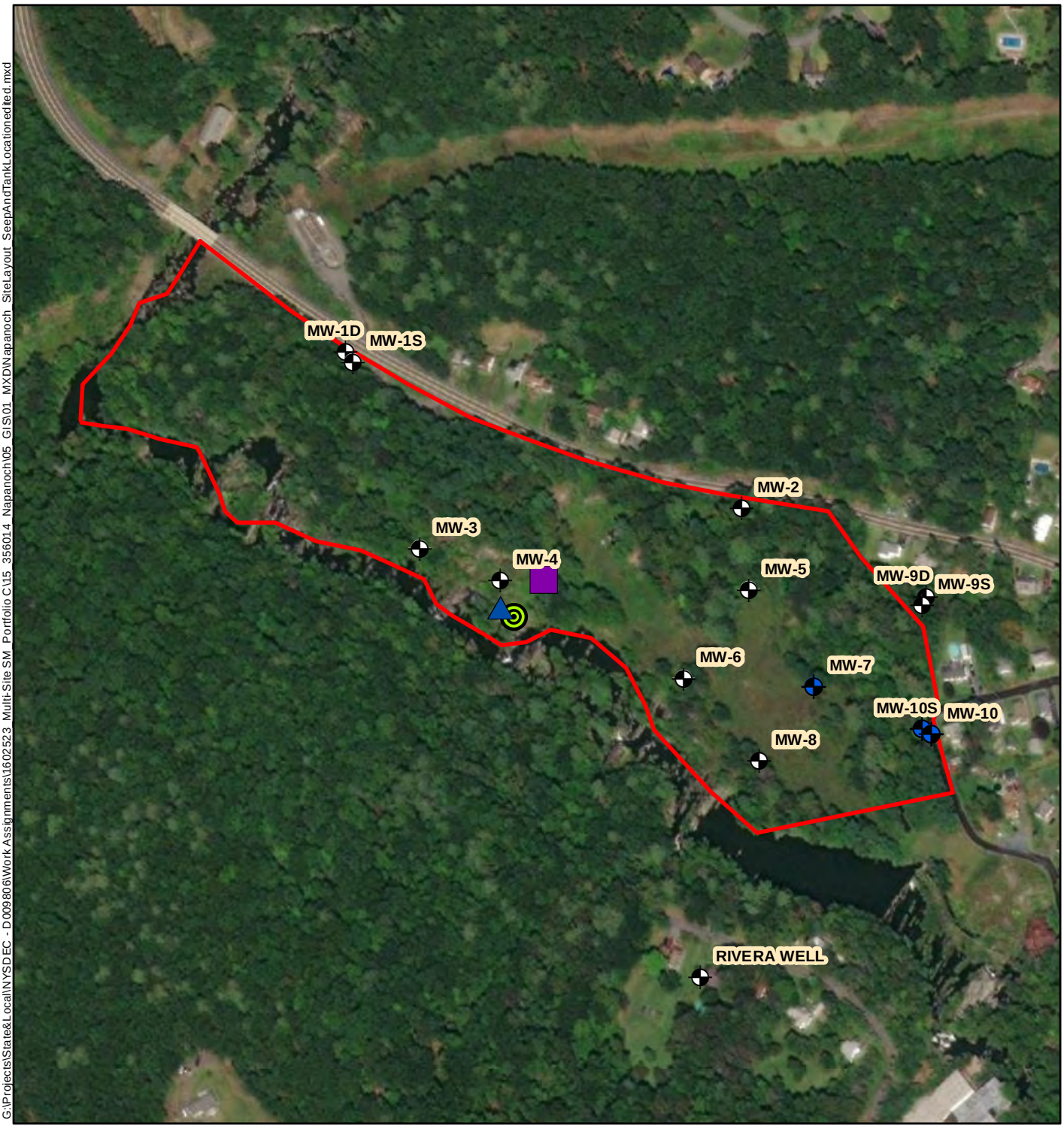


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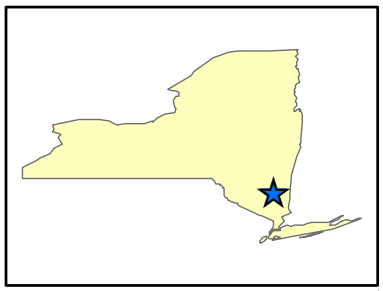

0 200 400
Feet

N

**Legend**

- Approximate Site Boundary
- Former Fuel Oil Tank (Approximate Location)
- Seep Area Approximate Location
- Formerly Identified Seep Area (Approximate Location)
- Existing Monitoring Wells (Approximate Locations)
- Monitoring Wells Sampled in 2021
- Site Location

Figure **3**
Site Layout
Napanoch Papermill (NYSDEC Site 356014)
Wawarsing, NY

Map Date: 1/6/2022
Projection: NAD83 State Plane New York East
FIPS 3102 Feet

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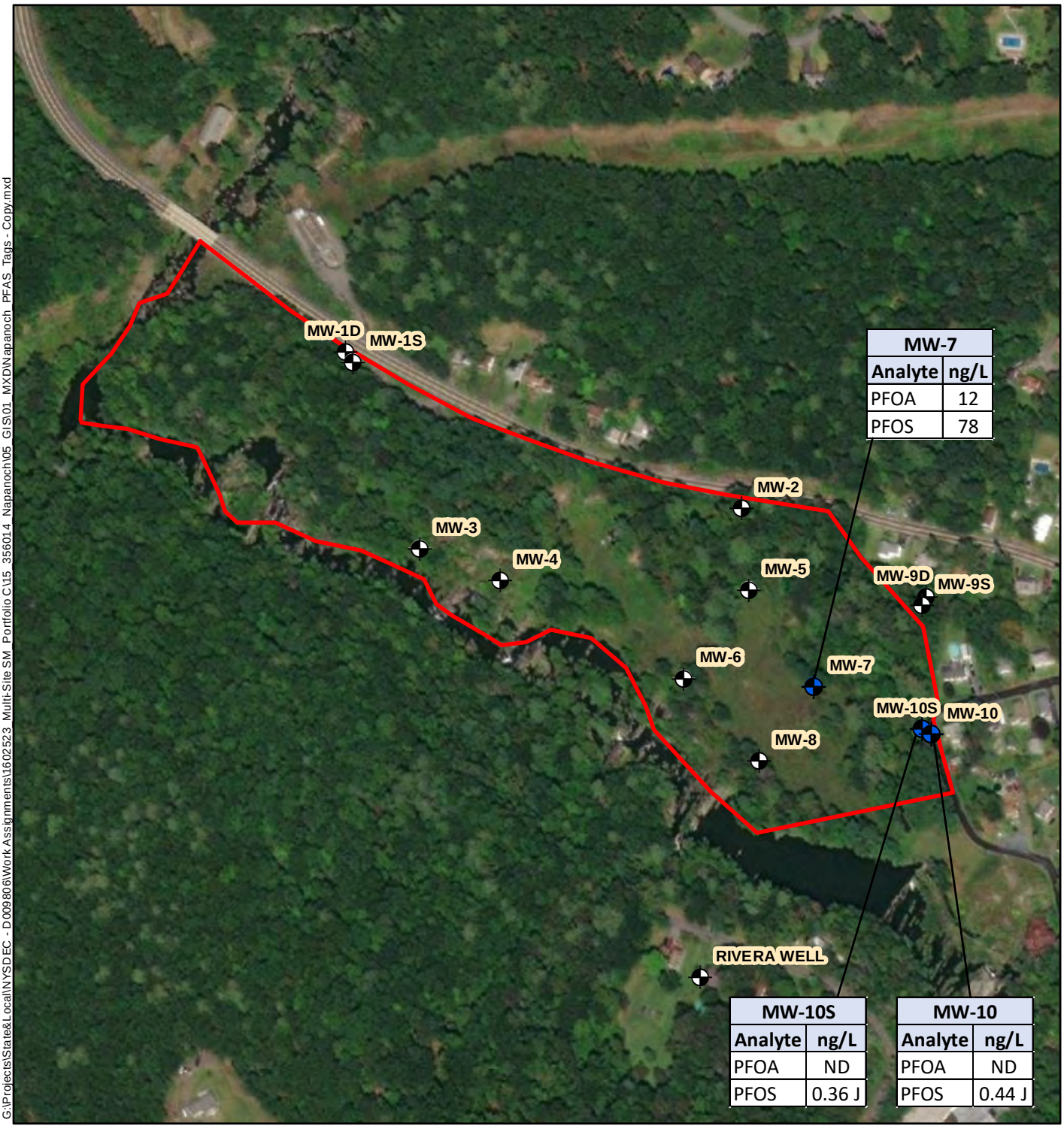


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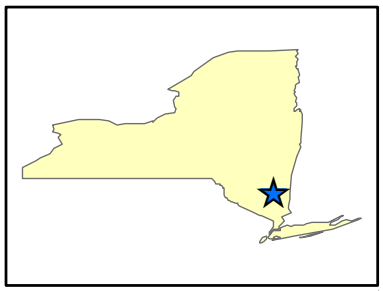

0 200 400
Feet

N

## Legend

- Approximate Site Boundary
- Existing Monitoring Wells (Approximate Locations)
- Site Location

**Notes:**
PFAS = Per- and polyfluoroalkyl substances
PFOA = Perfluorooctanoic acid
PFOS = Perfluorooctanesulfonic acid
ND = Not Detected
ng/L = nanograms per liter

Figure **4**
August 2021 Groundwater Sampling Results
Per-and Polyfluoroalkyl Substances
Napanoch Papermill (NYSDEC Site 356014)
Wawarsing, NY

Map Date: 1/6/2022
Projection: NAD83 State Plane New York East
FIPS 3102 Feet

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\\syracusefp\Syracuse\Projects\State&Local\NYSDEC - D009806\Work Assignments\1602523 Multi-Site SM Portfolio C\15 356014 Napanoch\05 GIS\01 MXD\Napanoch Sheen Focus Area.mxd

0 50

Feet

N

## Legend

- Approximate Site Boundary
- Approximate Location of Former Fuel Tank (Removed 1993)
- Former Oil Seep
- Sheen Sample Location (Collected 8/4/2021)

Figure **5**

Sheen Location

Napanoch Papermill (NYSDEC Site 356014)

Wawarsing, NY

Map Date: 9/29/2021

Projection: NAD83 State Plane New York East

FIPS 3102 Feet

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# Tables

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**Table 1. Summary of PFAS Concentrations in Groundwater Samples (November 2017 and May 2018)**

| Analyte | Groundwater Screening Level[1] | Sample Name | MW-1-20171129 | MW-1D-20180522 | MW-1S-20171129 | MW-2-20171129 | MW-3-20171130 | MW-3-20180522 | MW-4-20171129 | MW-4-20180522 | MW-5-20171130 | MW-6-20171130 | MW-6-20180522 | MW-7-20171130 | MW-7-20180522 | MW-8-20171130 | MW-9D-20180522 | MW-9S-20180522 | MW-10D-20180522 | MW-10S-20180522 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Parent Sample ID | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | Sample Date | 11/29/2017 | 5/22/2018 | 11/29/2017 | 11/29/2017 | 11/30/2017 | 5/22/2018 | 11/29/2017 | 5/22/2018 | 11/30/2017 | 11/30/2017 | 5/22/2018 | 11/30/2017 | 5/22/2018 | 11/30/2017 | 5/22/2018 | 5/22/2018 | 5/22/2018 | 5/22/2018 |
| **1,4-Dioxane via EPA Method 8270** | | | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | 1 | µg/L | NS | <0.19 U | NS | NS | NS | **0.13 J** | NS | **0.29** | NS | NS | <0.20 U | NS | **0.11 J** | NS | NS | NS | <0.20 U | <0.19 U |
| **PFAS via EPA Method 537** | | | | | | | | | | | | | | | | | | | | |
| 1H,1H, 2H, 2H-Perfluorodecane sulfonic acid (6:2 FTS) | NSL | ng/L | < 20 U | NS | < 21 U | < 20 U | < 20 U | NS | < 21 U | NS | < 20 U | < 21 U | NS | < 19 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (8:2 FTS) | NSL | ng/L | < 20 U | NS | < 21 U | < 20 U | < 20 U | NS | < 21 U | NS | < 20 U | < 21 U | NS | < 19 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U |
| 2-(N-methyl perfluorooctanesulfonamido) acetic acid | NSL | ng/L | < 20 U | NS | < 21 U | < 20 U | < 20 U | NS | < 21 U | NS | < 20 U | < 21 U | NS | < 19 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U |
| N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine | NSL | ng/L | < 20 U | NS | < 21 U | < 20 U | < 20 U | NS | < 21 U | NS | < 20 U | < 21 U | NS | **1.8 J** | **2.4 J** | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U |
| Perfluorobutanesulfonic acid (PFBS) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | **0.69 J** | < 2.0 U | NS | **2.7** | NS | **0.25 J** | **2.2** | NS | **0.69 J** | **0.65 J** | < 2.0 U | < 2.0 U | **2.6** | < 2.0 U | **0.62 J** |
| Perfluorobutanoic Acid (PFBA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | **0.38 BJ** | **0.67 BJ** | NS | **2.8 B** | NS | **0.74 BJ** | **8.5 B** | NS | **1.3 BJ** | **1.2 BJ** | **1.8 BJ** | **0.43 BJ** | **4.4 B** | **0.76 BJ** | **5.6 B** |
| Perfluorodecane Sulfonic Acid | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorodecanoic acid (PFDA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorododecanoic acid (PFDoA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluoroheptane Sulfonate (PFHPS) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | **0.45 J** | NS | **1.6 J** | **1.1 J** | **0.34 J** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluoroheptanoic acid (PFHpA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | **0.43 J** | NS | < 2.0 U | **3.2** | NS | **1.6 J** | **1.3 J** | **0.95 J** | < 2.0 U | **0.28 J** | < 2.0 U | < 2.0 U |
| Perfluorohexanesulfonic acid (PFHxS) | NSL | ng/L | **0.29 BJ** | NS | **0.26 BJ** | **0.83 BJ** | **0.33 BJ** | NS | **0.75 BJ** | NS | **0.37 BJ** | **2.1 B** | NS | **3.5 B** | **2.4 B** | **1.3 BJ** | **0.33 BJ** | **0.78 BJ** | **0.36 BJ** | **0.53 BJ** |
| Perfluorohexanoic acid (PFHxA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | **3.2** | NS | **0.73 J** | < 2.0 U | **0.95 J** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorononanoic acid (PFNA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | **1.0 J** | NS | **0.87 J** | **0.75 J** | **0.27 J** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorooctane Sulfonamide (FOSA) | NSL | ng/L | < 2.0 U | NS | **0.37 J** | < 2.0 U | **1.4** | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | **0.53 J** | < 2.0 U | **0.86 J** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorooctanesulfonic acid (PFOS) | 10 | ng/L | < 2.0 U | NS | < 2.1 U | **0.71 J** | **3.0** | NS | **12** | NS | **1.0 J** | **14** | NS | **110** | **70** | **16** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorooctanoic acid (PFOA) | 10 | ng/L | < 2.0 U | NS | < 2.1 U | **0.88 J** | **0.95 J** | NS | **1.7** | NS | < 2.0 U | **16** | NS | **16** | **12** | **5.4** | < 2.0 U | **1.6 J** | < 2.0 U | < 2.0 U |
| Perfluoropentanoic Acid (PFPeA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | **2.5** | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | **9.9** | < 2.0 U | **0.99 J** |
| Perfluorotetradecanoic acid (PFTA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluorotridecanoic Acid (PFTriA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Perfluoroundecanoic Acid (PFUnA) | NSL | ng/L | < 2.0 U | NS | < 2.1 U | < 2.0 U | < 2.0 U | NS | < 2.1 U | NS | < 2.0 U | < 2.1 U | NS | < 1.9 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |

NOTES:

[1]Guidance values for PFAS outlined in the NYSDEC's*Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), under NYSDEC's part 375 Remedial Programs, June 2021*

[2]Data was collect by NYSDEC in November of 2018. Wells were tested for Total Metals and PFAS.

µg/L=Microgram(s) per liter
ng/L = Nanogram(s) per liter
B = Analyte is detected in associated blank
EPA = U.S. Environmental Protection Agency
ID = Identification
J = Estimated value
U = Not detected
NS = Not sampled
NSL = No screening level available
NYSDEC = New York State Department of Environmental Conservation
PFAS = Per- and polyfluoroalkyl substance
Groundwater Screening Level = NYSDEC Screening criteria
**Detected results are bold.**
**Results exceeding the Groundwater Screening Levels are bolded and shaded gra**

## Table 2. Summary of PFAS Concentrations in Groundwater Samples (August 2021)

| Analyte | Sample Location ID | | MW-7 | | MW-10 | | MW-10S | | DUP-080421 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample ID | | 356014-MW-7 | | 356014-MW-10 | | 356014-MW-10S | | 356014-DUP-080421 | |
| | Parent Sample ID | | | | | | | | 356014-MW-10S | |
| | Sample Date | | 8/4/2021 | | 8/4/2021 | | 8/4/2021 | | 8/4/2021 | |
| | Groundwater Screening Levels | Unit | Concentration | Q | Concentration | Q | Concentration | Q | Concentration | Q |
| **PFAS (EPA Method 537 modified)** | | | | | | | | | | |
| Perfluorobutanoic acid (PFBA) | NSL | ng/L | **2.2** | BJ | **1.1** | BJ | **1.7** | BJ | **1.7** | BJ |
| Perfluoropentanoic acid (PFPeA) | NSL | ng/L | **0.71** | J | < 1.8 | U | < 1.7 | U | **0.49** | J |
| Perfluorohexanoic acid (PFHxA) | NSL | ng/L | **0.87** | J | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluoroheptanoic acid (PFHpA) | NSL | ng/L | **1.4** | J | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorooctanoic acid (PFOA) | 10 | ng/L | **12** | | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluornonanoic acid (PFNA) | NSL | ng/L | **0.77** | J | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorodecanoic acid (PFDA) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluoroundecanoic acid (PFUnA) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorododecanoic acid (PFDoA) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorotridecanoic acid (PFTriA) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorotetradecanoic acid (PFTeA) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorobutanesulfonic acid (PFBS) | NSL | ng/L | **1.1** | J | **0.35** | J | **0.94** | J | **0.89** | J |
| Perfluorohexanesulfonic acid (PFHxS) | NSL | ng/L | **2.9** | | < 1.8 | U | **0.29** | J | **0.27** | J |
| Perfluoroheptanesulfonic acid (PFHpS) | NSL | ng/L | **1.3** | J | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorodecanesulfonic acid (PFDS) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| Perfluorooctanesulfonic acid (PFOS) | 10 | ng/L | **78** | | **0.44** | J | **0.36** | J | **0.36** | J |
| Perfluorooctanesulfonamide (FOSA) | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | NSL | ng/L | <4.9 | U | < 4.5 | U | <4.4 | U | <4.4 | U |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | NSL | ng/L | **1.9** | J | < 4.5 | U | <4.4 | U | <4.4 | U |
| 6:2 FTS | NSL | ng/L | <4.9 | U | < 4.5 | U | <4.4 | U | <4.4 | U |
| 8:2 FTS | NSL | ng/L | <2.0 | U | < 1.8 | U | < 1.7 | U | < 1.8 | U |

Notes:
NSL = No screening level available
ng/L = Nanogram(s) per liter
B = Compound was found in blank and sample
EPA = U.S. Environmental Protection Agency
ID = Identification
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
PFAS = Per- and polyfluoroalkyl substances
Q = Qualifier
U = Not Detected Above reporting limit
**Detected results are bold.**
**Shaded and Bold Values** exceed Groundwater Screening Levels for PFAS.
Groundwater Screening Level = NYSDEC Ambient Water Quality Standard Class GA (Standard/guidance values) (Technical and Operational Guidance Series [TOGS]) 1.1.1).

**Table 3. Summary of Analyte Concentrations in Surface Water Sheen Sample**

| Sample Location ID | SHEEN-080421 | |
|---|---|---|
| Sample ID | 356014-SHEEN-080421 | |
| Sample Date | 8/4/2021 | |
| **Analyte** | **Concentration** | **Qualifier** |
| **VOCs (8260C)** | | |
| Carbon disulfide | 0.73 J | J |
| **SVOCs (8270D)** | | |
| No Detections | | |
| **SVOCs (8270D) TICs** | | |
| Unknown | 22 | THJ |
| Unknown | 13 | THJ |
| Unknown | 11 | THJ |
| **GRO (8015D)** | | |
| Gasoline Range Organics (GRO)-C6-10 | 16 | JB |
| **DRO (8015D)** | | |
| No Detections | | |
| **PCBs (8082A)** | | |
| No Detections | | |

Notes:
µg/L = Microgram(s) per liter
B = Compound was found in blank and sample
DRO = Diesel range organics
GRO = Gasoline range organics
H = Sample was prepped or analyzed beyond the specified holding time
ID = Identification
J = Estimated value
PCB = Polychlorinated biphenyl
T = Result is a tentatively identified compound (TIC) and an estimated value.
TIC = Tentatively identified compound
SVOC = Semi-volatile organic compound
VOC = Volatile organic compound

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# Appendix A

# Site Inspection Checklist

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## Site Inspection Checklist

| | | | |
|---|---|---|---|
| Site Name (Number): Napanoch Paper Mill 356014 | | Date/Time: | 6/22/2021 11:00 |
| Site Address (nearest cross street): 77 NYS Route 55, Wawarsing, NY | | | |
| Weather: rainy, cloudy 60°F | | Personnel: | Liane Desantis, Noah Robinson, Haley Young |
| **Site property description (.e.g, buildings, fencing, gates, etc)** | | | |
| Building(s): Remanats | Stories: N/A | In Use/Active: | No |
| Bldg material: | Stone and concrete | Area Use (R/C/I): | I |
| Fenced (Y/N) (material): | Y; chain link | Gate(s): 4 | Lock(s): 3 combo, 1 keyed |
| Nearest adjacent buildings (and descriptions): Residences across the street (Rt. 55) | | | |
| **Site Surface Hydrology** | | | |
| Surface water drainage/Impoundments: | N/A | Creeks/Streams: | Rondout Creek |
| Ponds/Water front | N | | |
| **Site Features** | | | |
| Asphalt/Concrete (%) : | 1 - 2 % | Condition: | Poor - building foundation remants |
| Slope/Direction (steep/flat,hilly, etc.) | | Site slopes generally to the south | |
| Vegetation (grassy/trees/shrubs; overgrown, etc.) | | overgrown with grass, trees, and shrubs | |
| Overhead Utilities (electric/data/phone): | | No | |
| Subsurface Utilities and Locations: unknown | | | |
| Monitoring Wells (see attached checklist). | | | |

Notes/Other Observations:

L. DeSantis, H. Young and N. Robinson arrived at Napanoch Papermill site, near 77 State Route 55, Napanoch, NY. EA was able to access the site gate by MW-2 (between 77 and 100 State Route 55) by cutting the lock and replacing with a combination lock with code 6014. The site was very overgrown with tall grasses, weeds, trees, and had several wet areas. EA was able to find wells MW-7, MW-8, MW-6, the Oil Seep area, MW-4, MW-3, MW-5, MW-2, MW-1, MW-1S, MW-10 and MW-10D. EA was unable to find PW-1, or access MW-9, MW-9S, RES-2, and Rivera Well because they are on residential properties. An oil sheen was noted by the oil seep location as well as a large plastic tank north of MW-4 and the Oil Seep location. Bailers and/or tubing were found in all located wells except MW-6 and MW-8. Coordinates for MW-7 and MW-3 were not accurate to the in field well location, new coordinates were recorded in the field. MW-01 and MW-01S were located at the northern most part of the site, just outside the fenced area, before the bridge. EA cut the locks on those wells and replaced them with combination locks as well. Those were the only wells with locks, likely because they are outside of the fenced area. MW-10 and MW-10D were accessed from another gate located on Water St. (south of the corner of National St. and Water St.). EA cut the lock on that gate and replaced it with a combination lock. All combination locks were set to the same code, 6014. Tubing and bailers were found in some of the wells. (1500) EA offsite.

Site Sketch

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# Appendix B

# Institutional/Engineering Control Certification

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**Enclosure 1**
**Engineering Controls - Standby Consultant/Contractor Certification Form**

**Site Details** **Box 1**

**Site No.** **356014**

**Site Name Napanoch Paper Mill**

Site Address: Route 55 Zip Code: 12489
City/Town: Wawarsing
County: Ulster
Site Acreage: 19.0

Reporting Period: December 30, 1997 to December 31, 2021

| | YES | NO |
|---|---|---|
| 1. Is the information above correct? | X | ☐ |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | X |
| 3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | X |
| 4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☐ | X |
| **If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 5. To your knowledge is the site currently undergoing development? | ☐ | X |

**Box 2**

| | YES | NO |
|---|---|---|
| 6. Is the current site use consistent with the use(s) listed below? Residential, Restricted-Residential, Commercial, and Industrial | X | ☐ |
| 7. Are all ICs/ECs in place and functioning as designed? | X | ☐ |

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.**

Signature of Standby Consultant/Contractor Date

**SITE NO. 356014** **Box 3**

**Description of Institutional Controls**

| Parcel | Owner | Institutional Control |
|---|---|---|
| **83.10-1-1.1** | Tadasuke Kuwayama | Landuse Restriction<br>Ground Water Use Restriction |

**Box 4**

**Description of Engineering Controls**

None Required

Not Applicable/No EC's

**Box 5**

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

| YES | NO |
|---|---|
| ☒ | ☐ |

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

| YES | NO |
|---|---|
| ☒ | ☐ |

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.**

_____ _____

Signature of Standby Consultant/Contractor Date

Box 6

## IC/EC CERTIFICATIONS

### Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JAMES C. HAYWARD at 269 WEST JEFFERSON ST
print name

SYRACUSE, NY 13202

(EA ENGINEERING, P.C.)
(print business address)

am certifying as a .
Professional Engineer

Signature of
James C Hayward

Stamp
(Required for PE)

STATE OF NEW YORK
JAMES C HAYWARD
079439
LICENSED PROFESSIONAL ENGINEER

Date
3/17/2022

# Appendix C

# Groundwater Purge Logs and Photographic Log

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Project _____ Project No. _____
Subject _____ Sheet No. ____ of ____
_____ Drawing No. _____
Computed by _____ Date _____ Checked by _____ Date _____

Naponoch paper mill

weather am:
pm:

0918EA (L. Backman Love, H. Kang, M. Robinson) arrive onsite and Calibrate equipment
0945 EA set up on MW-10
1004 Begin purge MW-10
~~1005~~ NR 1116 Sample MW-10 with MS/MSD
1131 Set up and begin purge at MW-10S
1203 Sample MW-10S w/ Dup-080421
1220 EA mobilize to MW-7
1240 EA set up and begin purge MW-7
1323 Sample MW-7
1340 Sample FB-080421
1346 Sample EQ-080421
1400 EA mobilize to oil sheen location
EA Finds sheen
1420 EA Sample Sheen-080421
1445 EA attempt to deliver NYDEC notes to property owner(s)
1530 EA offsite

Nick Robinson
8/14/21

EA Engineering, Science, and Technology, Inc.

# FIELD CALIBRATION FORM

## YSI 3800
## pH, CONDUCTIVITY, TEMPERATURE, TURBIDITY, ORP, AND DISSOVED OXYGEN

| CALIBRATION |
|---|
| DATE: 8/4/21 |
| TIME: 0925 |
| METER ID: 041070 |

### pH CALIBRATION

| pH STANDARD | INITIAL READING | FINAL READING |
|---|---|---|
| 4.0 | 4.13 | 3.98 |
| 7.0 | | |
| 10.0 | | |

### CONDUCTIVITY CALIBARATION

| CONDUCTIVITY STANDARD | STANDARD READING | FINAL READING |
|---|---|---|
| ~~1.413~~ 4.49 | 4.88 | 4.98 |
| | | |

### TURBIDITY CALIBRATION

| STANDARD | INITIAL READING | FINAL READING |
|---|---|---|
| 0 NTU | 11.0 | 0.0 |
| 126 NTU | | |

### ORP CALIBRATION

| STANDARD | FINAL READING |
|---|---|
| 240 millivolts | |

### DISSOLVED OXYGEN CALIBRATION

| STANDARD | INTITIAL READING | FINAL READING |
|---|---|---|
| 100% AIR SATURATION | 8.92 | 9.02 |

### COMMENTS

SIGNATURE

**FIELD CALIBRATION FORM**

Site Name: Monarch

| | |
|---|---|
| INSTRUMENT: Mini RAE 3000 | INSTRUMENT ID No: |
| OPERATOR: N. Robinson | WEATHER: 64°F Overcast |
| SPAN GAS TYPE: Isobutylene 100ppm | DATE: 8/4/21 |
| CALIBRATION NOTES: | |
| Zero cal: 0.0 ppm | |
| Span Cal: 100.0 ppm | |
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| | |
| COMMENTS: | |
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| | |
| | |
| SIGNATURE: [signature] | DATE: 8/4/21 |

# WELL PURGING AND SAMPLING RECORD

| | | |
|---|---|---|
| Site Name/Location Napa Beach | Project No: 16025231.0015 | Page 1 of 2 |
| Well ID MW-10 | Date 8/4/21 | Time 0950 |
| Well Site Description Napa Beach | | |
| Weather/Temp 66 | | |
| Field Technician NR LBL HY | | |

## WELL CONSTRUCTION DATA

| | |
|---|---|
| TOC Elevation (ft amsl) | Screened Interval (ft bgs) 17 - 27.5 |
| Well Diameter (in.) 4 | Nominal Borehole Diameter (in.) 6 |

## FIELD MEASUREMENTS

| | |
|---|---|
| Well Depth (gauge after sampling) (ft) 29.44 | Gallons per foot of depth ~~11.72~~ (OR) 0.653 |
| Depth to product (ft) NA | Static water level (ft) 8.72 |
| Product column height (ft) NA | Water column height (ft) 20.72 |
| Product volume (Gallons) NA | Water volume (Gallons) 13.53 |

## PURGE INFORMATION

| | | |
|---|---|---|
| Pump Type / ID Pesi 19548 | | Water Quality Meter Type / ID Horiba U-52 04/070 |
| Pump Intake Depth (ft) ~27ft | | Flow-Thru Cell Volume (L) |
| Purge Start Time 1014 | | Appearance/Odor (Start) Clear, colorless odorless |
| Purge End Time 1112 | | Appearance/Odor (End) Clear Colorless Odorless |
| Average Purge Rate (mL/min) 0.30 | | Total Drawdown (ft) NA |
| Well Went Dry (Y/N) N | Stop Time — | Volume removed (L) 19.5 |
| Recovery Time — | Recovery Rate (mL/min) — | Restart Purge Time — |
| Total Volume Removed (L) 19.5 | | Total Pump Time (min) 65 |

| Date | Time | Purge Rate (mL/min) | Volume Removed (LPM) | pH (+/-0.1) | Cond. (µS/cm) (+- 3%) | Temp. (°C) (+- 3%) | ORP (mV) (+/- 10) | Turbidity (NTU) +/-10% or <5 NTU | DO (mg/L) +/-10% or <0.5 mg/L | Depth to Water (ft below TOC) |
|---|---|---|---|---|---|---|---|---|---|---|
| 8/4/21 | 1005 | 0.30 | — | 5.87 | 0.524 | 18.02 | 155 | 75.4 | 8.81 | — |
| | 1010 | 0.30 | 1.5 | 6.48 | 0.496 | 16.12 | 106 | 0.0 | 3.10 | — |
| | 1015 | 0.30 | 3.0 | 6.65 | 0.490 | 16.24 | 94 | 0.0 | 2.73 | — |
| | 1020 | 0.30 | 4.5 | 6.89 | 0.477 | 15.65 | 72 | 0.0 | 1.31 | — |
| | 1025 | 0.30 | 6.0 | 6.83 | 0.485 | 14.89 | 47 | 0.0 | 1.00 | — |
| | 1030 | 0.30 | 7.5 | 6.88 | 0.485 | 14.85 | -7 | 0.0 | 0.88 | — |
| | 1035 | 0.30 | 9.0 | 6.90 | 0.481 | 14.81 | -75 | 0.0 | 1.02 | — |
| | 1040 | 0.30 | 10.5 | 6.89 | 0.478 | 14.80 | -108 | 0.0 | 1.72 | — |
| | 1045 | 0.30 | 12.0 | 6.92 | 0.474 | 14.93 | -122 | 0.0 | 0.90 | — |
| | 1050 | 0.30 | 13.5 | 6.94 | 0.476 | 14.72 | -131 | 0.0 | 0.72 | — |
| | 1055 | 0.30 | 15.0 | 6.96 | 0.475 | 14.70 | -139 | 0.0 | 0.77 | — |

COMMENTS NO J-plug, No Water level during purge and gauged after

## SAMPLE COLLECTION

| | |
|---|---|
| Sample Date 8/5/21 | Sample Time 1110 |
| Sample ID MW-10 | |
| QA/QC Collected / ID MS/MSD | Sample Appearance/Odor Clear Colorless, odorless |
| Analyses PFAS | |
| Sampler NR LBL HY | Signature |

# WELL PURGING AND SAMPLING RECORD

| | | |
|---|---|---|
| Site Name/Location | Project No: | Page 7 of 7 |
| Well ID MW-10 | Date | Time |
| Well Site Description | Same as Pg 1 | |
| Weather/Temp | | |
| Field Technician | | |

## WELL CONSTRUCTION DATA

| | |
|---|---|
| TOC Elevation (ft amsl) | Screened Interval (ft bgs) |
| Well Diameter (in.) | Nominal Borehole Diameter (in.) |

## FIELD MEASUREMENTS

| | |
|---|---|
| Well Depth (gauge after sampling) (ft) | Gallons per foot of depth |
| Depth to product (ft) | Static water level (ft) 8.72 |
| Product column height (ft) | Water column height (ft) |
| Product volume (Gallons) | Water volume (Gallons) |

## PURGE INFORMATION

| | | |
|---|---|---|
| Pump Type / ID | | Water Quality Meter Type / ID |
| Pump Intake Depth (ft) | | Flow-Thru Cell Volume (L) |
| Purge Start Time | | Appearance/Odor (Start) |
| Purge End Time | | Appearance/Odor (End) |
| Average Purge Rate (mL/min) | | Total Drawdown (ft) |
| Well Went Dry (Y/N) | Stop Time | Volume removed (L) |
| Recovery Time | Recovery Rate (mL/min) | Restart Purge Time |
| Total Volume Removed (L) | | Total Pump Time (min) |

| Date | Time | Purge Rate (mL/min) | Volume Removed (LPM) | pH (+/-0.1) | Cond. (µS/cm) (+- 3%) | Temp. (°C) (+- 3%) | ORP (mV) (+/- 10) | Turbidity (NTU) +/-10% or <5 NTU | DO (mg/L) +/-10% or <0.5 mg/L | Depth to Water (ft below TOC) |
|---|---|---|---|---|---|---|---|---|---|---|
| 8/4/21 | 1100 | 0.30 | 16.5 | 6.98 | 0.476 | 14.52 | -141 | 0.0 | 0.67 | — |
| | 1105 | 0.30 | 18.0 | 7.00 | 0.470 | 14.81 | -143 | 0.0 | 0.71 | — |
| | 1110 | 0.30 | 19.5 | 7.00 | 0.468 | 14.89 | -145 | 0.0 | 0.71 | — |
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COMMENTS _____

## SAMPLE COLLECTION

| | |
|---|---|
| Sample Date | Sample Time 1110 |
| Sample ID | |
| QA/QC Collected / ID | Sample Appearance/Odor |
| Analyses | Same as Pg 1 |
| Sampler | Signature |

# WELL PURGING AND SAMPLING RECORD

| | | |
|---|---|---|
| Site Name/Location Nuparcade | Project No: 160253/0015 | Page 1 of 1 |
| Well ID MW-105 | Date 8/4/21 | Time 1130 |
| Well Site Description | | |
| Weather/Temp 73°F Sunny | | |
| Field Technician | | |

## WELL CONSTRUCTION DATA

| | |
|---|---|
| TOC Elevation (ft amsl) | Screened Interval (ft bgs) |
| Well Diameter (in.) 2 Stick up | Nominal Borehole Diameter (in.) |

## FIELD MEASUREMENTS

| | |
|---|---|
| Well Depth (gauge after sampling) (ft) 15.05 | Gallons per foot of depth 0.163 |
| Depth to product (ft) NA | Static water level (ft) 10.59 |
| Product column height (ft) NA | Water column height (ft) 5.06 |
| Product volume (Gallons) NA | Water volume (Gallons) ~~5.06~~ NR 0.825 |

## PURGE INFORMATION

| | | | |
|---|---|---|---|
| Pump Type / ID Peri 19348 | | Water Quality Meter Type / ID Horiba U52 041070 | |
| Pump Intake Depth (ft) | | Flow-Thru Cell Volume (L) | |
| Purge Start Time 1131 | | Appearance/Odor (Start) Dark brown, turbid | |
| Purge End Time 1210 | | Appearance/Odor (End) Clear, colorless, odorless | |
| Average Purge Rate (mL/min) | | Total Drawdown (ft) — | |
| Well Went Dry (Y/N) N | Stop Time — | Volume removed (L) — | |
| Recovery Time — | Recovery Rate (mL/min) — | Restart Purge Time — | |
| Total Volume Removed (L) 9.0 | | Total Pump Time (min) 30 | |

| Date | Time | Purge Rate (mL/min) | Volume Removed (LPM) | pH (+/-0.1) | ~~Cond.~~ (µS/cm) (+- 3%) | Temp. (°C) (+- 3%) | ORP (mV) (+/- 10) | Turbidity (NTU) +/-10% or <5 NTU | DO (mg/L) +/-10% or <0.5 mg/L | Depth to Water (ft below TOC) |
|---|---|---|---|---|---|---|---|---|---|---|
| 8/4/21 | 1133 | 0.30 | — | 7.14 | 0.449 | 17.46 | 11 | 71000 | 4.29 | — |
| | 1138 | 0.30 | 1.5 | 6.92 | 0.458 | 16.46 | -49 | 6.2 | 0.89 | — |
| | 1143 | 0.30 | 3.0 | 6.87 | 0.460 | 16.35 | -83 | 0.0 | 0.83 | — |
| | 1148 | 0.30 | 4.5 | 6.85 | 0.477 | 16.58 | -86 | 0.0 | 0.77 | — |
| | 1153 | 0.30 | 6.0 | 6.83 | 0.516 | 16.64 | -88 | 0.0 | 0.67 | — |
| | 1158 | 0.30 | 7.5 | 6.81 | 0.517 | 16.70 | -89 | 0.0 | 0.64 | — |
| | 1203 | 0.30 | 9.0 | 6.79 | 0.523 | 16.62 | -92 | 0.0 | 0.64 | — |
| | | | | | | | | | | |
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COMMENTS No water level during purge and no gauging until after sampling due to PFAS

## SAMPLE COLLECTION

| | |
|---|---|
| Sample Date 8/4/21 | Sample Time 1203 |
| Sample ID MW-105 | |
| QA/QC Collected / ID DUP-080421 | Sample Appearance/Odor clear colorless, odorless |
| Analyses PFAS | |
| Sampler NR HY LBL | Signature |

# WELL PURGING AND SAMPLING RECORD

| | | |
|---|---|---|
| Site Name/Location Napanoch | Project No: 60285135/0095 | Page 1 of 1 |
| Well ID MW-7 | Date 8/4/21 | Time 1240 |
| Well Site Description onsite Napanoch Paper mill | | |
| Weather/Temp Overcast 75 F | | |
| Field Technician LBL, NR, HY | | |

## WELL CONSTRUCTION DATA

| | |
|---|---|
| TOC Elevation (ft amsl) | Screened Interval (ft bgs) 17.25 - 31 |
| Well Diameter (in.) 4 | Nominal Borehole Diameter (in.) |

## FIELD MEASUREMENTS

| | |
|---|---|
| Well Depth (gauge after sampling) (ft) 34.11 TOC | Gallons per foot of depth 0.653 |
| Depth to product (ft) NA | Static water level (ft) 18.07 TOC |
| Product column height (ft) NA | Water column height (ft) 16.04 |
| Product volume (Gallons) NA | Water volume (Gallons) 10.47 |

## PURGE INFORMATION

| | | |
|---|---|---|
| Pump Type / ID Peri 19548 | | Water Quality Meter Type / ID Horiba U52 041070 |
| Pump Intake Depth (ft) | | Flow-Thru Cell Volume (L) — |
| Purge Start Time 1240 | | Appearance/Odor (Start) Clear colorless, odorless |
| Purge End Time | | Appearance/Odor (End) Clear, colorless odorless |
| Average Purge Rate (mL/min) | | Total Drawdown (ft) NA |
| Well Went Dry (Y/N) N | Stop Time — | Volume removed (L) — |
| Recovery Time — | Recovery Rate (mL/min) — | Restart Purge Time |
| Total Volume Removed (L) | | Total Pump Time (min) 35 |

| Date | Time | Purge Rate (mL/min) | Volume Removed (LPM) | pH (+/-0.1) | Cond. (µS/cm) (+- 3%) | Temp. (°C) (+- 3%) | ORP (mV) (+/- 10) | Turbidity (NTU) +/-10% or <5 NTU | DO (mg/L) +/-10% or <0.5 mg/L | Depth to Water (ft below TOC) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1248 | 0.30 | — | 7.06 | 0.302 | 21.59 | 55 | 10.9 | 4.29 | — |
| | 1253 | 0.30 | 1.5 | 6.25 | 0.328 | 19.04 | 69 | 0.0 | 1.03 | — |
| | 1258 | 0.30 | 3.0 | 6.19 | 0.349 | 18.11 | 73 | 0.0 | 0.85 | — |
| | 1303 | 0.30 | 4.5 | 6.17 | 0.353 | 17.91 | 75 | 0.0 | 0.79 | — |
| | 1308 | 0.30 | 6.0 | 6.16 | 0.360 | 17.29 | 55 | 0.0 | 0.72 | — |
| | 1313 | 0.30 | 7.5 | 6.11 | 0.368 | 17.12 | -1 | 0.0 | 0.68 | — |
| | 1318 | 0.30 | 9.0 | 6.10 | 0.381 | 16.18 | -7 | 0.0 | 0.65 | — |
| | 1323 | 0.30 | 10.5 | 6.08 | 0.380 | 16.19 | -9 | 0.0 | 0.62 | — |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

COMMENTS PID: 63.7 ppm

## SAMPLE COLLECTION

| | |
|---|---|
| Sample Date 8/4/21 | Sample Time 1323 |
| Sample ID MW-7 | |
| QA/QC Collected / ID — | Sample Appearance/Odor Clear, colorless, odorless |
| Analyses PFAS | |
| Sampler NR LBL HY | Signature |

# WELL PURGING AND SAMPLING RECORD

| | | |
|---|---|---|
| Site Name/Location Mufumech | Project No: 16 | Page 1 of 1 |
| Well ID ~~Oil Seep~~ Sheen | Date 8/4/21 | Time 1415 |
| Well Site Description Oil Seep | | |
| Weather/Temp 73°F Partly Cloudy | | |
| Field Technician NR ~~EBS~~ NR LBL MY | | |

## WELL CONSTRUCTION DATA

| | |
|---|---|
| TOC Elevation (ft amsl) — | Screened Interval (ft bgs) — |
| Well Diameter (in.) — | Nominal Borehole Diameter (in.) — |

## FIELD MEASUREMENTS

| | |
|---|---|
| Well Depth (gauge after sampling) (ft) — | Gallons per foot of depth — |
| Depth to product (ft) NA | Static water level (ft) — |
| Product column height (ft) NA | Water column height (ft) — |
| Product volume (Gallons) NA | Water volume (Gallons) — |

## PURGE INFORMATION

| | | |
|---|---|---|
| Pump Type / ID (NR) ~~MAP~~ NA | | Water Quality Meter Type / ID Horiba U-52 04670 |
| Pump Intake Depth (ft) NA | | Flow-Thru Cell Volume (L) |
| Purge Start Time NA | | Appearance/Odor (Start) NA |
| Purge End Time NA | | Appearance/Odor (End) NA |
| Average Purge Rate (mL/min) NA | | Total Drawdown (ft) NA |
| Well Went Dry (Y/N) NA | Stop Time NA | Volume removed (L) |
| Recovery Time NA | Recovery Rate (mL/min) NA | Restart Purge Time |
| Total Volume Removed (L) NA | | Total Pump Time (min) |

| Date | Time | Purge Rate (mL/min) | Volume Removed (LPM) | pH (+/-0.1) | Cond. (µS/cm) (+- 3%) | Temp. (°C) (+- 3%) | ORP (mV) (+/- 10) | Turbidity (NTU) +/-10% or <5 NTU | DO (mg/L) +/-10% or <0.5 mg/L | Depth to Water (ft below TOC) |
|---|---|---|---|---|---|---|---|---|---|---|
| 08/04/21 | 1429 | | | 7.08 | 0.424 | 23.41 | +15 | 0.0 | 7.94 | — |
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COMMENTS Sheen observed, not breaking apart

## SAMPLE COLLECTION

| | |
|---|---|
| Sample Date 8/4/21 | Sample Time 1420 |
| Sample ID Sheen - 080421 | |
| QA/QC Collected / ID — | Sample Appearance/Odor Sheen |
| Analyses VOCs, TPH-DRO, TPH-GRO, PCBs, SVOCs | |
| Sampler NR LBL MY | Signature |

# Appendix D

# Laboratory Analytical Report

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eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-188006-1
Client Project/Site: SMP C - Napanoch

For:
New York State D.E.C.
625 Broadway
Division of Environmental Remediation
Albany, New York 12233-7014

Attn: Sarah Saucier

*Authorized for release by:*
*8/18/2021 4:14:19 PM*
Wyatt Watson, Project Management Assistant I
Wyatt.Watson@Eurofinset.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
Judy.Stone@Eurofinset.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Wyatt Watson
Project Management Assistant I
*8/18/2021 4:14:19 PM*

# Table of Contents

# Definitions/Glossary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| *+ | LCS and/or LCSD is outside acceptance limits, high biased. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC/MS Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| H | Sample was prepped or analyzed beyond the specified holding time |

### GC/MS Semi VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| H | Sample was prepped or analyzed beyond the specified holding time |
| J | Indicates an Estimated Value for TICs |
| T | Result is  a tentatively identified compound (TIC) and an estimated value. |

### GC VOA

| Qualifier | Qualifier Description |
|---|---|
| B | Compound was found in the blank and sample. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| S1+ | Surrogate recovery exceeds control limits, high biased. |

### LCMS

| Qualifier | Qualifier Description |
|---|---|
| B | Compound was found in the blank and sample. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

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

## Glossary (Continued)

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 480-188006-1

### Laboratory: Eurofins TestAmerica, Buffalo

**Narrative**

**Job Narrative**
**480-188006-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 8/5/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0º C.

**GC/MS VOA**
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-592370 recovered above the upper control limit for Carbon tetrachloride, 2-Hexanone and Chlorodibromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: TB-080421 (480-188006-8).

Method 8260C: The laboratory control sample (LCS) for analytical batch 480-592370 recovered outside control limits for the following analytes: 2-Hexanone, Chlorodibromomethane and 1,2-Dibromo-3-Chloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The associated sample is impacted: TB-080421 (480-188006-8).

Method 8260C: The laboratory control sample (LCS) for analytical batch 480-592317 recovered outside control limits for the following analytes: Chlorodibromomethane, Bromoform and 1,2-Dibromo-3-Chloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The associated sample is impacted: SHEEN-080421 (480-188006-7).

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-592317 recovered above the upper control limit for Carbon tetrachloride, Chlorodibromomethane, and 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: SHEEN-080421 (480-188006-7).

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

**GC/MS Semi VOA**
Method 8270D: The continuing calibration verification (CCV) associated with batch 480-592784 recovered outside acceptance criteria, low biased, for multiple analytes. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8270D: The following sample was diluted due to color, appearance, and viscosity: SHEEN-080421 (480-188006-7). Elevated reporting limits (RL) are provided.

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

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

**GC Semi VOA**
Method 8015D: The surrogate recovery for the blank associated with preparation batch 480-591924 and analytical batch 480-592129 was outside the upper control limits.

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

**LCMS**
Method 537 (modified): The method blank for preparation batch 200-169967 and analytical batch 200-169997 contained Perfluorobutanoic acid (PFBA) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

## Job ID: 480-188006-1 (Continued)

### Laboratory: Eurofins TestAmerica, Buffalo (Continued)

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

**Organic Prep**
Method 3510C: The following sample was re-prepared outside of preparation holding time due to QC failure. SHEEN-080421 (480-188006-7).

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

# Detection Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Client Sample ID: MW-10 — Lab Sample ID: 480-188006-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.1 | J B | 4.5 | 0.80 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.35 | J | 1.8 | 0.22 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.44 | J | 1.8 | 0.26 | ng/L | 1 | | 537 (modified) | Total/NA |

## Client Sample ID: MW-10S — Lab Sample ID: 480-188006-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.7 | J B | 4.4 | 0.78 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.94 | J | 1.7 | 0.22 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 0.29 | J | 1.7 | 0.26 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.36 | J | 1.7 | 0.25 | ng/L | 1 | | 537 (modified) | Total/NA |

## Client Sample ID: MW-7 — Lab Sample ID: 480-188006-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 2.2 | J B | 4.9 | 0.88 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 0.71 | J | 2.0 | 0.47 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 0.87 | J | 2.0 | 0.44 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 1.4 | J | 2.0 | 0.23 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 12 | | 2.0 | 0.42 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.77 | J | 2.0 | 0.28 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 1.1 | J | 2.0 | 0.25 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 2.9 | | 2.0 | 0.30 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluoroheptanesulfonic Acid (PFHpS) | 1.3 | J | 2.0 | 0.23 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 78 | | 2.0 | 0.29 | ng/L | 1 | | 537 (modified) | Total/NA |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 1.9 | J | 4.9 | 0.73 | ng/L | 1 | | 537 (modified) | Total/NA |

## Client Sample ID: FB-080421 — Lab Sample ID: 480-188006-4

No Detections.

## Client Sample ID: EB-080421 — Lab Sample ID: 480-188006-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 0.83 | J B | 4.3 | 0.76 | ng/L | 1 | | 537 (modified) | Total/NA |

## Client Sample ID: DUP-080421 — Lab Sample ID: 480-188006-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.7 | J B | 4.4 | 0.79 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 0.49 | J | 1.8 | 0.42 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.89 | J | 1.8 | 0.22 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 0.27 | J | 1.8 | 0.27 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.36 | J | 1.8 | 0.26 | ng/L | 1 | | 537 (modified) | Total/NA |

## Client Sample ID: SHEEN-080421 — Lab Sample ID: 480-188006-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 0.73 | J | 1.0 | 0.19 | ug/L | 1 | | 8260C | Total/NA |
| Gasoline Range Organics (GRO)-C6-C10 | 16 | J B | 25 | 4.2 | ug/L | 1 | | 8015D | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

# Detection Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Client Sample ID: TB-080421

## Lab Sample ID: 480-188006-8

No Detections.

This Detection Summary does not include radiochemical test results.

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: MW-10**
**Date Collected: 08/04/21 11:10**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-1**
**Matrix: Water**

## Method: 537 (modified) - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **1.1** | **J B** | 4.5 | 0.80 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.8 | 0.42 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.8 | 0.40 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.8 | 0.21 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.8 | 0.38 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | 0.31 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | 0.39 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | 0.56 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.35** | **J** | 1.8 | 0.22 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | 0.21 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.44** | **J** | 1.8 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | 0.51 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 4.5 | 0.81 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 4.5 | 0.66 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| 6:2 FTS | ND | | 4.5 | 0.98 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |
| 8:2 FTS | ND | | 1.8 | 0.35 | ng/L | | 08/09/21 10:04 | 08/09/21 21:51 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *99* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C4 PFBA* | *89* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C5 PFPeA* | *103* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C2 PFHxA* | *102* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C4 PFHpA* | *101* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C4 PFOA* | *106* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C2 PFDA* | *98* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C2 PFUnA* | *97* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C2 PFTeDA* | *90* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C3 PFBS* | *106* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *18O2 PFHxS* | *107* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *13C4 PFOS* | *101* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *d5-NEtFOSAA* | *92* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *M2-6:2 FTS* | *114* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |
| *M2-8:2 FTS* | *99* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:51* | *1* |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: MW-10S**
**Date Collected: 08/04/21 12:03**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-2**
**Matrix: Water**

## Method: 537 (modified) - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **1.7** | **J B** | 4.4 | 0.78 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.7 | 0.41 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.7 | 0.39 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.7 | 0.21 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.7 | 0.37 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.7 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.7 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.7 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.7 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.7 | 0.38 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.7 | 0.55 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.94** | **J** | 1.7 | 0.22 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **0.29** | **J** | 1.7 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.7 | 0.20 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.7 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.36** | **J** | 1.7 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.7 | 0.50 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 4.4 | 0.79 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 4.4 | 0.65 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| 6:2 FTS | ND | | 4.4 | 0.96 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |
| 8:2 FTS | ND | | 1.7 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 22:16 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *95* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C4 PFBA* | *82* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C5 PFPeA* | *100* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C2 PFHxA* | *98* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C4 PFOA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C5 PFNA* | *98* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C2 PFDA* | *100* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C2 PFUnA* | *91* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C2 PFDoA* | *89* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C2 PFTeDA* | *88* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C3 PFBS* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *18O2 PFHxS* | *106* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *13C4 PFOS* | *98* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *d3-NMeFOSAA* | *101* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *d5-NEtFOSAA* | *88* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *M2-6:2 FTS* | *110* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |
| *M2-8:2 FTS* | *108* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:16* | *1* |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: MW-7**
**Date Collected: 08/04/21 13:23**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-3**
**Matrix: Water**

## Method: 537 (modified) - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **2.2** | **J B** | 4.9 | 0.88 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **0.71** | **J** | 2.0 | 0.47 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **0.87** | **J** | 2.0 | 0.44 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **1.4** | **J** | 2.0 | 0.23 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **12** | | 2.0 | 0.42 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.77** | **J** | 2.0 | 0.28 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.0 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.0 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.0 | 0.38 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.0 | 0.43 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.0 | 0.62 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **1.1** | **J** | 2.0 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **2.9** | | 2.0 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluoroheptanesulfonic Acid (PFHpS)** | **1.3** | **J** | 2.0 | 0.23 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 2.0 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **78** | | 2.0 | 0.29 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 2.0 | 0.57 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 4.9 | 0.89 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| **N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)** | **1.9** | **J** | 4.9 | 0.73 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| 6:2 FTS | ND | | 4.9 | 1.1 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |
| 8:2 FTS | ND | | 2.0 | 0.38 | ng/L | | 08/09/21 10:04 | 08/09/21 22:24 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *98* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C4 PFBA* | *73* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C5 PFPeA* | *94* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C2 PFHxA* | *99* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C4 PFOA* | *108* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C5 PFNA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C2 PFDA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C2 PFUnA* | *101* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C2 PFDoA* | *101* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C2 PFTeDA* | *99* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C3 PFBS* | *102* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *18O2 PFHxS* | *108* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *13C4 PFOS* | *102* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *d3-NMeFOSAA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *d5-NEtFOSAA* | *102* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *M2-6:2 FTS* | *120* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |
| *M2-8:2 FTS* | *112* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:24* | *1* |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: FB-080421**
**Date Collected: 08/04/21 13:40**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-4**
**Matrix: Water**

## Method: 537 (modified) - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | ND | | 4.6 | 0.83 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.9 | 0.44 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.9 | 0.42 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.9 | 0.22 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.9 | 0.39 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | 0.28 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | 0.32 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | 0.36 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | 0.40 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | 0.59 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.9 | 0.23 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | 0.28 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | 0.22 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | 0.28 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.9 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | 0.54 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 4.6 | 0.84 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 4.6 | 0.69 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| 6:2 FTS | ND | | 4.6 | 1.0 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |
| 8:2 FTS | ND | | 1.9 | 0.36 | ng/L | | 08/09/21 10:04 | 08/09/21 22:32 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *78* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C4 PFBA* | *97* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C5 PFPeA* | *103* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C2 PFHxA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C4 PFHpA* | *102* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C4 PFOA* | *106* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C5 PFNA* | *100* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C2 PFDA* | *100* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C2 PFUnA* | *99* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C2 PFTeDA* | *78* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C3 PFBS* | *107* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *18O2 PFHxS* | *108* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *13C4 PFOS* | *104* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *d3-NMeFOSAA* | *99* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *d5-NEtFOSAA* | *94* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *M2-6:2 FTS* | *107* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |
| *M2-8:2 FTS* | *104* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:32* | *1* |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: EB-080421**
**Date Collected: 08/04/21 13:46**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-5**
**Matrix: Water**

## Method: 537 (modified) - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **0.83** | **J B** | 4.3 | 0.76 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.7 | 0.40 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.7 | 0.39 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.7 | 0.20 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.7 | 0.36 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.7 | 0.24 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.7 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.7 | 0.29 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.7 | 0.33 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.7 | 0.37 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.7 | 0.54 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.7 | 0.21 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.7 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.7 | 0.20 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.7 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.7 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.7 | 0.49 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 4.3 | 0.77 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 4.3 | 0.63 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| 6:2 FTS | ND | | 4.3 | 0.94 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |
| 8:2 FTS | ND | | 1.7 | 0.33 | ng/L | | 08/09/21 10:04 | 08/09/21 22:41 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *86* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C4 PFBA* | *93* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C5 PFPeA* | *102* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C2 PFHxA* | *96* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C4 PFHpA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C4 PFOA* | *107* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C5 PFNA* | *96* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C2 PFDA* | *105* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C2 PFUnA* | *104* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C2 PFDoA* | *96* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C2 PFTeDA* | *83* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C3 PFBS* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *18O2 PFHxS* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *13C4 PFOS* | *101* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *d3-NMeFOSAA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *d5-NEtFOSAA* | *95* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *M2-6:2 FTS* | *116* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |
| *M2-8:2 FTS* | *107* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:41* | *1* |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: DUP-080421**
**Date Collected: 08/04/21 00:00**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-6**
**Matrix: Water**

## Method: 537 (modified) - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **1.7** | **J B** | 4.4 | 0.79 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **0.49** | **J** | 1.8 | 0.42 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.8 | 0.40 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.8 | 0.21 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.8 | 0.37 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | 0.38 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | 0.56 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.89** | **J** | 1.8 | 0.22 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **0.27** | **J** | 1.8 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | 0.21 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | 0.27 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.36** | **J** | 1.8 | 0.26 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | 0.51 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 4.4 | 0.80 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 4.4 | 0.66 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| 6:2 FTS | ND | | 4.4 | 0.97 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |
| 8:2 FTS | ND | | 1.8 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 22:49 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *98* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C4 PFBA* | *86* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C5 PFPeA* | *98* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C2 PFHxA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C4 PFHpA* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C4 PFOA* | *104* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C5 PFNA* | *100* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C2 PFDA* | *97* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C2 PFUnA* | *93* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C2 PFDoA* | *93* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C3 PFBS* | *110* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *18O2 PFHxS* | *104* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *13C4 PFOS* | *103* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *d3-NMeFOSAA* | *89* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *d5-NEtFOSAA* | *90* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *M2-6:2 FTS* | *118* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |
| *M2-8:2 FTS* | *104* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 22:49* | *1* |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: SHEEN-080421**
**Date Collected: 08/04/21 14:20**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-7**
**Matrix: Water**

## Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | *+ | 1.0 | 0.39 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 08/10/21 14:08 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 08/10/21 14:08 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 08/10/21 14:08 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 08/10/21 14:08 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 08/10/21 14:08 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 08/10/21 14:08 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 08/10/21 14:08 | 1 |
| Bromoform | ND | *+ | 1.0 | 0.26 | ug/L | | | 08/10/21 14:08 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 08/10/21 14:08 | 1 |
| **Carbon disulfide** | **0.73** | **J** | 1.0 | 0.19 | ug/L | | | 08/10/21 14:08 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 08/10/21 14:08 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 08/10/21 14:08 | 1 |
| Dibromochloromethane | ND | *+ | 1.0 | 0.32 | ug/L | | | 08/10/21 14:08 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 08/10/21 14:08 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 08/10/21 14:08 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 08/10/21 14:08 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 08/10/21 14:08 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 08/10/21 14:08 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 08/10/21 14:08 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 08/10/21 14:08 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 08/10/21 14:08 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 08/10/21 14:08 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/10/21 14:08 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 08/10/21 14:08 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 08/10/21 14:08 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 08/10/21 14:08 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 08/10/21 14:08 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 08/10/21 14:08 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 08/10/21 14:08 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 08/10/21 14:08 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 08/10/21 14:08 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 08/10/21 14:08 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 08/10/21 14:08 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 08/10/21 14:08 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 08/10/21 14:08 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 08/10/21 14:08 | 1 |

## Client Sample ID: SHEEN-080421

**Date Collected: 08/04/21 14:20**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-7

**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | 99 | | 80 - 120 | | 08/10/21 14:08 | 1 |
| *1,2-Dichloroethane-d4 (Surr)* | 105 | | 77 - 120 | | 08/10/21 14:08 | 1 |
| *4-Bromofluorobenzene (Surr)* | 96 | | 73 - 120 | | 08/10/21 14:08 | 1 |
| *Dibromofluoromethane (Surr)* | 99 | | 75 - 123 | | 08/10/21 14:08 | 1 |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Biphenyl | ND | H | 25 | 3.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| bis (2-chloroisopropyl) ether | ND | H | 25 | 2.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,4,5-Trichlorophenol | ND | H | 25 | 2.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,4,6-Trichlorophenol | ND | H | 25 | 3.1 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,4-Dichlorophenol | ND | H | 25 | 2.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,4-Dimethylphenol | ND | H | 25 | 2.5 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,4-Dinitrophenol | ND | H | 50 | 11 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,4-Dinitrotoluene | ND | H | 25 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2,6-Dinitrotoluene | ND | H | 25 | 2.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2-Chloronaphthalene | ND | H | 25 | 2.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2-Chlorophenol | ND | H | 25 | 2.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2-Methylphenol | ND | H | 25 | 2.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2-Methylnaphthalene | ND | H | 25 | 3.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2-Nitroaniline | ND | H | 50 | 2.1 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 2-Nitrophenol | ND | H | 25 | 2.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 3,3'-Dichlorobenzidine | ND | H | 25 | 2.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 3-Nitroaniline | ND | H | 50 | 2.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4,6-Dinitro-2-methylphenol | ND | H | 50 | 11 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Bromophenyl phenyl ether | ND | H | 25 | 2.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Chloro-3-methylphenol | ND | H | 25 | 2.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Chloroaniline | ND | H | 25 | 3.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Chlorophenyl phenyl ether | ND | H | 25 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Methylphenol | ND | H | 50 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Nitroaniline | ND | H | 50 | 1.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| 4-Nitrophenol | ND | H | 50 | 7.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Acenaphthene | ND | H | 25 | 2.1 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Acenaphthylene | ND | H | 25 | 1.9 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Acetophenone | ND | H | 25 | 2.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Anthracene | ND | H | 25 | 1.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Atrazine | ND | H | 25 | 2.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Benzaldehyde | ND | H | 25 | 1.3 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Benzo[a]anthracene | ND | H | 25 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Benzo[a]pyrene | ND | H | 25 | 2.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Benzo[b]fluoranthene | ND | H | 25 | 1.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Benzo[g,h,i]perylene | ND | H | 25 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Benzo[k]fluoranthene | ND | H | 25 | 3.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Bis(2-chloroethoxy)methane | ND | H | 25 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Bis(2-chloroethyl)ether | ND | H | 25 | 2.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Bis(2-ethylhexyl) phthalate | ND | H | 25 | 11 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Butyl benzyl phthalate | ND | H | 25 | 5.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Caprolactam | ND | H | 25 | 11 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Carbazole | ND | H | 25 | 1.5 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Chrysene | ND | H | 25 | 1.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |

## Client Sample ID: SHEEN-080421

**Date Collected: 08/04/21 14:20**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-7

**Matrix: Water**

### Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dibenz(a,h)anthracene | ND | H | 25 | 2.1 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Di-n-butyl phthalate | ND | H | 25 | 1.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Di-n-octyl phthalate | ND | H | 25 | 2.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Dibenzofuran | ND | H | 50 | 2.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Diethyl phthalate | ND | H | 25 | 1.1 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Dimethyl phthalate | ND | H | 25 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Fluoranthene | ND | H | 25 | 2.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Fluorene | ND | H | 25 | 1.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Hexachlorobenzene | ND | H | 25 | 2.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Hexachlorobutadiene | ND | H | 25 | 3.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Hexachlorocyclopentadiene | ND | H | 25 | 3.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Hexachloroethane | ND | H | 25 | 3.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Indeno[1,2,3-cd]pyrene | ND | H | 25 | 2.4 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Isophorone | ND | H | 25 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| N-Nitrosodi-n-propylamine | ND | H | 25 | 2.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| N-Nitrosodiphenylamine | ND | H | 25 | 2.6 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Naphthalene | ND | H | 25 | 3.8 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Nitrobenzene | ND | H | 25 | 1.5 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Pentachlorophenol | ND | H | 50 | 11 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Phenanthrene | ND | H | 25 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Phenol | ND | H | 25 | 2.0 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |
| Pyrene | ND | H | 25 | 1.7 | ug/L | | 08/12/21 16:25 | 08/13/21 22:13 | 5 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Unknown* | *22* | *T H J* | *ug/L* | | *5.02* | | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *Unknown* | *13* | *T H J* | *ug/L* | | *6.11* | | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *Unknown* | *11* | *T H J* | *ug/L* | | *11.74* | | *08/12/21 16:25* | *08/13/21 22:13* | *5* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *73* | | *46 - 120* | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *Phenol-d5 (Surr)* | *46* | | *22 - 120* | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *p-Terphenyl-d14 (Surr)* | *73* | | *60 - 148* | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *2,4,6-Tribromophenol (Surr)* | *74* | | *41 - 120* | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *2-Fluorobiphenyl* | *83* | | *48 - 120* | *08/12/21 16:25* | *08/13/21 22:13* | *5* |
| *2-Fluorophenol (Surr)* | *56* | | *35 - 120* | *08/12/21 16:25* | *08/13/21 22:13* | *5* |

### Method: 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 16 | J B | 25 | 4.2 | ug/L | | | 08/09/21 13:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene* | *93* | | *72 - 125* | | *08/09/21 13:35* | *1* |

### Method: 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 0.50 | 0.31 | mg/L | | 08/05/21 15:15 | 08/09/21 08:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *87* | | *51 - 120* | *08/05/21 15:15* | *08/09/21 08:01* | *1* |

## Client Sample ID: SHEEN-080421

**Lab Sample ID: 480-188006-7**

**Date Collected: 08/04/21 14:20**

**Matrix: Water**

**Date Received: 08/05/21 10:00**

### Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| PCB-1016 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1221 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1232 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1242 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1248 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1254 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1260 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1262 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |
| PCB-1268 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 18:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Tetrachloro-m-xylene* | *58* | | *39 - 121* | *08/09/21 09:09* | *08/10/21 18:53* | *1* |
| *Tetrachloro-m-xylene* | *63* | | *39 - 121* | *08/09/21 09:09* | *08/10/21 18:53* | *1* |
| *DCB Decachlorobiphenyl* | *40* | | *19 - 120* | *08/09/21 09:09* | *08/10/21 18:53* | *1* |
| *DCB Decachlorobiphenyl* | *36* | | *19 - 120* | *08/09/21 09:09* | *08/10/21 18:53* | *1* |

## Client Sample ID: TB-080421

**Lab Sample ID: 480-188006-8**

**Date Collected: 08/04/21 00:00**

**Matrix: Water**

**Date Received: 08/05/21 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | *+ | 1.0 | 0.39 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 08/11/21 02:53 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 08/11/21 02:53 | 1 |
| 2-Hexanone | ND | *+ | 5.0 | 1.2 | ug/L | | | 08/11/21 02:53 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 08/11/21 02:53 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 08/11/21 02:53 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 08/11/21 02:53 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 08/11/21 02:53 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 08/11/21 02:53 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 08/11/21 02:53 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 08/11/21 02:53 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 08/11/21 02:53 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 08/11/21 02:53 | 1 |
| Dibromochloromethane | ND | *+ | 1.0 | 0.32 | ug/L | | | 08/11/21 02:53 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 08/11/21 02:53 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 08/11/21 02:53 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 08/11/21 02:53 | 1 |

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

**Client Sample ID: TB-080421**
**Date Collected: 08/04/21 00:00**
**Date Received: 08/05/21 10:00**

**Lab Sample ID: 480-188006-8**
**Matrix: Water**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 08/11/21 02:53 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 08/11/21 02:53 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 08/11/21 02:53 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 08/11/21 02:53 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 08/11/21 02:53 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 08/11/21 02:53 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/11/21 02:53 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 08/11/21 02:53 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 08/11/21 02:53 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 08/11/21 02:53 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 08/11/21 02:53 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 08/11/21 02:53 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 08/11/21 02:53 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 08/11/21 02:53 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 08/11/21 02:53 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 08/11/21 02:53 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 08/11/21 02:53 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 08/11/21 02:53 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 08/11/21 02:53 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 08/11/21 02:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *80 - 120* | | *08/11/21 02:53* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *77 - 120* | | *08/11/21 02:53* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *73 - 120* | | *08/11/21 02:53* | *1* |
| *Dibromofluoromethane (Surr)* | *103* | | *75 - 123* | | *08/11/21 02:53* | *1* |

# Surrogate Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | DCA | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (80-120) | (77-120) | (73-120) | (75-123) |
| 480-188006-7 | SHEEN-080421 | 99 | 105 | 96 | 99 |
| 480-188006-8 | TB-080421 | 98 | 106 | 99 | 103 |
| LCS 480-592317/5 | Lab Control Sample | 100 | 101 | 95 | 99 |
| LCS 480-592370/6 | Lab Control Sample | 99 | 102 | 96 | 100 |
| MB 480-592317/7 | Method Blank | 99 | 105 | 98 | 100 |
| MB 480-592370/8 | Method Blank | 98 | 102 | 100 | 102 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | |
|---|---|---|---|---|---|---|---|
| | | NBZ | PHL | TPHd14 | TBP | FBP | 2FP |
| Lab Sample ID | Client Sample ID | (46-120) | (22-120) | (60-148) | (41-120) | (48-120) | (35-120) |
| 480-188006-7 - RE | SHEEN-080421 | 73 | 46 | 73 | 74 | 83 | 56 |
| LCS 480-592707/2-A | Lab Control Sample | 73 | 48 | 102 | 98 | 90 | 63 |
| MB 480-592707/1-A | Method Blank | 68 | 40 | 93 | 70 | 84 | 56 |

**Surrogate Legend**

NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)

## Method: 8015D - Gasoline Range Organics (GRO) (GC)

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

| | | Percent Surrogate Recovery (Acceptance Limits) |
|---|---|---|
| | | TFT2 |
| Lab Sample ID | Client Sample ID | (72-125) |
| 480-188006-7 | SHEEN-080421 | 93 |
| LCS 480-592143/6 | Lab Control Sample | 90 |
| LCSD 480-592143/7 | Lab Control Sample Dup | 91 |
| MB 480-592143/5 | Method Blank | 93 |

**Surrogate Legend**

TFT = a,a,a-Trifluorotoluene

## Method: 8015D - Diesel Range Organics (DRO) (GC)

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

| | | Percent Surrogate Recovery (Acceptance Limits) |
|---|---|---|
| | | OTPH |
| Lab Sample ID | Client Sample ID | (51-120) |
| 480-188006-7 | SHEEN-080421 | 87 |

# Surrogate Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

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

| | | Percent Surrogate Recovery (Acceptance Limits) |
|---|---|---|
| Lab Sample ID | Client Sample ID | OTPH (51-120) |
| LCS 480-591924/2-A | Lab Control Sample | 114 |
| LCSD 480-591924/3-A | Lab Control Sample Dup | 114 |
| MB 480-591924/1-A | Method Blank | 121 S1+ |

**Surrogate Legend**

OTPH = o-Terphenyl

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | TCX1 (39-121) | TCX2 (39-121) | DCBP1 (19-120) | DCBP2 (19-120) |
| 480-188006-7 | SHEEN-080421 | 63 | 58 | 36 | 40 |
| LCS 480-592150/2-A | Lab Control Sample | 76 | 79 | 55 | 61 |
| MB 480-592150/1-A | Method Blank | 79 | 80 | 51 | 59 |

**Surrogate Legend**

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

# Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

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

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | PFOSA (25-150) | PFBA (25-150) | PFPeA (25-150) | PFHxA (50-150) | C4PFHA (50-150) | PFOA (50-150) | PFNA (50-150) | PFDA (50-150) |
| 480-188006-1 | MW-10 | 99 | 89 | 103 | 102 | 101 | 106 | 99 | 98 |
| 480-188006-1 MS | MW-10 | 101 | 92 | 106 | 104 | 105 | 106 | 104 | 101 |
| 480-188006-1 MSD | MW-10 | 103 | 92 | 104 | 104 | 104 | 105 | 106 | 98 |
| 480-188006-2 | MW-10S | 95 | 82 | 100 | 98 | 98 | 103 | 98 | 100 |
| 480-188006-3 | MW-7 | 98 | 73 | 94 | 99 | 100 | 108 | 103 | 103 |
| 480-188006-4 | FB-080421 | 78 | 97 | 103 | 103 | 102 | 106 | 100 | 100 |
| 480-188006-5 | EB-080421 | 86 | 93 | 102 | 96 | 103 | 107 | 96 | 105 |
| 480-188006-6 | DUP-080421 | 98 | 86 | 98 | 103 | 103 | 104 | 100 | 97 |
| LCS 200-169967/2-A | Lab Control Sample | 87 | 99 | 108 | 104 | 104 | 106 | 106 | 115 |
| MB 200-169967/1-A | Method Blank | 70 | 79 | 84 | 83 | 83 | 84 | 80 | 84 |

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | PFUnA (50-150) | PFDoA (50-150) | PFTDA (50-150) | C3PFBS (50-150) | PFHxS (50-150) | PFOS (50-150) | d3NMFOS (50-150) | d5NEFOS (50-150) |
| 480-188006-1 | MW-10 | 97 | 92 | 90 | 106 | 107 | 101 | 95 | 92 |
| 480-188006-1 MS | MW-10 | 96 | 93 | 91 | 106 | 110 | 104 | 108 | 92 |
| 480-188006-1 MSD | MW-10 | 97 | 89 | 92 | 106 | 107 | 104 | 94 | 91 |
| 480-188006-2 | MW-10S | 91 | 89 | 88 | 103 | 106 | 98 | 101 | 88 |
| 480-188006-3 | MW-7 | 101 | 101 | 99 | 102 | 108 | 102 | 103 | 102 |
| 480-188006-4 | FB-080421 | 99 | 92 | 78 | 107 | 108 | 104 | 99 | 94 |
| 480-188006-5 | EB-080421 | 104 | 96 | 83 | 103 | 103 | 101 | 103 | 95 |
| 480-188006-6 | DUP-080421 | 93 | 93 | 87 | 110 | 104 | 103 | 89 | 90 |
| LCS 200-169967/2-A | Lab Control Sample | 101 | 94 | 92 | 107 | 109 | 102 | 111 | 91 |
| MB 200-169967/1-A | Method Blank | 76 | 71 | 69 | 85 | 86 | 85 | 80 | 69 |

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | M262FTS (25-150) | M282FTS (25-150) | | | | | | |
| 480-188006-1 | MW-10 | 114 | 99 | | | | | | |
| 480-188006-1 MS | MW-10 | 117 | 103 | | | | | | |
| 480-188006-1 MSD | MW-10 | 116 | 102 | | | | | | |
| 480-188006-2 | MW-10S | 110 | 108 | | | | | | |
| 480-188006-3 | MW-7 | 120 | 112 | | | | | | |
| 480-188006-4 | FB-080421 | 107 | 104 | | | | | | |
| 480-188006-5 | EB-080421 | 116 | 107 | | | | | | |
| 480-188006-6 | DUP-080421 | 118 | 104 | | | | | | |
| LCS 200-169967/2-A | Lab Control Sample | 116 | 125 | | | | | | |
| MB 200-169967/1-A | Method Blank | 87 | 88 | | | | | | |

**Surrogate Legend**

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA

# Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 480-592317/7**
**Matrix: Water**
**Analysis Batch: 592317**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 08/10/21 13:14 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 08/10/21 13:14 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 08/10/21 13:14 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 08/10/21 13:14 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 08/10/21 13:14 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 08/10/21 13:14 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 08/10/21 13:14 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 08/10/21 13:14 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 08/10/21 13:14 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 08/10/21 13:14 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 08/10/21 13:14 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 08/10/21 13:14 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 08/10/21 13:14 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 08/10/21 13:14 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 08/10/21 13:14 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 08/10/21 13:14 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 08/10/21 13:14 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 08/10/21 13:14 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 08/10/21 13:14 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 08/10/21 13:14 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 08/10/21 13:14 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 08/10/21 13:14 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/10/21 13:14 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 08/10/21 13:14 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 08/10/21 13:14 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 08/10/21 13:14 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 08/10/21 13:14 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 08/10/21 13:14 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 08/10/21 13:14 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 08/10/21 13:14 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 08/10/21 13:14 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 08/10/21 13:14 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 08/10/21 13:14 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 08/10/21 13:14 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 08/10/21 13:14 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 08/10/21 13:14 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-592317/7**
**Matrix: Water**
**Analysis Batch: 592317**

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

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *80 - 120* | | *08/10/21 13:14* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *77 - 120* | | *08/10/21 13:14* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *73 - 120* | | *08/10/21 13:14* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *75 - 123* | | *08/10/21 13:14* | *1* |

**Lab Sample ID: LCS 480-592317/5**
**Matrix: Water**
**Analysis Batch: 592317**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 24.6 | | ug/L | | 98 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 25.6 | | ug/L | | 102 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 24.3 | | ug/L | | 97 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 23.1 | | ug/L | | 93 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 22.9 | | ug/L | | 92 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 21.8 | | ug/L | | 87 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 21.7 | | ug/L | | 87 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 37.5 | *+ | ug/L | | 150 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 22.5 | | ug/L | | 90 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 22.8 | | ug/L | | 91 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 24.0 | | ug/L | | 96 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 22.8 | | ug/L | | 91 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 23.5 | | ug/L | | 94 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 138 | | ug/L | | 110 | 57 - 140 |
| 2-Hexanone | 125 | 141 | | ug/L | | 112 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 130 | | ug/L | | 104 | 71 - 125 |
| Acetone | 125 | 119 | | ug/L | | 96 | 56 - 142 |
| Benzene | 25.0 | 23.5 | | ug/L | | 94 | 71 - 124 |
| Bromodichloromethane | 25.0 | 28.0 | | ug/L | | 112 | 80 - 122 |
| Bromoform | 25.0 | 33.8 | *+ | ug/L | | 135 | 61 - 132 |
| Bromomethane | 25.0 | 21.7 | | ug/L | | 87 | 55 - 144 |
| Carbon disulfide | 25.0 | 20.8 | | ug/L | | 83 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 30.1 | | ug/L | | 121 | 72 - 134 |
| Chlorobenzene | 25.0 | 23.3 | | ug/L | | 93 | 80 - 120 |
| Dibromochloromethane | 25.0 | 35.0 | *+ | ug/L | | 140 | 75 - 125 |
| Chloroethane | 25.0 | 22.9 | | ug/L | | 92 | 69 - 136 |
| Chloroform | 25.0 | 22.4 | | ug/L | | 90 | 73 - 127 |
| Chloromethane | 25.0 | 21.0 | | ug/L | | 84 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 22.0 | | ug/L | | 88 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 26.6 | | ug/L | | 106 | 74 - 124 |
| Cyclohexane | 25.0 | 24.5 | | ug/L | | 98 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 24.7 | | ug/L | | 99 | 59 - 135 |
| Ethylbenzene | 25.0 | 23.5 | | ug/L | | 94 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 26.2 | | ug/L | | 105 | 77 - 120 |
| Isopropylbenzene | 25.0 | 24.1 | | ug/L | | 96 | 77 - 122 |
| Methyl acetate | 50.0 | 50.7 | | ug/L | | 101 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 21.4 | | ug/L | | 85 | 77 - 120 |
| Methylcyclohexane | 25.0 | 25.2 | | ug/L | | 101 | 68 - 134 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-592317/5**
**Matrix: Water**
**Analysis Batch: 592317**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Methylene Chloride | 25.0 | 21.7 | | ug/L | | 87 | 75 - 124 |
| Styrene | 25.0 | 24.0 | | ug/L | | 96 | 80 - 120 |
| Tetrachloroethene | 25.0 | 24.0 | | ug/L | | 96 | 74 - 122 |
| Toluene | 25.0 | 23.6 | | ug/L | | 95 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 22.5 | | ug/L | | 90 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 28.1 | | ug/L | | 112 | 80 - 120 |
| Trichloroethene | 25.0 | 23.6 | | ug/L | | 94 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 23.7 | | ug/L | | 95 | 62 - 150 |
| Vinyl chloride | 25.0 | 21.9 | | ug/L | | 88 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *99* | | *75 - 123* |

**Lab Sample ID: MB 480-592370/8**
**Matrix: Water**
**Analysis Batch: 592370**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 08/11/21 01:21 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 08/11/21 01:21 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 08/11/21 01:21 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 08/11/21 01:21 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 08/11/21 01:21 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 08/11/21 01:21 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 08/11/21 01:21 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 08/11/21 01:21 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 08/11/21 01:21 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 08/11/21 01:21 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 08/11/21 01:21 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 08/11/21 01:21 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 08/11/21 01:21 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 08/11/21 01:21 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 08/11/21 01:21 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-592370/8**
**Matrix: Water**
**Analysis Batch: 592370**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 08/11/21 01:21 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 08/11/21 01:21 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 08/11/21 01:21 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 08/11/21 01:21 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 08/11/21 01:21 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 08/11/21 01:21 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 08/11/21 01:21 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 08/11/21 01:21 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 08/11/21 01:21 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 08/11/21 01:21 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 08/11/21 01:21 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 08/11/21 01:21 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 08/11/21 01:21 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 08/11/21 01:21 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 08/11/21 01:21 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 08/11/21 01:21 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 08/11/21 01:21 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 08/11/21 01:21 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 08/11/21 01:21 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 08/11/21 01:21 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 08/11/21 01:21 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *80 - 120* | | *08/11/21 01:21* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *77 - 120* | | *08/11/21 01:21* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *73 - 120* | | *08/11/21 01:21* | *1* |
| *Dibromofluoromethane (Surr)* | *102* | | *75 - 123* | | *08/11/21 01:21* | *1* |

**Lab Sample ID: LCS 480-592370/6**
**Matrix: Water**
**Analysis Batch: 592370**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 25.7 | | ug/L | | 103 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 25.9 | | ug/L | | 104 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 24.9 | | ug/L | | 100 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 23.9 | | ug/L | | 96 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 24.5 | | ug/L | | 98 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 23.6 | | ug/L | | 94 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 22.9 | | ug/L | | 92 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 38.4 | *+ | ug/L | | 153 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 23.0 | | ug/L | | 92 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 23.0 | | ug/L | | 92 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 24.7 | | ug/L | | 99 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 23.3 | | ug/L | | 93 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 23.8 | | ug/L | | 95 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 141 | | ug/L | | 112 | 57 - 140 |
| 2-Hexanone | 125 | 160 | *+ | ug/L | | 128 | 65 - 127 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-592370/6**
**Matrix: Water**
**Analysis Batch: 592370**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone (MIBK) | 125 | 139 | | ug/L | | 111 | 71 - 125 |
| Acetone | 125 | 126 | | ug/L | | 101 | 56 - 142 |
| Benzene | 25.0 | 23.7 | | ug/L | | 95 | 71 - 124 |
| Bromodichloromethane | 25.0 | 28.4 | | ug/L | | 114 | 80 - 122 |
| Bromoform | 25.0 | 31.2 | | ug/L | | 125 | 61 - 132 |
| Bromomethane | 25.0 | 24.7 | | ug/L | | 99 | 55 - 144 |
| Carbon disulfide | 25.0 | 24.8 | | ug/L | | 99 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 29.6 | | ug/L | | 118 | 72 - 134 |
| Chlorobenzene | 25.0 | 23.5 | | ug/L | | 94 | 80 - 120 |
| Dibromochloromethane | 25.0 | 34.0 | *+ | ug/L | | 136 | 75 - 125 |
| Chloroethane | 25.0 | 25.8 | | ug/L | | 103 | 69 - 136 |
| Chloroform | 25.0 | 23.1 | | ug/L | | 92 | 73 - 127 |
| Chloromethane | 25.0 | 24.2 | | ug/L | | 97 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 22.4 | | ug/L | | 90 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 24.7 | | ug/L | | 99 | 74 - 124 |
| Cyclohexane | 25.0 | 25.3 | | ug/L | | 101 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 29.0 | | ug/L | | 116 | 59 - 135 |
| Ethylbenzene | 25.0 | 23.7 | | ug/L | | 95 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 26.3 | | ug/L | | 105 | 77 - 120 |
| Isopropylbenzene | 25.0 | 23.9 | | ug/L | | 96 | 77 - 122 |
| Methyl acetate | 50.0 | 50.5 | | ug/L | | 101 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 22.9 | | ug/L | | 92 | 77 - 120 |
| Methylcyclohexane | 25.0 | 24.6 | | ug/L | | 98 | 68 - 134 |
| Methylene Chloride | 25.0 | 24.7 | | ug/L | | 99 | 75 - 124 |
| Styrene | 25.0 | 24.3 | | ug/L | | 97 | 80 - 120 |
| Tetrachloroethene | 25.0 | 23.1 | | ug/L | | 92 | 74 - 122 |
| Toluene | 25.0 | 23.9 | | ug/L | | 95 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 23.2 | | ug/L | | 93 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 26.3 | | ug/L | | 105 | 80 - 120 |
| Trichloroethene | 25.0 | 23.9 | | ug/L | | 96 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 27.6 | | ug/L | | 110 | 62 - 150 |
| Vinyl chloride | 25.0 | 25.7 | | ug/L | | 103 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *100* | | *75 - 123* |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 480-592707/1-A**
**Matrix: Water**
**Analysis Batch: 592784**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 592707**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Biphenyl | ND | | 5.0 | 0.65 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| bis (2-chloroisopropyl) ether | ND | | 5.0 | 0.52 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2,4,5-Trichlorophenol | ND | | 5.0 | 0.48 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 480-592707/1-A**
**Matrix: Water**
**Analysis Batch: 592784**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 592707**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 2,4,6-Trichlorophenol | ND | | 5.0 | 0.61 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2,4-Dichlorophenol | ND | | 5.0 | 0.51 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2,4-Dimethylphenol | ND | | 5.0 | 0.50 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2,4-Dinitrophenol | ND | | 10 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2,4-Dinitrotoluene | ND | | 5.0 | 0.45 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2,6-Dinitrotoluene | ND | | 5.0 | 0.40 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2-Chloronaphthalene | ND | | 5.0 | 0.46 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2-Chlorophenol | ND | | 5.0 | 0.53 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2-Methylphenol | ND | | 5.0 | 0.40 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2-Methylnaphthalene | ND | | 5.0 | 0.60 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2-Nitroaniline | ND | | 10 | 0.42 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 2-Nitrophenol | ND | | 5.0 | 0.48 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 3,3'-Dichlorobenzidine | ND | | 5.0 | 0.40 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 3-Nitroaniline | ND | | 10 | 0.48 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4,6-Dinitro-2-methylphenol | ND | | 10 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Bromophenyl phenyl ether | ND | | 5.0 | 0.45 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Chloro-3-methylphenol | ND | | 5.0 | 0.45 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Chloroaniline | ND | | 5.0 | 0.59 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Chlorophenyl phenyl ether | ND | | 5.0 | 0.35 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Methylphenol | ND | | 10 | 0.36 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Nitroaniline | ND | | 10 | 0.25 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| 4-Nitrophenol | ND | | 10 | 1.5 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Acenaphthene | ND | | 5.0 | 0.41 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Acenaphthylene | ND | | 5.0 | 0.38 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Acetophenone | ND | | 5.0 | 0.54 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Anthracene | ND | | 5.0 | 0.28 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Atrazine | ND | | 5.0 | 0.46 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Benzaldehyde | ND | | 5.0 | 0.27 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Benzo[a]anthracene | ND | | 5.0 | 0.36 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Benzo[a]pyrene | ND | | 5.0 | 0.47 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Benzo[b]fluoranthene | ND | | 5.0 | 0.34 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Benzo[g,h,i]perylene | ND | | 5.0 | 0.35 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Benzo[k]fluoranthene | ND | | 5.0 | 0.73 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Bis(2-chloroethoxy)methane | ND | | 5.0 | 0.35 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Bis(2-chloroethyl)ether | ND | | 5.0 | 0.40 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Bis(2-ethylhexyl) phthalate | ND | | 5.0 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Butyl benzyl phthalate | ND | | 5.0 | 1.0 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Caprolactam | ND | | 5.0 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Carbazole | ND | | 5.0 | 0.30 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Chrysene | ND | | 5.0 | 0.33 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Dibenz(a,h)anthracene | ND | | 5.0 | 0.42 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Di-n-butyl phthalate | ND | | 5.0 | 0.31 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Di-n-octyl phthalate | ND | | 5.0 | 0.47 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Dibenzofuran | ND | | 10 | 0.51 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Diethyl phthalate | ND | | 5.0 | 0.22 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Dimethyl phthalate | ND | | 5.0 | 0.36 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Fluoranthene | ND | | 5.0 | 0.40 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Fluorene | ND | | 5.0 | 0.36 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Hexachlorobenzene | ND | | 5.0 | 0.51 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 480-592707/1-A**
**Matrix: Water**
**Analysis Batch: 592784**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 592707**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | ND | | 5.0 | 0.68 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Hexachlorocyclopentadiene | ND | | 5.0 | 0.59 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Hexachloroethane | ND | | 5.0 | 0.59 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 5.0 | 0.47 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Isophorone | ND | | 5.0 | 0.43 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| N-Nitrosodi-n-propylamine | ND | | 5.0 | 0.54 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| N-Nitrosodiphenylamine | ND | | 5.0 | 0.51 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Naphthalene | ND | | 5.0 | 0.76 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Nitrobenzene | ND | | 5.0 | 0.29 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Pentachlorophenol | ND | | 10 | 2.2 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Phenanthrene | ND | | 5.0 | 0.44 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Phenol | ND | | 5.0 | 0.39 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |
| Pyrene | ND | | 5.0 | 0.34 | ug/L | | 08/12/21 16:25 | 08/13/21 14:06 | 1 |

| *Tentatively Identified Compound* | *MB Est. Result* | *MB Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Unknown* | *226* | *T J* | *ug/L* | | *3.14* | | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *Unknown* | *1.79* | *T J* | *ug/L* | | *4.25* | | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *Unknown* | *44.4* | *T J* | *ug/L* | | *5.04* | | *08/12/21 16:25* | *08/13/21 14:06* | *1* |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *68* | | *46 - 120* | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *Phenol-d5 (Surr)* | *40* | | *22 - 120* | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *p-Terphenyl-d14 (Surr)* | *93* | | *60 - 148* | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *2,4,6-Tribromophenol (Surr)* | *70* | | *41 - 120* | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *2-Fluorobiphenyl* | *84* | | *48 - 120* | *08/12/21 16:25* | *08/13/21 14:06* | *1* |
| *2-Fluorophenol (Surr)* | *56* | | *35 - 120* | *08/12/21 16:25* | *08/13/21 14:06* | *1* |

**Lab Sample ID: LCS 480-592707/2-A**
**Matrix: Water**
**Analysis Batch: 592784**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 592707**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Biphenyl | 32.0 | 28.6 | | ug/L | | 89 | 59 - 120 |
| bis (2-chloroisopropyl) ether | 32.0 | 19.7 | | ug/L | | 62 | 21 - 136 |
| 2,4,5-Trichlorophenol | 32.0 | 30.1 | | ug/L | | 94 | 65 - 126 |
| 2,4,6-Trichlorophenol | 32.0 | 29.0 | | ug/L | | 91 | 64 - 120 |
| 2,4-Dichlorophenol | 32.0 | 27.9 | | ug/L | | 87 | 63 - 120 |
| 2,4-Dimethylphenol | 32.0 | 26.4 | | ug/L | | 82 | 47 - 120 |
| 2,4-Dinitrophenol | 64.0 | 43.0 | | ug/L | | 67 | 31 - 137 |
| 2,4-Dinitrotoluene | 32.0 | 31.6 | | ug/L | | 99 | 69 - 120 |
| 2,6-Dinitrotoluene | 32.0 | 32.4 | | ug/L | | 101 | 68 - 120 |
| 2-Chloronaphthalene | 32.0 | 28.3 | | ug/L | | 88 | 58 - 120 |
| 2-Chlorophenol | 32.0 | 24.9 | | ug/L | | 78 | 48 - 120 |
| 2-Methylphenol | 32.0 | 24.3 | | ug/L | | 76 | 39 - 120 |
| 2-Methylnaphthalene | 32.0 | 26.3 | | ug/L | | 82 | 59 - 120 |
| 2-Nitroaniline | 32.0 | 28.5 | | ug/L | | 89 | 54 - 127 |
| 2-Nitrophenol | 32.0 | 27.8 | | ug/L | | 87 | 52 - 125 |
| 3,3'-Dichlorobenzidine | 64.0 | 53.8 | | ug/L | | 84 | 49 - 135 |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 480-592707/2-A**
**Matrix: Water**
**Analysis Batch: 592784**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 592707**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 3-Nitroaniline | 32.0 | 26.4 | | ug/L | | 82 | 51 - 120 |
| 4,6-Dinitro-2-methylphenol | 64.0 | 54.3 | | ug/L | | 85 | 46 - 136 |
| 4-Bromophenyl phenyl ether | 32.0 | 33.2 | | ug/L | | 104 | 65 - 120 |
| 4-Chloro-3-methylphenol | 32.0 | 29.1 | | ug/L | | 91 | 61 - 123 |
| 4-Chloroaniline | 32.0 | 25.3 | | ug/L | | 79 | 30 - 120 |
| 4-Chlorophenyl phenyl ether | 32.0 | 31.5 | | ug/L | | 99 | 62 - 120 |
| 4-Methylphenol | 32.0 | 24.0 | | ug/L | | 75 | 29 - 131 |
| 4-Nitroaniline | 32.0 | 28.9 | | ug/L | | 90 | 65 - 120 |
| 4-Nitrophenol | 64.0 | 46.6 | | ug/L | | 73 | 45 - 120 |
| Acenaphthene | 32.0 | 29.0 | | ug/L | | 91 | 60 - 120 |
| Acenaphthylene | 32.0 | 28.9 | | ug/L | | 90 | 63 - 120 |
| Acetophenone | 32.0 | 25.1 | | ug/L | | 78 | 45 - 120 |
| Anthracene | 32.0 | 29.9 | | ug/L | | 93 | 67 - 120 |
| Atrazine | 64.0 | 68.1 | | ug/L | | 106 | 71 - 130 |
| Benzaldehyde | 64.0 | 49.1 | | ug/L | | 77 | 10 - 140 |
| Benzo[a]anthracene | 32.0 | 32.6 | | ug/L | | 102 | 70 - 121 |
| Benzo[a]pyrene | 32.0 | 29.5 | | ug/L | | 92 | 60 - 123 |
| Benzo[b]fluoranthene | 32.0 | 30.8 | | ug/L | | 96 | 66 - 126 |
| Benzo[g,h,i]perylene | 32.0 | 32.8 | | ug/L | | 103 | 66 - 150 |
| Benzo[k]fluoranthene | 32.0 | 31.2 | | ug/L | | 98 | 65 - 124 |
| Bis(2-chloroethoxy)methane | 32.0 | 26.0 | | ug/L | | 81 | 50 - 128 |
| Bis(2-chloroethyl)ether | 32.0 | 23.6 | | ug/L | | 74 | 44 - 120 |
| Bis(2-ethylhexyl) phthalate | 32.0 | 32.7 | | ug/L | | 102 | 63 - 139 |
| Butyl benzyl phthalate | 32.0 | 33.0 | | ug/L | | 103 | 70 - 129 |
| Caprolactam | 64.0 | 23.0 | | ug/L | | 36 | 22 - 120 |
| Carbazole | 32.0 | 30.6 | | ug/L | | 96 | 66 - 123 |
| Chrysene | 32.0 | 31.1 | | ug/L | | 97 | 69 - 120 |
| Dibenz(a,h)anthracene | 32.0 | 33.0 | | ug/L | | 103 | 65 - 135 |
| Di-n-butyl phthalate | 32.0 | 32.0 | | ug/L | | 100 | 69 - 131 |
| Di-n-octyl phthalate | 32.0 | 32.4 | | ug/L | | 101 | 63 - 140 |
| Dibenzofuran | 32.0 | 29.0 | | ug/L | | 91 | 66 - 120 |
| Diethyl phthalate | 32.0 | 30.8 | | ug/L | | 96 | 59 - 127 |
| Dimethyl phthalate | 32.0 | 31.4 | | ug/L | | 98 | 68 - 120 |
| Fluoranthene | 32.0 | 30.6 | | ug/L | | 96 | 69 - 126 |
| Fluorene | 32.0 | 29.9 | | ug/L | | 93 | 66 - 120 |
| Hexachlorobenzene | 32.0 | 30.8 | | ug/L | | 96 | 61 - 120 |
| Hexachlorobutadiene | 32.0 | 27.3 | | ug/L | | 85 | 35 - 120 |
| Hexachlorocyclopentadiene | 32.0 | 14.5 | | ug/L | | 45 | 31 - 120 |
| Hexachloroethane | 32.0 | 22.6 | | ug/L | | 71 | 43 - 120 |
| Indeno[1,2,3-cd]pyrene | 32.0 | 32.3 | | ug/L | | 101 | 69 - 146 |
| Isophorone | 32.0 | 26.6 | | ug/L | | 83 | 55 - 120 |
| N-Nitrosodi-n-propylamine | 32.0 | 24.8 | | ug/L | | 78 | 32 - 140 |
| N-Nitrosodiphenylamine | 32.0 | 30.4 | | ug/L | | 95 | 61 - 120 |
| Naphthalene | 32.0 | 26.0 | | ug/L | | 81 | 57 - 120 |
| Nitrobenzene | 32.0 | 25.4 | | ug/L | | 79 | 53 - 123 |
| Pentachlorophenol | 64.0 | 43.7 | | ug/L | | 68 | 29 - 136 |
| Phenanthrene | 32.0 | 30.8 | | ug/L | | 96 | 68 - 120 |
| Phenol | 32.0 | 16.3 | | ug/L | | 51 | 17 - 120 |
| Pyrene | 32.0 | 31.8 | | ug/L | | 99 | 70 - 125 |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| Nitrobenzene-d5 (Surr) | 73 | | 46 - 120 |
| Phenol-d5 (Surr) | 48 | | 22 - 120 |
| p-Terphenyl-d14 (Surr) | 102 | | 60 - 148 |
| 2,4,6-Tribromophenol (Surr) | 98 | | 41 - 120 |
| 2-Fluorobiphenyl | 90 | | 48 - 120 |
| 2-Fluorophenol (Surr) | 63 | | 35 - 120 |

## Method: 8015D - Gasoline Range Organics (GRO) (GC)

**Lab Sample ID: MB 480-592143/5**
**Matrix: Water**
**Analysis Batch: 592143**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 16.4 | J | 25 | 4.2 | ug/L | | | 08/09/21 10:34 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 93 | | 72 - 125 | | 08/09/21 10:34 | 1 |

**Lab Sample ID: LCS 480-592143/6**
**Matrix: Water**
**Analysis Batch: 592143**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 200 | 161 | | ug/L | | 80 | 66 - 120 | | |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| a,a,a-Trifluorotoluene | 90 | | 72 - 125 |

**Lab Sample ID: LCSD 480-592143/7**
**Matrix: Water**
**Analysis Batch: 592143**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 200 | 166 | | ug/L | | 83 | 66 - 120 | 3 | 30 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| a,a,a-Trifluorotoluene | 91 | | 72 - 125 |

## Method: 8015D - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 480-591924/1-A**
**Matrix: Water**
**Analysis Batch: 592129**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 591924**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 0.50 | 0.31 | mg/L | | 08/05/21 15:15 | 08/09/21 10:25 | 1 |

## Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: MB 480-591924/1-A**
**Matrix: Water**
**Analysis Batch: 592129**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 591924**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| o-Terphenyl | 121 | S1+ | 51 - 120 | 08/05/21 15:15 | 08/09/21 10:25 | 1 |

**Lab Sample ID: LCS 480-591924/2-A**
**Matrix: Water**
**Analysis Batch: 592129**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 591924**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | | | 6.00 | 6.46 | | mg/L | | 108 | 57 - 120 | | |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| o-Terphenyl | 114 | | 51 - 120 |

**Lab Sample ID: LCSD 480-591924/3-A**
**Matrix: Water**
**Analysis Batch: 592129**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 591924**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | | | 6.00 | 6.78 | | mg/L | | 113 | 57 - 120 | 5 | 30 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| o-Terphenyl | 114 | | 51 - 120 |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

**Lab Sample ID: MB 480-592150/1-A**
**Matrix: Water**
**Analysis Batch: 592364**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 592150**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| PCB-1016 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1221 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1232 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1242 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1248 | ND | | 0.50 | 0.18 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1254 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1260 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1262 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| PCB-1268 | ND | | 0.50 | 0.25 | ug/L | | 08/09/21 09:09 | 08/10/21 15:03 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene | 80 | | 39 - 121 | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| Tetrachloro-m-xylene | 79 | | 39 - 121 | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| DCB Decachlorobiphenyl | 59 | | 19 - 120 | 08/09/21 09:09 | 08/10/21 15:03 | 1 |
| DCB Decachlorobiphenyl | 51 | | 19 - 120 | 08/09/21 09:09 | 08/10/21 15:03 | 1 |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

**Lab Sample ID: LCS 480-592150/2-A**
**Matrix: Water**
**Analysis Batch: 592364**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 592150**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB-1016 | | | 4.00 | 4.21 | | ug/L | | 105 | 62 - 130 | | |
| PCB-1260 | | | 4.00 | 3.80 | | ug/L | | 95 | 56 - 123 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Tetrachloro-m-xylene* | *79* | | *39 - 121* |
| *Tetrachloro-m-xylene* | *76* | | *39 - 121* |
| *DCB Decachlorobiphenyl* | *61* | | *19 - 120* |
| *DCB Decachlorobiphenyl* | *55* | | *19 - 120* |

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 200-169967/1-A**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.00 | J | 5.0 | 0.89 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 2.0 | 0.47 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 2.0 | 0.45 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | 0.24 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | 0.42 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | 0.28 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.0 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.0 | 0.34 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.0 | 0.39 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.0 | 0.43 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.0 | 0.63 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | 0.25 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | 0.30 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 2.0 | 0.23 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 2.0 | 0.31 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | 0.29 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 2.0 | 0.58 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 5.0 | 0.90 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 5.0 | 0.74 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 6:2 FTS | ND | | 5.0 | 1.1 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 8:2 FTS | ND | | 2.0 | 0.39 | ng/L | | 08/09/21 10:04 | 08/09/21 21:01 | 1 |

| *Isotope Dilution* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C8 FOSA* | *70* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |
| *13C4 PFBA* | *79* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |
| *13C5 PFPeA* | *84* | | *25 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |
| *13C2 PFHxA* | *83* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |
| *13C4 PFHpA* | *83* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |
| *13C4 PFOA* | *84* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |
| *13C5 PFNA* | *80* | | *50 - 150* | *08/09/21 10:04* | *08/09/21 21:01* | *1* |

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: MB 200-169967/1-A**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Isotope Dilution | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C2 PFDA | 84 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 13C2 PFUnA | 76 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 13C2 PFDoA | 71 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 13C2 PFTeDA | 69 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 13C3 PFBS | 85 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 18O2 PFHxS | 86 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| 13C4 PFOS | 85 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| d3-NMeFOSAA | 80 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| d5-NEtFOSAA | 69 | | 50 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| M2-6:2 FTS | 87 | | 25 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |
| M2-8:2 FTS | 88 | | 25 - 150 | 08/09/21 10:04 | 08/09/21 21:01 | 1 |

**Lab Sample ID: LCS 200-169967/2-A**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 40.0 | 45.8 | | ng/L | | 114 | 50 - 150 |
| Perfluoropentanoic acid (PFPeA) | 40.0 | 43.1 | | ng/L | | 108 | 50 - 150 |
| Perfluorohexanoic acid (PFHxA) | 40.0 | 45.0 | | ng/L | | 112 | 70 - 130 |
| Perfluoroheptanoic acid (PFHpA) | 40.0 | 42.9 | | ng/L | | 107 | 70 - 130 |
| Perfluorooctanoic acid (PFOA) | 40.0 | 43.3 | | ng/L | | 108 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | 40.0 | 44.4 | | ng/L | | 111 | 70 - 130 |
| Perfluorodecanoic acid (PFDA) | 40.0 | 39.5 | | ng/L | | 99 | 70 - 130 |
| Perfluoroundecanoic acid (PFUnA) | 40.0 | 45.8 | | ng/L | | 115 | 70 - 130 |
| Perfluorododecanoic acid (PFDoA) | 40.0 | 42.7 | | ng/L | | 107 | 70 - 130 |
| Perfluorotridecanoic acid (PFTriA) | 40.0 | 41.7 | | ng/L | | 104 | 70 - 130 |
| Perfluorotetradecanoic acid (PFTeA) | 40.0 | 39.2 | | ng/L | | 98 | 70 - 130 |
| Perfluorobutanesulfonic acid (PFBS) | 35.4 | 38.7 | | ng/L | | 109 | 70 - 130 |
| Perfluorohexanesulfonic acid (PFHxS) | 36.4 | 37.6 | | ng/L | | 103 | 70 - 130 |
| Perfluoroheptanesulfonic Acid (PFHpS) | 38.1 | 44.6 | | ng/L | | 117 | 50 - 150 |
| Perfluorodecanesulfonic acid (PFDS) | 38.6 | 38.3 | | ng/L | | 99 | 50 - 150 |
| Perfluorooctanesulfonic acid (PFOS) | 37.1 | 38.9 | | ng/L | | 105 | 70 - 130 |
| Perfluorooctanesulfonamide (FOSA) | 40.0 | 42.8 | | ng/L | | 107 | 50 - 150 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | 40.0 | 44.4 | | ng/L | | 111 | 70 - 130 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 40.0 | 49.3 | | ng/L | | 123 | 70 - 130 |
| 6:2 FTS | 37.9 | 41.6 | | ng/L | | 110 | 50 - 150 |
| 8:2 FTS | 38.3 | 44.2 | | ng/L | | 115 | 50 - 150 |

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

| Isotope Dilution | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 13C8 FOSA | 87 | | 25 - 150 |
| 13C4 PFBA | 99 | | 25 - 150 |
| 13C5 PFPeA | 108 | | 25 - 150 |
| 13C2 PFHxA | 104 | | 50 - 150 |
| 13C4 PFHpA | 104 | | 50 - 150 |
| 13C4 PFOA | 106 | | 50 - 150 |
| 13C5 PFNA | 106 | | 50 - 150 |
| 13C2 PFDA | 115 | | 50 - 150 |
| 13C2 PFUnA | 101 | | 50 - 150 |
| 13C2 PFDoA | 94 | | 50 - 150 |
| 13C2 PFTeDA | 92 | | 50 - 150 |
| 13C3 PFBS | 107 | | 50 - 150 |
| 18O2 PFHxS | 109 | | 50 - 150 |
| 13C4 PFOS | 102 | | 50 - 150 |
| d3-NMeFOSAA | 111 | | 50 - 150 |
| d5-NEtFOSAA | 91 | | 50 - 150 |
| M2-6:2 FTS | 116 | | 25 - 150 |
| M2-8:2 FTS | 125 | | 25 - 150 |

**Lab Sample ID: 480-188006-1 MS**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: MW-10**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.1 | J B | 36.5 | 44.5 | | ng/L | | 119 | 40 - 160 |
| Perfluoropentanoic acid (PFPeA) | ND | | 36.5 | 40.5 | | ng/L | | 111 | 40 - 160 |
| Perfluorohexanoic acid (PFHxA) | ND | | 36.5 | 40.2 | | ng/L | | 110 | 40 - 160 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 36.5 | 39.8 | | ng/L | | 109 | 40 - 160 |
| Perfluorooctanoic acid (PFOA) | ND | | 36.5 | 41.0 | | ng/L | | 112 | 40 - 160 |
| Perfluorononanoic acid (PFNA) | ND | | 36.5 | 41.1 | | ng/L | | 113 | 40 - 160 |
| Perfluorodecanoic acid (PFDA) | ND | | 36.5 | 39.9 | | ng/L | | 109 | 40 - 160 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 36.5 | 44.4 | | ng/L | | 122 | 40 - 160 |
| Perfluorododecanoic acid (PFDoA) | ND | | 36.5 | 38.9 | | ng/L | | 106 | 40 - 160 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 36.5 | 38.4 | | ng/L | | 105 | 40 - 160 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 36.5 | 43.9 | | ng/L | | 120 | 40 - 160 |
| Perfluorobutanesulfonic acid (PFBS) | 0.35 | J | 32.3 | 38.3 | | ng/L | | 118 | 40 - 160 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 33.2 | 35.6 | | ng/L | | 107 | 40 - 160 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 34.7 | 41.2 | | ng/L | | 119 | 40 - 160 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 35.2 | 35.1 | | ng/L | | 100 | 40 - 160 |
| Perfluorooctanesulfonic acid (PFOS) | 0.44 | J | 33.9 | 36.8 | | ng/L | | 107 | 40 - 160 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 36.5 | 43.7 | | ng/L | | 120 | 40 - 160 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 36.5 | 37.5 | | ng/L | | 103 | 40 - 160 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 36.5 | 42.0 | | ng/L | | 115 | 40 - 160 |

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: 480-188006-1 MS**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: MW-10**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| 6:2 FTS | ND | | 34.6 | 37.0 | | ng/L | | 107 | 40 - 160 |
| 8:2 FTS | ND | | 35.0 | 42.4 | | ng/L | | 121 | 40 - 160 |

| *Isotope Dilution* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *13C8 FOSA* | *101* | | *25 - 150* |
| *13C4 PFBA* | *92* | | *25 - 150* |
| *13C5 PFPeA* | *106* | | *25 - 150* |
| *13C2 PFHxA* | *104* | | *50 - 150* |
| *13C4 PFHpA* | *105* | | *50 - 150* |
| *13C4 PFOA* | *106* | | *50 - 150* |
| *13C5 PFNA* | *104* | | *50 - 150* |
| *13C2 PFDA* | *101* | | *50 - 150* |
| *13C2 PFUnA* | *96* | | *50 - 150* |
| *13C2 PFDoA* | *93* | | *50 - 150* |
| *13C2 PFTeDA* | *91* | | *50 - 150* |
| *13C3 PFBS* | *106* | | *50 - 150* |
| *18O2 PFHxS* | *110* | | *50 - 150* |
| *13C4 PFOS* | *104* | | *50 - 150* |
| *d3-NMeFOSAA* | *108* | | *50 - 150* |
| *d5-NEtFOSAA* | *92* | | *50 - 150* |
| *M2-6:2 FTS* | *117* | | *25 - 150* |
| *M2-8:2 FTS* | *103* | | *25 - 150* |

**Lab Sample ID: 480-188006-1 MSD**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: MW-10**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.1 | J B | 36.6 | 45.0 | | ng/L | | 120 | 40 - 160 | 1 | 30 |
| Perfluoropentanoic acid (PFPeA) | ND | | 36.6 | 42.2 | | ng/L | | 115 | 40 - 160 | 4 | 30 |
| Perfluorohexanoic acid (PFHxA) | ND | | 36.6 | 41.7 | | ng/L | | 114 | 40 - 160 | 4 | 20 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 36.6 | 42.1 | | ng/L | | 115 | 40 - 160 | 5 | 20 |
| Perfluorooctanoic acid (PFOA) | ND | | 36.6 | 42.1 | | ng/L | | 115 | 40 - 160 | 3 | 20 |
| Perfluorononanoic acid (PFNA) | ND | | 36.6 | 40.8 | | ng/L | | 112 | 40 - 160 | 1 | 20 |
| Perfluorodecanoic acid (PFDA) | ND | | 36.6 | 41.6 | | ng/L | | 114 | 40 - 160 | 4 | 20 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 36.6 | 41.6 | | ng/L | | 114 | 40 - 160 | 6 | 20 |
| Perfluorododecanoic acid (PFDoA) | ND | | 36.6 | 43.4 | | ng/L | | 119 | 40 - 160 | 11 | 20 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 36.6 | 41.3 | | ng/L | | 113 | 40 - 160 | 7 | 20 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 36.6 | 45.2 | | ng/L | | 124 | 40 - 160 | 3 | 20 |
| Perfluorobutanesulfonic acid (PFBS) | 0.35 | J | 32.3 | 37.2 | | ng/L | | 114 | 40 - 160 | 3 | 20 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 33.3 | 38.6 | | ng/L | | 116 | 40 - 160 | 8 | 20 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 34.8 | 40.5 | | ng/L | | 116 | 40 - 160 | 2 | 30 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 35.3 | 36.5 | | ng/L | | 104 | 40 - 160 | 4 | 30 |

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: 480-188006-1 MSD**
**Matrix: Water**
**Analysis Batch: 169997**

**Client Sample ID: MW-10**
**Prep Type: Total/NA**
**Prep Batch: 169967**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.44 | J | 34.0 | 37.6 | | ng/L | | 110 | 40 - 160 | 2 | 20 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 36.6 | 43.2 | | ng/L | | 118 | 40 - 160 | 1 | 30 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 36.6 | 45.9 | | ng/L | | 126 | 40 - 160 | 20 | 20 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 36.6 | 45.9 | | ng/L | | 126 | 40 - 160 | 9 | 20 |
| 6:2 FTS | ND | | 34.7 | 39.4 | | ng/L | | 114 | 40 - 160 | 6 | 30 |
| 8:2 FTS | ND | | 35.1 | 41.8 | | ng/L | | 119 | 40 - 160 | 2 | 30 |

| *Isotope Dilution* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *13C8 FOSA* | *103* | | *25 - 150* |
| *13C4 PFBA* | *92* | | *25 - 150* |
| *13C5 PFPeA* | *104* | | *25 - 150* |
| *13C2 PFHxA* | *104* | | *50 - 150* |
| *13C4 PFHpA* | *104* | | *50 - 150* |
| *13C4 PFOA* | *105* | | *50 - 150* |
| *13C5 PFNA* | *106* | | *50 - 150* |
| *13C2 PFDA* | *98* | | *50 - 150* |
| *13C2 PFUnA* | *97* | | *50 - 150* |
| *13C2 PFDoA* | *89* | | *50 - 150* |
| *13C2 PFTeDA* | *92* | | *50 - 150* |
| *13C3 PFBS* | *106* | | *50 - 150* |
| *18O2 PFHxS* | *107* | | *50 - 150* |
| *13C4 PFOS* | *104* | | *50 - 150* |
| *d3-NMeFOSAA* | *94* | | *50 - 150* |
| *d5-NEtFOSAA* | *91* | | *50 - 150* |
| *M2-6:2 FTS* | *116* | | *25 - 150* |
| *M2-8:2 FTS* | *102* | | *25 - 150* |

# QC Association Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## GC/MS VOA

### Analysis Batch: 592317

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 | SHEEN-080421 | Total/NA | Water | 8260C | |
| MB 480-592317/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-592317/5 | Lab Control Sample | Total/NA | Water | 8260C | |

### Analysis Batch: 592370

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-8 | TB-080421 | Total/NA | Water | 8260C | |
| MB 480-592370/8 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-592370/6 | Lab Control Sample | Total/NA | Water | 8260C | |

## GC/MS Semi VOA

### Prep Batch: 592707

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 - RE | SHEEN-080421 | Total/NA | Water | 3510C | |
| MB 480-592707/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-592707/2-A | Lab Control Sample | Total/NA | Water | 3510C | |

### Analysis Batch: 592784

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 - RE | SHEEN-080421 | Total/NA | Water | 8270D | 592707 |
| MB 480-592707/1-A | Method Blank | Total/NA | Water | 8270D | 592707 |
| LCS 480-592707/2-A | Lab Control Sample | Total/NA | Water | 8270D | 592707 |

## GC VOA

### Analysis Batch: 592143

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 | SHEEN-080421 | Total/NA | Water | 8015D | |
| MB 480-592143/5 | Method Blank | Total/NA | Water | 8015D | |
| LCS 480-592143/6 | Lab Control Sample | Total/NA | Water | 8015D | |
| LCSD 480-592143/7 | Lab Control Sample Dup | Total/NA | Water | 8015D | |

## GC Semi VOA

### Prep Batch: 591924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 | SHEEN-080421 | Total/NA | Water | 3510C | |
| MB 480-591924/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-591924/2-A | Lab Control Sample | Total/NA | Water | 3510C | |
| LCSD 480-591924/3-A | Lab Control Sample Dup | Total/NA | Water | 3510C | |

### Analysis Batch: 592129

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 | SHEEN-080421 | Total/NA | Water | 8015D | 591924 |
| MB 480-591924/1-A | Method Blank | Total/NA | Water | 8015D | 591924 |
| LCS 480-591924/2-A | Lab Control Sample | Total/NA | Water | 8015D | 591924 |
| LCSD 480-591924/3-A | Lab Control Sample Dup | Total/NA | Water | 8015D | 591924 |

### Prep Batch: 592150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 | SHEEN-080421 | Total/NA | Water | 3510C | |

## GC Semi VOA (Continued)

### Prep Batch: 592150 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 480-592150/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-592150/2-A | Lab Control Sample | Total/NA | Water | 3510C | |

### Analysis Batch: 592364

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-7 | SHEEN-080421 | Total/NA | Water | 8082A | 592150 |
| MB 480-592150/1-A | Method Blank | Total/NA | Water | 8082A | 592150 |
| LCS 480-592150/2-A | Lab Control Sample | Total/NA | Water | 8082A | 592150 |

## LCMS

### Prep Batch: 169967

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-1 | MW-10 | Total/NA | Water | 3535 | |
| 480-188006-2 | MW-10S | Total/NA | Water | 3535 | |
| 480-188006-3 | MW-7 | Total/NA | Water | 3535 | |
| 480-188006-4 | FB-080421 | Total/NA | Water | 3535 | |
| 480-188006-5 | EB-080421 | Total/NA | Water | 3535 | |
| 480-188006-6 | DUP-080421 | Total/NA | Water | 3535 | |
| MB 200-169967/1-A | Method Blank | Total/NA | Water | 3535 | |
| LCS 200-169967/2-A | Lab Control Sample | Total/NA | Water | 3535 | |
| 480-188006-1 MS | MW-10 | Total/NA | Water | 3535 | |
| 480-188006-1 MSD | MW-10 | Total/NA | Water | 3535 | |

### Analysis Batch: 169997

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-188006-1 | MW-10 | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-2 | MW-10S | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-3 | MW-7 | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-4 | FB-080421 | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-5 | EB-080421 | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-6 | DUP-080421 | Total/NA | Water | 537 (modified) | 169967 |
| MB 200-169967/1-A | Method Blank | Total/NA | Water | 537 (modified) | 169967 |
| LCS 200-169967/2-A | Lab Control Sample | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-1 MS | MW-10 | Total/NA | Water | 537 (modified) | 169967 |
| 480-188006-1 MSD | MW-10 | Total/NA | Water | 537 (modified) | 169967 |

# Lab Chronicle

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Client Sample ID: MW-10
**Date Collected: 08/04/21 11:10**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-1
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 3535 | | | 169967 | 08/09/21 10:04 | CM | TAL BUR |
| Total/NA | Analysis | 537 (modified) | | 1 | 169997 | 08/09/21 21:51 | ND | TAL BUR |

## Client Sample ID: MW-10S
**Date Collected: 08/04/21 12:03**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-2
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 3535 | | | 169967 | 08/09/21 10:04 | CM | TAL BUR |
| Total/NA | Analysis | 537 (modified) | | 1 | 169997 | 08/09/21 22:16 | ND | TAL BUR |

## Client Sample ID: MW-7
**Date Collected: 08/04/21 13:23**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-3
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 3535 | | | 169967 | 08/09/21 10:04 | CM | TAL BUR |
| Total/NA | Analysis | 537 (modified) | | 1 | 169997 | 08/09/21 22:24 | ND | TAL BUR |

## Client Sample ID: FB-080421
**Date Collected: 08/04/21 13:40**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-4
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 3535 | | | 169967 | 08/09/21 10:04 | CM | TAL BUR |
| Total/NA | Analysis | 537 (modified) | | 1 | 169997 | 08/09/21 22:32 | ND | TAL BUR |

## Client Sample ID: EB-080421
**Date Collected: 08/04/21 13:46**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-5
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 3535 | | | 169967 | 08/09/21 10:04 | CM | TAL BUR |
| Total/NA | Analysis | 537 (modified) | | 1 | 169997 | 08/09/21 22:41 | ND | TAL BUR |

## Client Sample ID: DUP-080421
**Date Collected: 08/04/21 00:00**
**Date Received: 08/05/21 10:00**

## Lab Sample ID: 480-188006-6
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 3535 | | | 169967 | 08/09/21 10:04 | CM | TAL BUR |
| Total/NA | Analysis | 537 (modified) | | 1 | 169997 | 08/09/21 22:49 | ND | TAL BUR |

# Lab Chronicle

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Client Sample ID: SHEEN-080421

**Lab Sample ID: 480-188006-7**

**Date Collected: 08/04/21 14:20**

**Matrix: Water**

**Date Received: 08/05/21 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 592317 | 08/10/21 14:08 | ATG | TAL BUF |
| Total/NA | Prep | 3510C | RE | | 592707 | 08/12/21 16:25 | CMC | TAL BUF |
| Total/NA | Analysis | 8270D | RE | 5 | 592784 | 08/13/21 22:13 | RJS | TAL BUF |
| Total/NA | Analysis | 8015D | | 1 | 592143 | 08/09/21 13:35 | JLS | TAL BUF |
| Total/NA | Prep | 3510C | | | 591924 | 08/05/21 15:15 | CMC | TAL BUF |
| Total/NA | Analysis | 8015D | | 1 | 592129 | 08/09/21 08:01 | MAN | TAL BUF |
| Total/NA | Prep | 3510C | | | 592150 | 08/09/21 09:09 | JMP | TAL BUF |
| Total/NA | Analysis | 8082A | | 1 | 592364 | 08/10/21 18:53 | W1T | TAL BUF |

## Client Sample ID: TB-080421

**Lab Sample ID: 480-188006-8**

**Date Collected: 08/04/21 00:00**

**Matrix: Water**

**Date Received: 08/05/21 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 592370 | 08/11/21 02:53 | CRL | TAL BUF |

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

# Accreditation/Certification Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

## Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10026 | 04-01-22 |

## Laboratory: Eurofins TestAmerica, Burlington

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10391 | 04-01-22 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| 537 (modified) | 3535 | Water | 6:2 FTS |
| 537 (modified) | 3535 | Water | 8:2 FTS |
| 537 (modified) | 3535 | Water | N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) |
| 537 (modified) | 3535 | Water | N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) |
| 537 (modified) | 3535 | Water | Perfluorobutanesulfonic acid (PFBS) |
| 537 (modified) | 3535 | Water | Perfluorobutanoic acid (PFBA) |
| 537 (modified) | 3535 | Water | Perfluorodecanesulfonic acid (PFDS) |
| 537 (modified) | 3535 | Water | Perfluorodecanoic acid (PFDA) |
| 537 (modified) | 3535 | Water | Perfluorododecanoic acid (PFDoA) |
| 537 (modified) | 3535 | Water | Perfluoroheptanesulfonic Acid (PFHpS) |
| 537 (modified) | 3535 | Water | Perfluoroheptanoic acid (PFHpA) |
| 537 (modified) | 3535 | Water | Perfluorohexanesulfonic acid (PFHxS) |
| 537 (modified) | 3535 | Water | Perfluorohexanoic acid (PFHxA) |
| 537 (modified) | 3535 | Water | Perfluorononanoic acid (PFNA) |
| 537 (modified) | 3535 | Water | Perfluorooctanesulfonamide (FOSA) |
| 537 (modified) | 3535 | Water | Perfluorooctanesulfonic acid (PFOS) |
| 537 (modified) | 3535 | Water | Perfluorooctanoic acid (PFOA) |
| 537 (modified) | 3535 | Water | Perfluoropentanoic acid (PFPeA) |
| 537 (modified) | 3535 | Water | Perfluorotetradecanoic acid (PFTeA) |
| 537 (modified) | 3535 | Water | Perfluorotridecanoic acid (PFTriA) |
| 537 (modified) | 3535 | Water | Perfluoroundecanoic acid (PFUnA) |

# Method Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| 8270D | Semivolatile Organic Compounds (GC/MS) | SW846 | TAL BUF |
| 8015D | Gasoline Range Organics (GRO) (GC) | SW846 | TAL BUF |
| 8015D | Diesel Range Organics (DRO) (GC) | SW846 | TAL BUF |
| 8082A | Polychlorinated Biphenyls (PCBs) by Gas Chromatography | SW846 | TAL BUF |
| 537 (modified) | Fluorinated Alkyl Substances | EPA | TAL BUR |
| 3510C | Liquid-Liquid Extraction (Separatory Funnel) | SW846 | TAL BUF |
| 3535 | Solid-Phase Extraction (SPE) | SW846 | TAL BUR |
| 5030C | Purge and Trap | SW846 | TAL BUF |

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

# Sample Summary

Client: New York State D.E.C.
Project/Site: SMP C - Napanoch

Job ID: 480-188006-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 480-188006-1 | MW-10 | Water | 08/04/21 11:10 | 08/05/21 10:00 |
| 480-188006-2 | MW-10S | Water | 08/04/21 12:03 | 08/05/21 10:00 |
| 480-188006-3 | MW-7 | Water | 08/04/21 13:23 | 08/05/21 10:00 |
| 480-188006-4 | FB-080421 | Water | 08/04/21 13:40 | 08/05/21 10:00 |
| 480-188006-5 | EB-080421 | Water | 08/04/21 13:46 | 08/05/21 10:00 |
| 480-188006-6 | DUP-080421 | Water | 08/04/21 00:00 | 08/05/21 10:00 |
| 480-188006-7 | SHEEN-080421 | Water | 08/04/21 14:20 | 08/05/21 10:00 |
| 480-188006-8 | TB-080421 | Water | 08/04/21 00:00 | 08/05/21 10:00 |

**Eurofins TestAmerica, Buffalo**
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

# Chain of Custody Record

eurofins | Environment Testing America

| Client Information | Sampler: Noah Robinson | Lab PM: Stone, Judy L | Carrier Tracking No(s): | COC No: 480-163373-35903.1 |
|---|---|---|---|---|
| Client Contact: Liane DeSantis | Phone: 315-395-7683 | E-Mail: Judy.Stone@Eurofinset.com | State of Origin: NY | Page: Page 1 of 1 |
| Company: EA Engineering, Science, and Technology | PWSID: | | | Job #: 160523/0015 |
| Address: 269 West Jefferson St. Suite 104 | Due Date Requested: | | | |
| City: Syracuse | TAT Requested (days): Standard | | | |
| State, Zip: NY, 13202 | Compliance Project: Δ Yes Δ No | | | |
| Phone: 518-402-9662(Tel) | PO #: CallOut SMPC0001 | | | |
| Email: ldesantis@eaest.com | WO #: | | | |
| Project Name: SMP C - Napanoch | Project #: 48024061 | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | MS/MSD (Yes or No) | 8015D_DRO - DRO | 8082A - TCL PCBs | 8270D - TCL SVOAs | 8015D_GRO - GRO | 8260C - TCL VOAs | PFC_IDA - PFAS, Standard List (21 Analytes) | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | N | N | N | A | A | N | | |
| MW-10 | 8/4/21 | 1110 | G | Water | N | Y | | | | | | X | 6 | MS/MSD |
| MW-105 | 8/4/21 | 1203 | G | Water | N | N | | | | | | X | 2 | |
| MW-7 | 8/4/21 | 1323 | G | Water | N | N | | | | | | X | | |
| FB-080421 | 8/4/21 | 1340 | G | Water | N | N | | | | | | X | | |
| EB-080421 | 8/4/21 | 1346 | G | Water | N | N | | | | | | X | | |
| DUP-080421 | 8/4/21 | | G | Water | N | N | | | | | | X | | |
| Sheen-080421 | 8/4/21 | 1420 | G | Water | N | N | X | X | X | X | X | | | |
| TB-072821 | 7/28/21 | | G | Water | N | N | | | | | X | | 1 | Lab prepared Trip Blank |
| | | | | Water | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

480-188006 Chain of Custody

**Preservation Codes:**

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

Other:

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

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

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

Special Instructions/QC Requirements:

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

| | Date/Time | Company | Received by | Date/Time | Company |
|---|---|---|---|---|---|
| Relinquished by: Noah Robinson | 08/04/21 1745 | | C Wallace | 8/5/21 1000 | TAB |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: #1 3.0

Ver: 06/08/2021

**Eurofins TestAmerica, Buffalo**
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

# Chain of Custody Record

480-188006 Chain of Custody

rofins | Environment Testing America

| | | | |
|---|---|---|---|
| **Client Information (Sub Contract Lab)** | Sampler: | Lab PM: Stone, Judy L | o: 5621.1 |
| Client Contact: Shipping/Receiving | Phone: | E-Mail: Judy.Stone@Eurofinset.com | State of Origin: New York |
| | | | Page 1 of 1 |
| Company: TestAmerica Laboratories, Inc. | | Accreditations Required (See note): NELAP - New York | Job #: 480-188006-1 |
| Address: 530 Community Drive, Suite 11, | Due Date Requested: 8/18/2021 | | |
| City: South Burlington | TAT Requested (days): | | |
| State, Zip: VT, 05403 | | | |
| Phone: 802-660-1990(Tel) 802-660-1919(Fax) | PO #: | | |
| Email: | WO #: | | |
| Project Name: Site Management Portfolio C | Project #: 48024061 | | |
| Site: | SSOW#: | | |

**Analysis Requested**

**Preservation Codes:**

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

Other:

| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | PFC_IDA/3535_IVWT PFAS, Standard List (21 Analytes) | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | | | |
| MW-10 (480-188006-1) | 8/4/21 | 11:10 Eastern | | Water | | | X | 2 | |
| MW-10 (480-188006-1MS) | 8/4/21 | 11:10 Eastern | MS | Water | | | X | 2 | |
| MW-10 (480-188006-1MSD) | 8/4/21 | 11:10 Eastern | MSD | Water | | | X | 2 | |
| MW-10S (480-188006-2) | 8/4/21 | 12:03 Eastern | | Water | | | X | 2 | |
| MW-7 (480-188006-3) | 8/4/21 | 13:23 Eastern | | Water | | | X | 2 | |
| FB-080421 (480-188006-4) | 8/4/21 | 13:40 Eastern | | Water | | | X | 2 | |
| EB-080421 (480-188006-5) | 8/4/21 | 13:46 Eastern | | Water | | | X | 2 | |
| DUP-080421 (480-188006-6) | 8/4/21 | Eastern | | Water | | | X | 2 | |
| | | | | | | | | | |

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

| | |
|---|---|
| ***Possible Hazard Identification*** *Unconfirmed* | ***Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months* |
| Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 | Special Instructions/QC Requirements: |

| | | | | | | |
|---|---|---|---|---|---|---|
| Empty Kit Relinquished by: | | Date: | Time: | Method of Shipment: | | |
| Relinquished by: | Date/Time: 8/5/21 1746 | Company TA | Received by: Taylor J Whitbeck | Date/Time: 8/6/21 1040 | Company ETALGW | |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company | |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company | |

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

Ver: 06/08/2021

eurofins | Environment Testing TestAmerica

ORIGIN ID:DKKA (716) 691-2600
SAMPLE RECEIPT
EUROFINS TESTAMERICA BUFFALO
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 05AUG21
ACTWGT: 23.70 LB
CAD: 846654/CAFE3409
DIMS: 22x14x11 IN

BILL SENDER

TO SAMPLE MGT.
TA BURLINGTON
530 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1026
REF: TA BURLINGTON

FedEx Express

1 of 2
TRK# 0201 1888 3864 7240
## MASTER ##

FRI - 06 AUG 10:30A
PRIORITY OVERNIGHT

NL BTVA

05403
VT-US BTV

RT 916
FZ 915
1
10:30 A
7240
08.06

eurofins | Environment Testing TestAmerica

ORIGIN ID:DKKA (716) 691-2600
SAMPLE RECEIPT
EUROFINS TESTAMERICA BUFFALO
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 05AUG21
ACTWGT: 47.30 LB
CAD: 846654/CAFE3409
DIMS: 26x15x14 IN

BILL SENDER

TO SAMPLE MGT.
TA BURLINGTON
530 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1026
REF: TA BURLINGTON

FedEx Express

2 of 2
MPS# 0269 1888 3864 7251
Mstr# 1888 3864 7240
0201

FRI - 06 AUG 10:30A
PRIORITY OVERNIGHT

NL BTVA

05403
VT-US BTV

# Login Sample Receipt Checklist

Client: New York State D.E.C. Job Number: 480-188006-1

**Login Number: 188006** **List Source: Eurofins TestAmerica, Buffalo**
**List Number: 1**
**Creator: Yeager, Brian A**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs).. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | EA |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | N/A | |

# Login Sample Receipt Checklist

Client: New York State D.E.C. Job Number: 480-188006-1

**Login Number: 188006**
**List Number: 2**
**Creator: Sofio, Michael G**

**List Source: Eurofins TestAmerica, Burlington**
**List Creation: 08/06/21 11:57 AM**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | Lab does not accept radioactive samples. |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | 1513435,1513434 |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 2.1ºC,1.1ºC |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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