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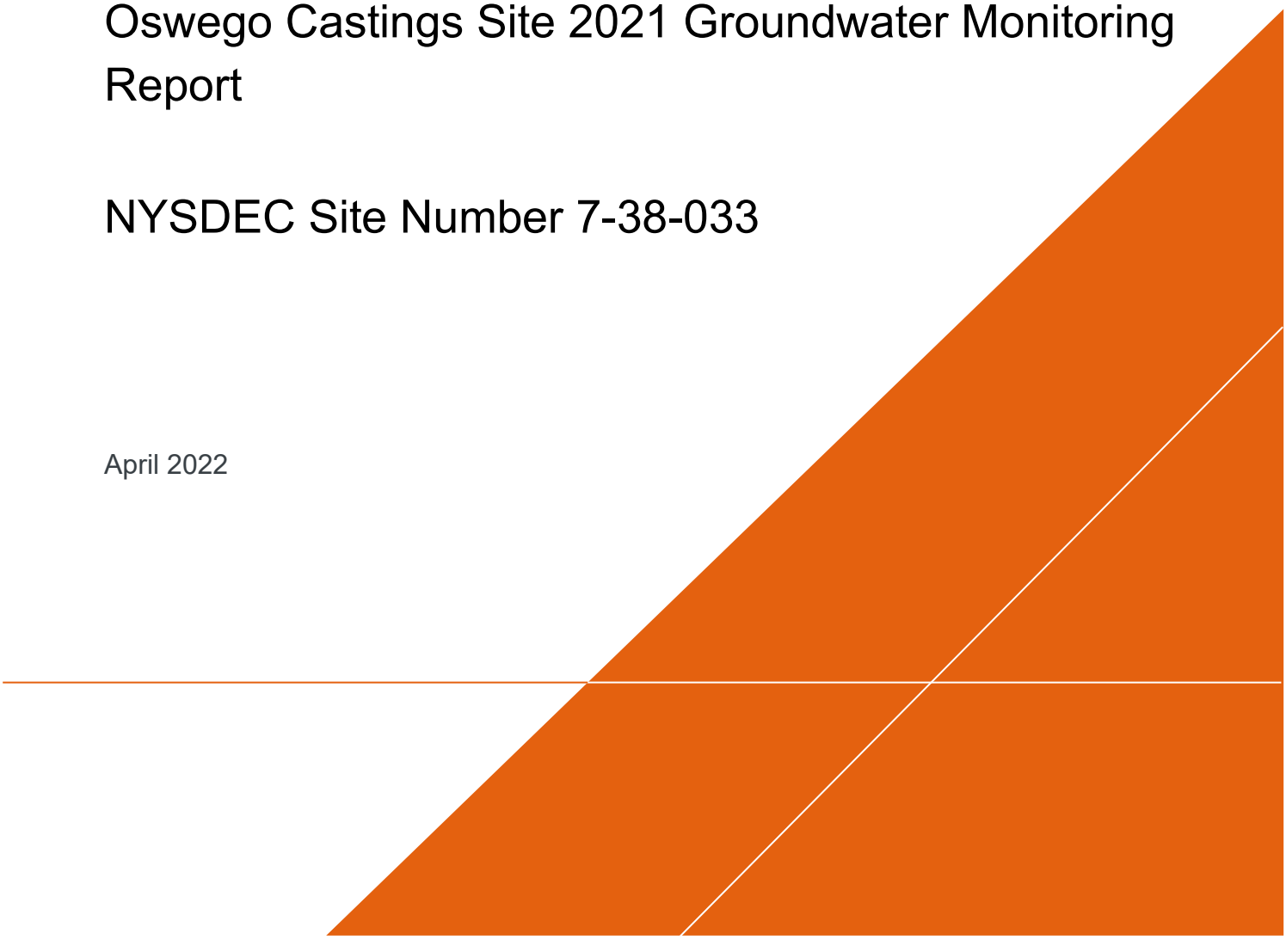
New York State Department of Environmental Conservation

Oswego Castings Site 2021 Groundwater Monitoring Report

NYSDEC Site Number 7-38-033

April 2022



OSWEGO CASTINGS SITE 2021 GROUNDWATER MONITORING REPORT

NYSDEC Site Number 7-38-033

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April 2022

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ACRONYMS AND ABBREVIATIONS

amsl	Above Mean Sea Level
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
ft	feet
ug/L	Micrograms per liter
ng/L	Nanograms per liter
NYSDEC	New York State Department of Environmental Conservation
OM&M	Operation Maintenance and Monitoring
ORP	Oxidation-Reduction Potential
OU	Operational Unit
PCBs	Poly-chlorinated Biphenyls
PFAS	Perfluorinated Alkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
QA	quality assurance
QC	quality control
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SIM	selective ion monitoring
USEPA	United States Environmental Protection Agency
Vali-Data	Vali-Data of Western New York, LLC

1 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (# D009804-12) to Arcadis of New York, Inc. (Arcadis), for Operation, Maintenance, and Monitoring (OM&M) at the Oswego Castings Site (NYSDEC site number 7-38-033) in Oswego, Oswego County, New York. This report has been prepared to summarize the 2021 OM&M activities.

2 SITE DESCRIPTION AND BACKGROUND

2.1 Description

The Oswego Castings site is located at 375 Mitchell Street, Oswego, Oswego County, New York (Figure 1). The site is approximately 10 acres and contains three former manufacturing buildings. A former cooling water pond is located west of the buildings. The site is currently zoned industrial and was most-recently the location of a sawmill operation. The site is listed as a Class 04 site on the NYSDEC Registry of Inactive Hazardous Waste Sites.

2.2 Background

The site was formerly owned by B and K Metals Inc. (B&K Metals). Oswego Castings Inc., a subsidiary of Oberdorfer Foundries, Inc. operated an aluminum die casting facility on the site from 1956 to 1986. Polychlorinated biphenyls (PCBs) were detected on the site in core sands, foundry waste, and wastewater discharged to a process line/septic tank discharge line. The expected sources of the PCBs include leaks in hydraulic equipment and binders or coatings applied to core sand surfaces. In July 1993 B&K Metals entered into an Order on Consent with the NYSDEC for a Remedial Investigation/Feasibility Study (RI/FS). The RI/FS was conducted between July 1993 and February 1997. A Record of Decision (ROD) was issued for Operational Unit (OU)-1 in 1997. The OU-1 ROD required excavation of approximately 4,100 cubic yards of soil, sediment, and foundry sand. In addition, the ROD called for removal of the septic tank and placement of crushed stone over the existing on-site landfill. A ROD for OU-2 was issued in 2000, requiring construction of a concrete pad over the yard area and floor of the sawmill (Figure 2).

In May 2010 the stone buffer for the landfill was re-graded and landscape fabric and new stone were applied to the landfill cap. In April 2010, groundwater monitoring well MW-2 was replaced and three new monitoring wells were installed (MW-5, MW-6, and MW-7).

An Environmental Notice (EN) was placed on the site in November 2011. The purpose of the EN was to limit the use of the site to industrial and/or commercial use; prevent owners from tampering with the remedial action; prevent use of on-site groundwater; and grant access to the NYSDEC and its agents for purposes of maintaining the remedy.

OM&M activities are completed in accordance with a NYSDEC-approved Site Management Plan (SMP) that was last updated in 2016 (Arcadis 2016).

3 OPERATION AND MAINTENANCE

O&M activities were performed on October 7 and October 8, 2021 in accordance with the SMP by Arcadis and included inspection of the respective landfill and yard area protective covers and pond area (Figure 2). An O&M Checklist (Appendix A) was used to document the findings of the inspection. A photographic log of the site is provided in Appendix B. NYSDEC Daily Inspection Reports completed for each site visit are provided in Appendix C. A discussion of the findings is provided in the following sections.

3.1 Landfill Cover

A visual inspection of the landfill cover was performed to assess the landfill for erosion, settlement, ponded water, burrowing rodents, and brush or woody vegetation. As shown in the O&M Checklist (Appendix A) and photographic log (Appendix B), brush and ponded water are present throughout the landfill cover system. In addition, wood chips, aggregate, debris, construction materials, and fill are stockpiled throughout the site. As indicated in Appendix B, tree cutting stockpiles are encroaching on the landfill area.

3.2 Concrete Cover

A visual inspection of the concrete cover was performed. As shown in Appendix A, the concrete cover had minor cracks and ponded water, but did not exhibit visual evidence of settlement or other damage. As shown in Appendix A and Appendix B, debris (primarily wood chips and equipment) were present on the concrete cover.

3.3 Pond Area

A visual inspection of the pond area was performed to inspect the banks of the pond for erosion or areas of sparse vegetation. A full inspection of the pond area was unable to be completed as tree cutting stockpiles were present adjacent to, and on a portion of, the pond area.

3.4 General Site Conditions

3.4.1 Buildings and Grounds

As shown in Appendix B, the buildings at the site are generally not secured. Based on visual observation of the of the interior of the buildings from the exterior, metal components are located in two of the site buildings. Trucks and equipment are also being stored on the concrete cover and within one of the buildings. Plastic drums were also identified in a closed yard between two of the site buildings. A fallen tree has partially damaged the site boundary fence in the southeast section of the property. The perimeter fence is partially down and area approximately 30 to 40 feet from MW-6.

4 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring wells were sampled on October 7 and October 8, 2021 by Arcadis in accordance with the existing SMP (Arcadis 2016). Groundwater monitoring well locations are shown on Figure 3.

4.1 Groundwater Monitoring Well Inspection

The integrity of each well was inspected, and the results recorded on a groundwater monitoring well inspection form (Appendix D). As indicated on the inspection forms and in the photographs, MW-5 has a loose section of surface cement. The remaining monitoring wells are in acceptable condition and no significant problems were reported.

4.2 Water Level Survey

Prior to collecting groundwater samples, water levels were measured to the nearest hundredth of a foot in all wells. A summary of these data is presented on Table 1.

As shown in Appendix D, dense non-aqueous phase liquid (DNAPL) was not observed during the October 2021 sampling event, but sheen was observed at the air/water interface at monitoring well MW-1. The last detection of DNAPL in monitoring well MW-1 was during the 2017 groundwater sampling event (Arcadis 2018). During the 2017 event, DNAPL was identified on the tip of the water level probe after it was removed from the well. None of the other monitoring wells contained evidence of DNAPL.

Table 1 summarizes the groundwater elevation data. A potentiometric surface map is provided on Figure 4. As shown in Table 1, groundwater elevations ranged from 297.70 feet (ft) above mean sea level (amsl) at MW-5 to 318.32 ft amsl at MW-6. The average groundwater elevation across the site is approximately four feet higher than the March 13, 2019 sampling event. However, as shown in Table 1, the October 2021 elevations are comparable to the historic seasonal elevation data. As shown on Figure 4, the direction of groundwater flow is generally toward the northwest which is consistent with the previous sampling event.

4.3 Groundwater Sampling

Groundwater samples were collected from seven groundwater monitoring wells (MW-1, MW-2R, MW-3, MW-4, MW-5, MW-6, and MW-7) on October 7 and October 8, 2021 using low-flow groundwater purging and sampling procedures.

Prior to collecting groundwater samples, pH, conductivity, turbidity, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP) were measured using a Horiba U-52 water quality meter and recorded on groundwater sampling purge logs. On October 7, 2021, duplicate sample MW-X-DUP was collected from monitoring well MW-2R. Groundwater sampling purge logs are presented in Appendix E.

Groundwater samples were collected and submitted to Eurofins Spectrum Analytical by chain-of-custody procedures and analyzed for perfluorinated alkyl substances (PFAS) by United States Environmental Protection Agency (USEPA) Method 537 Modified, 1,4-Dioxane by USEPA Method 8270D selective ion

monitoring (SIM), and PCBs by USEPA Method 8082A. The laboratory analytical data are provided in Appendix F.

4.4 Groundwater Sampling Results

4.4.1 PCBs

As shown in Table 2, groundwater samples collected from MW-1, MW-4, MW-5, and MW-6 contained PCBs at concentrations greater than the corresponding NYSDEC Class GA Standard of 0.09 micrograms per liter (µg/L). PCB Aroclor-1248 was detected at 74 µg/L during the October 2021 sampling event at monitoring well MW-1. PCB Aroclor-1248 was detected at 2.3 µg/L and 11 µg/L at monitoring wells MW-4 and MW-5, respectively. These results are generally higher than historical results for monitoring wells MW-4 and MW-5. PCB Aroclor-1248 was detected at a concentration of 0.53 µg/L on October 8, 2021 at monitoring well MW-6. As shown in Table 2, PCBs were not detected at concentrations greater than the indicated quantitation limits during the October 2021 sampling event at monitoring wells MW-2R, MW-3, and MW-7.

4.4.2 Emerging Contaminants

As shown in Table 3, twenty-one PFAS compounds were analyzed by Eurofins TestAmerica via USEPA Method 537 Modified in October 2021. Groundwater samples were previously analyzed for six PFAS compounds in October 2017.

One or more PFAS compound was detected at concentrations greater than the reporting limit at monitoring wells MW-1, MW-2R, MW-3, MW-4, MW-5, and MW-7. Perfluorooctanoic acid (PFOA) was detected at concentrations that exceeded the NYSDEC Class GA Standard of 10 nanograms per liter (ng/L) at the samples collected from monitoring well MW-2R and its duplicate sample at a concentration of 15 ng/L and 14 ng/L respectively. No other PFAS compounds exceeded the NYSDEC Class GA Standards or USEPA Lifetime Health Advisory limits during the October 2021 sampling event.

Table 4-3 shows that 1,4 dioxane was not detected in any of the groundwater samples at the indicated quantitation limit.

4.4.3 Data Validation

A Data Usability Summary Report (DUSR), included as Appendix G, was completed in accordance with NYSDEC DER 10/Technical Guidance for Site Investigation and Remediation (NYSDEC 2010). The project analytical data were validated by Vali-Data of Western New York, LLC (Vali-Data) of Fulton, New York. Vali-Data reviewed the usability of the analytical data, including determining if the data were accurate, precise, representative, complete, and comparable. Valid data are data for which all quality assurance (QA)/quality control (QC) review criteria have been met and are acceptable.

1,4-Dioxane data were characterized as usable while the PCB data were acceptable for use except for the matrix spike, matrix spike duplicate, and initial calibration as they were diluted due to high target analyte concentrations. Some surrogate QC limits were marginally outside acceptable limits such that the data may be questionable but still usable within limitations. Data qualifiers resulting from the data quality

review are included in Table 3. In addition, the PFAS data were acceptable for use except for surrogate recoveries and blanks as they were outside QC limits or should be characterized as estimated high.

In summary, all sample results are usable as reported with minor qualifications. The field and trip blanks showed no contamination. The specific details of the data validation can be found in the DUSR in Appendix G.

5 SUMMARY AND RECOMMENDATIONS

5.1 Summary

O&M activities were conducted on October 7 and 8, 2021. The landfill and yard area protective covers are operating as intended however brush and ponded water were observed. Although wood and/or other debris is present on each of the protective cover areas, it is not impacting the performance of the cover systems. Minor cracks are visible in the concrete cover; however, they do not appear to be impacting the integrity of the protective cover. The site is currently being used as storage for trucks, equipment, and stockpiles.

Monitoring wells were inspected and remain in usable condition. Monitoring well MW-1 showed evidence of DNAPL during the 2017 water level survey, but DNAPL was not observed during the October 2021 groundwater sampling event. Based on groundwater level data, the direction of groundwater flow is generally toward the northwest which is consistent with the previous sampling event. The samples collected from groundwater monitoring wells MW-1, MW-4, MW-5, and MW-6 contained PCBs at concentrations greater than the respective NYSDEC Class GA Standard. Monitoring wells MW-2R, MW-3, and MW-7 did not contain detectable concentrations of PCBs.

Groundwater samples contained concentrations of PFAS greater than the reporting limit and exceeded NYSDEC Class GA Standards at monitoring wells MW-1 and MW-2.

5.2 Recommendations

The site is currently being sampled every five quarters in accordance with the SMP. However, based on the concentrations of PCBs in groundwater detected during this sampling event, it is recommended that groundwater monitoring frequency be increased to semi-annual to evaluate trends in the PCB concentrations. In addition, a groundwater investigation upgradient of monitoring wells MW-1 and MW-6 should be conducted to evaluate the potential source of PCBs and extent of contamination. The groundwater investigation would include a desktop search of historic environmental sites and monitoring wells within a one-mile radius of the site, and installation and development of additional wells both off-site and on-site. Groundwater samples would be collected from new wells and existing site wells to determine vertical and horizontal extent of PCB contamination.

6 REFERENCES

Arcadis 2016, Oswego Castings Site Management Plan, NYSDEC Site Number 7-38-033, February 2016.

Arcadis 2017, Oswego Castings Site 2016 Annual Groundwater Monitoring Report, NYSDEC Site Number 7-38-033, February 2017.

Arcadis 2018, Oswego Castings Site 2016 Annual Groundwater Monitoring Report, NYSDEC Site Number 7-38-033, April 2018.

NYSDEC 2010, NYSDEC DER-10/Technical Guidance for Site Investigation and Remediation, May 2010.

FIGURES

ARCADIS

Figure 1
Site Location
Oswego Castings Site
Oswego, New York
NYSDEC Site 7-38-033

0 2,000 ft

Source: USGS 7.5-minute Series Topographic Quadrangle, Oswego East

0 150 300 600 900 1,200 Feet

N

Legend

- Monitoring Well
- Approximate Site Boundary
- OU-1
- OU-2
- IRM Area (1997 ROD)
- IRM Area (2000 ROD)

Note: Remedial area boundaries are approximate.

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

SITE MAP

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FIGURE 2

G:\GIS\MXD\00266404.0000\SITEMAP.mxd
G:\PROJECT\00266404.0000\PRR\Figure 2-2 - Site Map.pdf

0 100 200 400 600 800 Feet

N

Legend

- Monitoring Well

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

MONITORING WELL LOCATIONS

ARCADIS

FIGURE
3

G:\GIS\MOD\00266404.0000\WELLS.mxd
G:\PROJECT\00266404.0000\Reports\Figure 4-1 Wells.pdf

MW-7
301.83

MW-5
297.70

298

300

302

304

306

308

310

312

314

316

318

MW-3
308.51

MW-4
308.94

MW-6
318.32

MW-2R
310.67

MW-1
310.39

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Approximate Site Boundary
- Monitoring Well
- Potentiometric Contour (Feet Above Mean Sea Level)
- 297.70 Groundwater Elevation (Feet Above Mean Sea Level)

0 75 150 300 450 600 Feet

N

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

POTENTIOMETRIC MAP
OCTOBER 2021

ARCADIS

FIGURE
4

Document Path: T:_ENV\NYSDEC\Oswego Castings\POTMAP_Oct2021.mxd

TABLES

Table 1
Groundwater Elevation Data
Oswego Castings Site
NYSDEC Site Number 738033

Date		9/25/2012		10/17/2013		4/23/2015		9/13/2016	
Well	Measuring Point Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL
MW-1	313.29	10.85	302.44	5.37	307.92	2.82	310.47	9.65	303.64
MW-2R	313.11	6.67	306.44	3.13	309.98	2.42	310.69	6.32	306.79
MW-3	311.72	10.61	301.11	6.45	305.27	2.43	309.29	9.69	302.03
MW-4	312.45	4.46	307.99	3.80	308.65	3.04	309.41	5.11	307.34
MW-5	312.70	14.91	297.79	9.55	303.15	4.88	307.82	14.91	297.79
MW-6	331.82	14.35	317.47	10.85	320.97	6.82	325.00	14.68	317.14
MW-7	314.11	12.20	301.91	6.54	307.57	2.70	311.41	12.82	301.29

Date		10/26/2017		3/13/2019		3/29/2019		10/7/2021	
Well	Measuring Point Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL	Depth to Water Ft BTOC	Groundwater Elevation Ft AMSL
MW-1	313.29	4.78	308.51	2.80	310.49	3.24	310.05	2.90	310.39
MW-2R	313.11	3.73	309.38	2.51	310.60	3.00	310.11	2.44	310.67
MW-3	311.72	3.00	308.72	2.33	309.39	NM	NM	3.21	308.51
MW-4	312.45	3.72	308.73	2.74	309.71	NM	NM	3.51	308.94
MW-5	312.70	6.46	306.24	4.88	307.82	5.00	307.70	15.00	297.70
MW-6	331.82	10.98	320.84	6.00	325.82	6.73	325.09	13.50	318.32
MW-7	314.11	5.58	308.53	2.62	311.49	NM	NM	12.28	301.83

Notes:
Ft AMSL - feet above mean sea level
Ft BTOC - feet below top of casing
NM - Not Measured

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-1							
Sampling Date	GA Standard	9/25/2012	10/17/2013	4/23/2015	9/13/2016	10/26/2017	3/13/2019	3/29/2019	10/7/2021
Polychlorinated Biphenyls (µg/L)									
Aroclor-1016	**0.09***	54	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U	10 U
Aroclor-1221	**0.09***	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U	10 U
Aroclor-1232	**0.09***	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U	10 U
Aroclor-1242	**0.09***	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U	10 U
Aroclor-1248	**0.09***	0.17 U	29	120	9.9 P	28.6	700	73	74
Aroclor-1254	**0.09***	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U	10 U
Aroclor-1260	**0.09***	0.17 U	5.0 U	5.0 U	1.0 U	1.4	100 U	2.5 U	10 U
Aroclor-1262	**0.09***	NA	5.0 U	5.0 U	1.0 U	0..2 U	100 U	2.5 U	10 U
Aroclor-1268	**0.09***	NA	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U	10 UJ

Notes:

Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.

* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

µg/L - microgram per liter.

NA - Not Analyzed.

P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.

U - Compound was not detected at the indicated concentration.

UJ - Compound was estimated undetected.

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-2R						MW-2R DUP	MW-2R	MW-2R DUP	MW-2R	MW-2R DUP
Sampling Date	GA Standard	9/24/2012	10/17/2013	4/23/2015	9/13/2016	10/26/2017	3/13/2019	3/13/2019	3/29/2019	3/29/2019	10/7/2021	10/7/2021
Polychlorinated Biphenyls (µg/L)												
Aroclor-1016	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1221	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1232	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1242	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	2.5	2.6	0.5 U	0.5 U
Aroclor-1248	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	23	38	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1254	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1260	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1262	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 U	0.5 U
Aroclor-1268	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U	0.5 UJ	0.5 UJ

Notes:

Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.

* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

µg/L - microgram per liter.

NA - Not Analyzed.

P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.

U - Compound was not detected at the indicated concentration.

UJ - Compound was estimated undetected.

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-3						
Sampling Date	GA Standard	9/24/2012	10/17/2013	4/23/2015	9/13/2016	10/26/2017	3/13/2019	10/7/2021
Polychlorinated Biphenyls (µg/L)								
Aroclor-1016	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1221	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1232	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1242	**0.09***	0.17 U	0.13	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1248	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.643	0.28 J	0.5 U
Aroclor-1254	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1260	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1262	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 U
Aroclor-1268	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U	0.5 UJ

Notes:
Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.
* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).
J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
µg/L - microgram per liter.
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P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.
U - Compound was not detected at the indicated concentration.
UJ - Compound was estimated undetected.

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-4						
Sampling Date	GA Standard	9/24/2012	10/17/2013	4/23/2015	9/13/2016	10/26/2017	3/13/2019	10/7/2021
Polychlorinated Biphenyls (µg/L)								
Aroclor-1016	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1221	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1232	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1242	**0.09***	0.17 U	0.89	0.05 U	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1248	**0.09***	0.17 U	0.05 U	0.56	0.15	0.89	0.14 J	2.3
Aroclor-1254	**0.09***	0.17 U	0.05 U	0.13	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1260	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1262	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	0.5 U
Aroclor-1268	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	0.5 UJ

Notes:
Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.
* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).
J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
µg/L - microgram per liter.
NA - Not Analyzed.
P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.
U - Compound was not detected at the indicated concentration.
UJ - Compound was estimated undetected.

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-5							
Sampling Date	GA Standard	9/25/2012	10/17/2013	4/23/2015	9/13/2016	10/27/2017	3/13/2019	3/29/2019	10/7/2021
Polychlorinated Biphenyls (µg/L)									
Aroclor-1016	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 U
Aroclor-1221	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 U
Aroclor-1232	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 U
Aroclor-1242	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	6.3	0.63 U
Aroclor-1248	**0.09***	0.17 U	0.05 U	0.05 U	0.26 PJ	0.19 U	11	0.25 U	11
Aroclor-1254	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 U
Aroclor-1260	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 U
Aroclor-1262	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 U
Aroclor-1268	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U	0.63 UJ

Notes:
Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.
* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).
J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
µg/L - microgram per liter.
NA - Not Analyzed.
P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.
U - Compound was not detected at the indicated concentration.
UJ - Compound was estimated undetected.

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-6								
Sampling Date	GA Standard	9/24/2012	10/17/2013	4/23/2015	9/13/2016	10/26/2017	3/13/2019	3/29/2019	5/29/2019	10/8/2021
Polychlorinated Biphenyls (µg/L)										
Aroclor-1016	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 U
Aroclor-1221	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 U
Aroclor-1232	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 U
Aroclor-1242	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	33	0.48 U	0.5 U
Aroclor-1248	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	8.1	1.3 U	7.7	0.53
Aroclor-1254	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 U
Aroclor-1260	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 U
Aroclor-1262	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 U
Aroclor-1268	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U	0.5 UJ

Notes:
Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.
* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).
J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
µg/L - microgram per liter.
NA - Not Analyzed.
P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.
U - Compound was not detected at the indicated concentration.
UJ - Compound was estimated undetected.

Table 2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	MW-7		MW-7 DUP	MW-7	MW-7 DUP	MW-7				
Sampling Date	GA Standard	9/25/2012	10/17/2013	10/17/2013	4/23/2015	4/23/2015	9/13/2016	10/26/2017	10/26/2017	3/13/2019	10/7/2021
Polychlorinated Biphenyls (µg/L)											
Aroclor-1016	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1221	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1232	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1242	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1248	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.46	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1254	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.1	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1260	**0.09***	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1262	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 U
Aroclor-1268	**0.09***	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U	0.5 UJ

Notes:

Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.

* - Sum of these compounds can not exceed 0.09 micrograms per liter (µg/L).

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

µg/L - microgram per liter.

NA - Not Analyzed.

P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.

U - Compound was not detected at the indicated concentration.

UJ - Compound was estimated undetected.

Table 3
Summary of Groundwater Sampling Results - Emerging Contaminants
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	USEPA Lifetime	MW-1		MW-2R	MW-2R DUP	MW-2R	MW-2R DUP	MW-3	
Sampling Date	GA Standard	Health Advisory	10/26/2017	10/7/2021	10/26/2017	10/26/2017	10/7/2021	10/7/2021	10/26/2017	10/7/2021
Perfluorinated Alkyl Substances (ng/L)										
Perfluorobutanoic acid (PFBA)	--	--	NA	100	NA	NA	57 J	53 J	NA	3.6 J
Perfluoropentanoic acid (PFPeA)	--	--	NA	22	NA	NA	19	18	NA	0.54 J
Perfluorohexanoic acid (PFHxA)	--	--	NA	16	NA	NA	20	19	NA	0.6 J
Perfluoroheptanoic acid (PFHpA)	--	--	2.0 U	4.8 JH	1.65 J	1.69 J	8.3 JH	8.1 JH	2.0 U	1.7 U
Perfluorooctanoic acid (PFOA)	10	70	2.0 U	9.3	3.02	2.72	15	14	2.0 U	0.52 J
Perfluorononanoic acid (PFNA)	--	--	2.0 U	1.8 U	2.0 U	2.0 U	1.8 JH	1.6 JH	2.0 U	1.7 U
Perfluorodecanoic acid (PFDA)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluoroundecanoic acid (PFUnA)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluorododecanoic acid (PFDoA)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluorotridecanoic acid (PFTriA)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluorotetradecanoic acid (PFTeA)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluorobutanesulfonic acid (PFBS)	--	--	2.0 U	2.9 JH	1.42 J	1.3 J	12 UG	9.0 UG	2.0 U	1.7 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	2.0 U	1.8 U	2.0 U	2.0 U	1.7 JH	1.6 U	2.0 U	1.7 U
Perfluoroheptanesulfonic acid (PFHpS)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluorodecanesulfonic acid (PFDS)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Perfluorooctanesulfonic acid (PFOS)	10	70	2.0 U	1.8 U	1.96 J	1.89 J	4.8 JH	4.9 JH	2.0 U	1.7 U
Perfluorooctanesulfonamide (FOSA)	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	--	--	NA	1.8 U	NA	NA	4.0 U	4.1 U	NA	4.1 U
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	--	--	NA	1.8 U	NA	NA	4.0 U	4.1 U	NA	4.1 U
6:2 FTS	--	--	NA	1.8 U	NA	NA	4.0 U	4.1 U	NA	4.1 U
8:2 FTS	--	--	NA	1.8 U	NA	NA	1.6 U	1.6 U	NA	1.7 U
Total PFOA + PFOS	--	70	ND	9.3	4.98	4.61	19.8	18.9	ND	0.52
Total PFAS	--	--	ND	155	8.05	7.6	127.6	120.2	ND	5.26
1,4-Dioxane (µg/L)										
1,4-Dioxane	1.0	--	0.4 U	0.18 J	0.4 U	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U

Notes:

Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.
Constituents detected above the United States Environmental Protection Agency (USEPA) Lifetime Health Advisory are highlighted in orange.
"--" - No regulatory criteria exists for the respective analyte.
G - The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference.
I - Value is estimated maximum possible concentration.
J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
JH - Compound was estimated biased high.
µg/L - microgram per liter.
NA - Not Analyzed.
ND - Not Detected.
ng/L - nanogram per liter.
U - Compound was not detected at the indicated concentration.
UJ - Compound was estimated undetected.

Table 3
Summary of Groundwater Sampling Results - Emerging Contaminants
Oswego Castings Site
NYSDEC Site Number 738033

Sample ID	NYSDEC Class	USEPA Lifetime	MW-4		MW-5		MW-6		MW-7	
Sampling Date	GA Standard	Health Advisory	10/26/2017	10/7/2021	10/27/2017	10/8/2021	10/26/2017	10/8/2021	10/26/2017	10/8/2021
Perfluorinated Alkyl Substances (ng/L)										
Perfluorobutanoic acid (PFBA)	--	--	NA	3.2 J	NA	4.6	NA	4.1 U	NA	2.2 J
Perfluoropentanoic acid (PFPeA)	--	--	NA	0.48 J	NA	0.58 J	NA	1.7 U	NA	0.42 J
Perfluorohexanoic acid (PFHxA)	--	--	NA	0.9 J	NA	1.1 J	NA	1.7 U	NA	0.74 J
Perfluoroheptanoic acid (PFHpA)	--	--	2.0 U	1.7 U	2.0 U	1.6 U	2.0 U	1.7 U	2.0 U	1.7 U
Perfluorooctanoic acid (PFOA)	10	70	2.0 U	0.75 J	2.0 U	0.74 J	2.0 U	1.7 U	2.0 U	1.7 U
Perfluorononanoic acid (PFNA)	--	--	2.0 U	1.7 U	2.0 U	1.6 U	2.0 U	1.7 U	2.0 U	1.7 U
Perfluorodecanoic acid (PFDA)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluoroundecanoic acid (PFUnA)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluorododecanoic acid (PFDoA)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluorotridecanoic acid (PFTriA)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluorotetradecanoic acid (PFTeA)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluorobutanesulfonic acid (PFBS)	--	--	2.0 U	1.7 U	2.0 U	1.6 U	2.0 U	1.7 U	2.0 U	1.7 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	2.0 U	1.7 U	2.0 U	1.6 U	2.0 U	1.7 U	2.0 U	1.7 U
Perfluoroheptanesulfonic acid (PFHpS)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluorodecanesulfonic acid (PFDS)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Perfluorooctanesulfonic acid (PFOS)	10	70	2.0 U	1.7 U	2.0 U	1.6 U	2.0 U	1.7 U	2.0 U	1.7 U
Perfluorooctanesulfonamide (FOSA)	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	--	--	NA	4.2 U	NA	4.1 U	NA	4.1 U	NA	4.3 U
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	--	--	NA	4.2 U	NA	4.1 U	NA	4.1 U	NA	4.3 U
6:2 FTS	--	--	NA	4.2 U	NA	4.1 U	NA	4.1 U	NA	4.3 U
8:2 FTS	--	--	NA	1.7 U	NA	1.6 U	NA	1.7 U	NA	1.7 U
Total PFOA + PFOS	--	70	ND	0.75	ND	0.74	ND	ND	ND	ND
Total PFAS	--	--	ND	5.33	ND	7.02	ND	ND	ND	3.36
1,4-Dioxane (µg/L)										
1,4-Dioxane	1.0	--	0.4 U	0.2	0.4 U	NA	0.4 U	0.2 U	0.4 U	0.2 U

Notes:

Constituents detected above the New York State Department of Environmental Conservation Groundwater Standard and Guidance Value (NYSDEC Class GA Standard) are highlighted in yellow.
Constituents detected above the United States Environmental Protection Agency (USEPA) Lifetime Health Advisory are highlighted in orange.
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J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
JH - Compound was estimated biased high.
µg/L - microgram per liter.
NA - Not Analyzed.
ND - Not Detected.
ng/L - nanogram per liter.
U - Compound was not detected at the indicated concentration.
UJ - Compound was estimated undetected.

APPENDIX A

O&M Checklists

OSWEGO CASTINGS SITE

Landfill and Concrete Cap Operation and Maintenance Checklist

Inspected by: K. Stilson

Date: 10/7/21 Time: 1700

Weather Conditions: 70° Sunny

LANDFILL COVER SYSTEM

Erosion		YES	✓	NO
Cap Settlement		YES	✓	NO
Ponded Water or Wet Areas	✓	YES		NO
Burrowing Rodents		YES	✓	NO
Brush or Other Woody Vegetation	✓	YES		NO

Comments: Brush noted throughout land fill. Small minimal puddling.

CONCRETE COVER

Cracked Concrete	✓	YES		NO
Damaged Concrete		YES	✓	NO
Concrete Settlement		YES	✓	NO
Ponded Water or Wet Areas	✓	YES		NO
Presence of Vegetation		YES	✓	NO

Comments: Note piles of wood chips and other stock piles.

INSPECTOR'S SIGNATURE K. Stilson DATE 10/7/21

APPENDIX B

Site Photographs

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 1

Date:
October 7, 2021

Description:
Front view of buildings with stockpiled aggregate.

Photo: 2

Date:
October 7, 2021

Description:
View of monitoring well MW-1 surrounding by tall brush.

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 3

Date:
October 7, 2021

Description:
View of monitoring Well MW-2R with brush surrounding well.

Photo: 4

Date:
October 8, 2021

Description:
View of monitoring Well MW-4 on northwest of main building.

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 5

Date:
October 8, 2021

Description:
View of monitoring Well MW-5 showing PVC pipe extending past well casing.

Photo: 6

Date:
October 8, 2021

Description:
View of monitoring Well MW-7.

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 7

Date:
October 7, 2021

Description:
View of active storage inside building.

Photo: 8

Date:
October 7, 2021

Description:
View of active storage inside rear of building.

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 9

Date:
October 8, 2021

Description:
View of stockpiled debris and construction materials on east side of site near former wetland area.

Photo: 10

Date:
October 8, 2021

Description:
View of stockpiled fill and debris on north side of site above former landfill.

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 11

Date:
October 8, 2021

Description:
View of storage tank and ponding water between concrete cover area and landfill area.

Photo: 12

Date:
October 8, 2021

Description:
View of staged materials and debris surrounding northwest corner of building.

Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 13

Date:
October 8, 2021

Description:
View of tree cuttings on northwest side of site adjacent to former pond area and encroaching on landfill area.

Photo: 14

Date:
October 8, 2021

Description:
View of aggregate piles in front of building.

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Project Photographs

Oswego Castings Site
30054252
Appendix B - Site Photographs

Photo: 15

Date:
October 8, 2021

Description:
Left side view of stockpiled drums between buildings.

Photo: 16

Date:
October 8, 2021

Description:
Right side view of stockpiled drums between buildings.

APPENDIX C

NYSDEC Daily Inspection Reports

Report No. 1 **Oswego Castings - NYSDEC Site No. 738033** Date: 10/07/2021

NYSDEC
Division of Environmental Remediation

NYSDEC Contract No. D009804-12

Superintendent:

NYSDEC PM: Payson Long

Consultant PM: Andy Vitolins, P.G.

Consultant Site Inspectors: Kimberly Stilson, Rachael Thomas

Site Location: Hudson Falls, New York

Weather Conditions

General Description	Cloudy	AM	Sunny	PM
Temperature	65 ºF	AM	77 ºF	PM
Wind	7 MPH S	AM	5 MPH S	PM

Health & Safety
If any box below is checked "Yes", provide explanation under "Health & Safety Comments".

Were there any changes to the Health & Safety Plan?	*Yes	No **X**	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	NA **X**
Were there any nuisance issues reported/observed on this date?	*Yes	No **X**	NA

Health & Safety Comments

None at this time.

Summary of Work Performed	Arrived at site:	0730	Departed Site:	1715

- Began site inspection and groundwater sampling.

Equipment/Material Tracking
If any box below is checked "Yes", provide explanation under "Material Tracking Comments".

Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No **X**	NA
Were there any vehicles which were not tarped?	* Yes	No	NA **X**
Were there any vehicles which were not decontaminated prior to exiting the work site?	* Yes	No	NA **X**

Personnel and Equipment

Individual	Company	Trade	Total Hours
Kimberly Stilson	Arcadis	Geologist	9.75
Rachael Thomas	Arcadis	Engineering	9.75

Equipment Description	Contractor/Vendor	Quantity	Used

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

None at this time.

Visitors to Site

Name	Representing	Entered Exclusion/CRZ Zone	
		Yes	**No**
		Yes	**No**
		Yes	**No**
		Yes	**No**

Site Representatives	
Name	**Representing**
Kimberly Stilson	Arcadis on behalf of NYSDEC
Rachael Thomas	Arcadis on behalf of NYSDEC
Project Schedule Comments	
None at this time.	
Issues Pending	
None at this time.	
Interaction with Public, Property Owners, Media, etc.	
None at this time.	

Include (insert) figures with markups showing location of work and job progress

Yellow outlined areas indicate the locations of work performed on October 07, 2021.

Site Photographs (Descriptions Below)	
	
View of monitoring well MW-1.	View of eastern silo and buildings. View of stockpiles facing monitoring wells MW-1 and MW-2R.
	
Interior view of northern building.	View of eastern silo and buildings.
Comments	
None at this time.	
Site Inspector(s): Kimberly Stilson, Rachael Thomas	**Date:** 10/7/2021

DAILY HEALTH CHECKLIST

Is social distancing being practiced?	Yes ☒	No ☐
Is the tail gate safety meeting held outdoors?	Yes ☒	No ☐
Are remote/call in job meetings being held in lieu of meeting in person where possible?	Yes ☒	No ☐
Were personal protective gloves, masks, and eye protection being used?	Yes ☒	No ☐
Are sanitizing wipes, wash stations or spray available?	Yes ☒	No ☐
Have any workers/visitors been excluded based on close contact with individuals diagnosed with COVID-19, have recently traveled to restricted areas or countries, or are symptomatic (fever, chills, cough/shortness of breath)?	Yes ☐	No ☒
Comments: None at this time.		

REMEDIAL ACTIVITIES AT PROPERTIES

1. Have anyone at this location been tested and confirmed to have COVID-19?	Yes ☐	No ☒
2. Is anyone at this location isolated or quarantined for COVID-19?	Yes ☐	No ☒
3. Has anyone at this location had contact with anyone known to have COVID-19 in the past 14 days?	Yes ☐	No ☒
4. Does anyone at this location have any symptoms of a respiratory infection (e.g., cough, sore throat, fever, or shortness of breath)?	Yes ☐	No ☒
5. Does the Department and its contractors have your permission to enter the property at this time?	Yes ☐	No ☒
If Yes to any of 1-4 above: • If it is not critical that service/entry be carried out immediately and can be postponed until the risk of COVID-19 is lower, or can be accomplished remotely/without entry, postpone or conduct service without entry. • If it is critical that service/entry be carried out immediately, advise occupants that as a precaution and for our own protection, project personnel will be donning appropriate PPE* (including respiratory protection) - and do so prior to entry.	Yes ☐	No ☐
Comments: None at this time.		

NUISANCE CHECKLIST

Were there any community complaints related to work on this date?	Yes ☐	No ☒	N/A☐
Were there any odors detected on this date?	Yes ☐	No ☒	N/A☐
Was noise outside specification and/or above background on this date?	Yes ☐	No ☒	N/A☐
Were vibration readings outside specification and/or above background on this date?	Yes ☐	No ☐	N/A☒
Any visible dust observed beyond the work perimeter on this date?	Yes ☐	No ☒	N/A☐
Any visible contrast (turbidity) beyond engineering controls observed on this date?	Yes ☐	No ☐	N/A☒
Were any property owners NOT provided advance notice for work performed on this property on this date?	Yes ☐	No ☐	N/A☒
Has Contractor failed to protect all foundations and structures adjacent to and adjoining the site which are affected by the excavations or other operations connected with performance of the Work?	Yes ☐	No ☒	N/A☐
If yes, has Contractor been notified?	Yes ☐	No ☐	N/A☒
Comments: None at this time.			

Report No. 2 **Oswego Castings - NYSDEC Site No. 738033** Date: 10/08/2021

NYSDEC
Division of Environmental Remediation

NYSDEC Contract No. D009804-12

Superintendent:

NYSDEC PM: Payson Long

Consultant PM: Andy Vitolins, P.G.

Consultant Site Inspectors: Kimberly Stilson, Rachael Thomas

Site Location: Hudson Falls, New York

Weather Conditions

General Description	Cloudy	AM	Sunny	PM
Temperature	65 ºF	AM	74 ºF	PM
Wind	2 MPH S	AM	5 MPH SE	PM

Health & Safety
If any box below is checked "Yes", provide explanation under "Health & Safety Comments".

Were there any changes to the Health & Safety Plan?	*Yes	No **X**	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	NA **X**
Were there any nuisance issues reported/observed on this date?	*Yes	No **X**	NA

Health & Safety Comments

None at this time.

Summary of Work Performed	Arrived at site:	0730	Departed Site:	1145

- Completed site inspection and groundwater sampling.

Equipment/Material Tracking
If any box below is checked "Yes", provide explanation under "Material Tracking Comments".

Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No **X**	NA
Were there any vehicles which were not tarped?	* Yes	No	NA **X**
Were there any vehicles which were not decontaminated prior to exiting the work site?	* Yes	No	NA **X**

Personnel and Equipment

Individual	Company	Trade	Total Hours
Kimberly Stilson	Arcadis	Geologist	4.25
Rachael Thomas	Arcadis	Engineering	4.25

Equipment Description	Contractor/Vendor	Quantity	Used

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

None at this time.

Visitors to Site

Name	Representing	Entered Exclusion/CRZ Zone	
		Yes	**No**
		Yes	**No**
		Yes	**No**
		Yes	**No**

Site Representatives	
Name	**Representing**
Kimberly Stilson	Arcadis on behalf of NYSDEC
Rachael Thomas	Arcadis on behalf of NYSDEC
Project Schedule Comments	
None at this time.	
Issues Pending	
None at this time.	
Interaction with Public, Property Owners, Media, etc.	
None at this time.	

Include (insert) figures with markups showing location of work and job progress

Yellow outlined areas indicate the locations of work performed on October 08, 2021.

Site Photographs (Descriptions Below)

View of back of property.

View of stockpiles on property.

View of storage area between two buildings.

Interior view of onsite building.

Comments

None at this time.

Site Inspector(s): Kimberly Stilson, Rachael Thomas	**Date:** 10/8/2021

DAILY HEALTH CHECKLIST

Is social distancing being practiced?	Yes ☒	No ☐
Is the tail gate safety meeting held outdoors?	Yes ☒	No ☐
Are remote/call in job meetings being held in lieu of meeting in person where possible?	Yes ☒	No ☐
Were personal protective gloves, masks, and eye protection being used?	Yes ☒	No ☐
Are sanitizing wipes, wash stations or spray available?	Yes ☒	No ☐
Have any workers/visitors been excluded based on close contact with individuals diagnosed with COVID-19, have recently traveled to restricted areas or countries, or are symptomatic (fever, chills, cough/shortness of breath)?	Yes ☐	No ☒
Comments: None at this time.		

REMEDIAL ACTIVITIES AT PROPERTIES

1. Have anyone at this location been tested and confirmed to have COVID-19?	Yes ☐	No ☒
2. Is anyone at this location isolated or quarantined for COVID-19?	Yes ☐	No ☒
3. Has anyone at this location had contact with anyone known to have COVID-19 in the past 14 days?	Yes ☐	No ☒
4. Does anyone at this location have any symptoms of a respiratory infection (e.g., cough, sore throat, fever, or shortness of breath)?	Yes ☐	No ☒
5. Does the Department and its contractors have your permission to enter the property at this time?	Yes ☐	No ☒
If Yes to any of 1-4 above: • If it is not critical that service/entry be carried out immediately and can be postponed until the risk of COVID-19 is lower, or can be accomplished remotely/without entry, postpone or conduct service without entry. • If it is critical that service/entry be carried out immediately, advise occupants that as a precaution and for our own protection, project personnel will be donning appropriate PPE* (including respiratory protection) - and do so prior to entry.	Yes ☐	No ☐
Comments: None at this time.		

NUISANCE CHECKLIST

Were there any community complaints related to work on this date?	Yes ☐	No ☒	N/A☐
Were there any odors detected on this date?	Yes ☐	No ☒	N/A☐
Was noise outside specification and/or above background on this date?	Yes ☐	No ☒	N/A☐
Were vibration readings outside specification and/or above background on this date?	Yes ☐	No ☐	N/A☒
Any visible dust observed beyond the work perimeter on this date?	Yes ☐	No ☒	N/A☐
Any visible contrast (turbidity) beyond engineering controls observed on this date?	Yes ☐	No ☐	N/A☒
Were any property owners NOT provided advance notice for work performed on this property on this date?	Yes ☐	No ☐	N/A☒
Has Contractor failed to protect all foundations and structures adjacent to and adjoining the site which are affected by the excavations or other operations connected with performance of the Work?	Yes ☐	No ☒	N/A☐
If yes, has Contractor been notified?	Yes ☐	No ☐	N/A☒
Comments: None at this time.			

APPENDIX D

Well Inspection Forms

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/07/21 Inspector: RThomas

Well Designation: MW-1

Well Location: South of the Main Building

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]	
Approximate Stickup Height	~3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: _____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: _____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.90 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	17.4 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Firm bottom		

Additional Comments:

Sheen noted on top of water.

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/07/21 Inspector: KStilson

Well Designation: MW-2R

Well Location: South side of the Main Building

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]	
Approximate Stickup Height	~2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Fair, in low area with flooding		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [✓]	
Bollards Present?	Yes [ ]	No [✓]	Describe: _____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: _____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: 0344
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.44 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	15.7 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Soft bottom		

Additional Comments:

Black suspended particles observed during sampling.

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/07/21 Inspector: KStilson

Well Designation: MW-3

Well Location: East of building, in tree line

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]	
Approximate Stickup Height	~2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: _____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: _____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [✓]	No [ ]	Describe: _____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	3.25 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	17.3 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/07/21 Inspector: RThomas

Well Designation: MW-4

Well Location: Northwest of the Main Building

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]	
Approximate Stickup Height	~2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [✓]	No [ ]	Describe: _____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Good		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: _____
Well Casing Diameter	8 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____
PID Reading	0.1 ppm		
Depth to Water (to top of casing)	3.51 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	16.45 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Firm bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/07/21 Inspector: KStilson

Well Designation: MW-5

Well Location: Northwest side of Site

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]		
Approximate Stickup Height	~3.5 feet	N/A [ ]		
Integrity of Protective Casing	Describe: Good. See additional comments.			
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____	
Protective Casing Width or Dia.	4 inches			
Weep Hole in Protective Casing	Yes [ ]	No [✓]		
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ]	Other _____
Integrity of Surface Seal/Apron	Describe: Fair, loose and soil settling around well.			
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [✓]	Describe: Concrete block ahead of well	
Well ID. Visible?	Yes [✓]	No [ ]	Describe: _____	
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: _____	
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____	

Inner Appearance

Integrity of Well Casing	Describe: Good; intact			
Integrity of Cap Seal	Describe: Good			
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: _____	
Well Casing Diameter	2 inches			
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____	

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____	
PID Reading	0.0 ppm			
Depth to Water (to top of casing)	15.0 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01)	N/A [✓]
Total Well Depth (to top of casing)	16.9 feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe: Soft bottom			

Additional Comments:

Soil settling is forcing PVC up past protective casing. Black suspended particles observed during sampling.

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/08/21 Inspector: KStilson

Well Designation: MW-6

Well Location: East side of Site, along perimeter fence

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]	
Approximate Stickup Height	~2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: _____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____
PID Reading	0.1 ppm		
Depth to Water (to top of casing)	13.5 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	36.8 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Firm bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 30054252

Date of Inspection: 10/07/21 Inspector: RThomas

Well Designation: MW-7

Well Location: North side of Site; in phragmites area

Outward Appearance

Flushmount Diameter	_____ inches	N/A [✓]	
Approximate Stickup Height	~3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [✓]	
Bollards Present?	Yes [ ]	No [✓]	Describe: _____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: _____

Downhole

Odor	Yes [ ]	No [✓]	Describe: _____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	12.28 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	16.2 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard bottom		

Additional Comments:

APPENDIX E

Groundwater Sampling Purge Logs

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-1	Date	10/7/2021
Project No.	30054252			Weather	65°F, Cloudy
Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	4"
Total Depth (ft-bmp)	17.47	Static Water Level (ft-bmp)	2.90	Water Column in Well (ft.)	14.57
MP Elevation	--	Pump Intake (ft-bmp)	15.00	Volumes Purged	--
Sample Method	Low flow	Pump On/Off	0840/1030	Sample Time	Label 0930 / Start 0930 / End 1030
Replicate/Code No.	MS/MSD	Sampled By	R. Thomas		

Well Material: PVC X / SS

Gallons in Well: 9.40

Gallons Purged: 1.26

Purge Method: Centrifugal / Submersible / Disp. Bailer / Other Peri. Pump

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
0845	5	200	3.45	0.22	7.05	1.02	1.69	1.21	16.47	-62	Clear	None
0850	10	200	3.98	0.44	7.13	1.02	2.01	1.26	16.68	-83	Clear	None
0855	15	200	4.33	0.66	7.17	1.01	1.98	1.26	16.80	-94	Clear	None
0900	20	200	4.52	0.88	7.16	1.01	1.54	1.13	16.87	-97	Clear	None
0905	25	200	4.78	1.10	7.14	1.01	1.06	1.04	17.00	-99	Clear	None
0910	30	200	5.00	1.32	7.14	1.01	1.46	1.05	17.06	-100	Clear	None
0915	35	200	5.18	1.54	7.15	1.01	0.76	1.04	17.09	-101	Clear	None
0920	40	200	5.40	1.76	7.15	1.00	0.84	1.03	17.15	-101	Clear	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
1,4-Dioxane	1 L Amber	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	South of Main Building	Well Locked at Arrival:	Yes
Condition of Well:	Good	Well Locked at Departure:	Yes
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.0 parts per million, sheen noted at air/water interface.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-2R	Date	10/7/2021
Project No.	30054252			Weather	60°F, Cloudy

Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2"	Well Material:	PVC X / SS
Total Depth (ft-bmp)	15.72	Static Water Level (ft-bmp)	2.44	Water Column in Well (ft.)	13.28	Gallons in Well	2.16
MP Elevation	--	Pump Intake (ft-bmp)	13.00	Volumes Purged	--	Gallons Purged	1.54
Sample Method	Low flow	Pump On/Off	0955/1015	Sample Time	Label 0955 Start 0955 End 1015	Purge Method	Centrifugal / Submersible / Disp. Bailer / Other Peri. Pump
Replicate/Code No.	MW-X-DUP	Sampled By	K. Stilson				

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
0920	5	200	3.00	0.22	7.02	1.19	145.0	1.60	16.99	-70	Clear/BSP	None
0925	10	200	3.37	0.44	7.09	1.15	39.5	0.86	17.18	-123	Clear/BSP	None
0930	15	200	3.82	0.66	7.1	1.14	19.4	0.780	17.38	-136	Clear/BSP	None
0935	20	200	4.31	0.88	7.08	1.15	21.9	0.70	17.51	-143	Clear/BSP	None
0940	25	200	4.70	1.10	7.07	1.16	23.6	0.73	17.58	-151	Clear/BSP	None
0945	30	200	4.99	1.32	7.07	1.17	23.4	0.71	17.60	-152	Clear/BSP	None
0950	35	200	5.17	1.54	7.06	1.17	20.9	0.68	17.63	-154	Clear/BSP	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
1,4-Dioxane	1 L Amber	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	South of Main Building	Well Locked at Arrival:	Yes
Condition of Well:	Good	Well Locked at Departure:	Yes
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.0 parts per million, BSP-Black Suspended Particles.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-3	Date	10/7/2021
Project No.	30054252			Weather	70°F, Cloudy

Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	4"	Well Material: PVC / SS	X /
Total Depth (ft-bmp)	17.28	Static Water Level (ft-bmp)	3.21	Water Column in Well (ft.)	14.07	Gallons in Well	9.14
MP Elevation	--	Pump Intake (ft-bmp)	15.00	Volumes Purged	--	Gallons Purged	1.64
Sample Method	Low Flow	Pump On/Off	1440/1540	Sample Time	Label 1520 Start 1520 End 1540	Purge Method	
Replicate/Code No.	--	Sampled By	K. Stilson			Centrifugal / Submersible / Disp. Bailer / Other	/ / / Peri. Pump

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
1445	5	200	3.50	0.22	7.30	0.690	4.75	12.06	18.58	-135	Clear	None
1450	10	200	3.97	0.44	7.23	0.704	2.50	1.77	17.62	-138	Clear	None
1455	15	200	4.20	0.66	7.18	0.707	3.75	1.41	17.55	-142	Clear	None
1500	20	200	4.38	0.88	7.18	0.707	3.08	1.39	17.43	-145	Clear	None
1505	25	200	4.46	1.20	7.18	0.711	2.71	1.40	17.63	-146	Clear	None
1510	30	200	4.50	1.42	7.18	0.710	3.18	1.40	17.74	-146	Clear	None
1515	35	200	4.54	1.64	7.18	0.709	3.44	1.39	17.92	-147	Clear	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
1,4-Dioxane	1 L Amber	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	East of building, in tree line	Well Locked at Arrival:	Yes
Condition of Well:	Good	Well Locked at Departure:	Yes
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.0 parts per million.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-4	Date	10/7/2021
Project No.	30054252			Weather	65°F, Sunny

Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	4"	Well Material:	PVC X / SS
Total Depth (ft-bmp)	16.45	Static Water Level (ft-bmp)	3.51	Water Column in Well (ft.)	12.94	Gallons in Well	8.41
MP Elevation	--	Pump Intake (ft-bmp)	14.00	Volumes Purged	--	Gallons Purged	1.32
Sample Method	Low flow	Pump On/Off	1235/1330	Sample Time	Label 1310 Start 1310 End 1330	Purge Method	Centrifugal / Submersible / Disp. Bailer / Other Peri. Pump
Replicate/Code No.	--	Sampled By	R. Thomas				

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
1240	5	200	4.08	0.22	7.38	0.884	0.00	0.97	19.73	-40	Clear	None
1245	10	200	4.42	0.44	7.64	0.674	0.00	0.60	22.53	41	Clear	None
1250	15	200	4.83	0.66	7.62	0.647	0.00	0.21	21.06	33	Clear	None
1255	20	200	5.29	0.88	7.49	0.662	0.00	0.19	20.53	32	Clear	None
1300	25	200	5.74	1.10	7.47	0.667	0.00	0.19	20.49	29	Clear	None
1305	30	200	6.18	1.32	7.46	0.668	0.00	0.21	20.60	25	Clear	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
1,4-Dioxane	1 L Amber	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	Northwest of Main Building	Well Locked at Arrival:	Yes
Condition of Well:	Good	Well Locked at Departure:	Yes
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.1 parts per million.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-5	Date	10/7/2021
Project No.	30054252			Weather	70°F, Sunny
Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2"
				Well Material: PVC	X
				SS	
Total Depth (ft-bmp)	16.86	Static Water Level (ft-bmp)	15.00	Water Column in Well (ft.)	1.86
				Gallons in Well	0.30
MP Elevation	--	Pump Intake (ft-bmp)	16.50	Volumes Purged	--
				Gallons Purged	0.62
Sample Method	Low flow	Pump On/Off	1330/1346	Sample Time	Label 10/8/2021 1030
					Start 10/8/2021 1030
					End 10/8/2021 1045
				Purge Method	
				Centrifugal	
				Submersible	
Replicate/Code No.	--	Sampled By	K. Stilson	Disp. Bailer	
				Other	Peri. Pump

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
1335	5	200	15.74	0.20	6.89	1.56	703	3.32	13.07	-131	Clear/BSP	None
1340	10	200	16.11	0.40	6.82	1.56	921	1.97	16.76	-129	Clear/BSP	None
1345	15	200	16.80	0.60	6.69	1.46	467	1.37	16.11	-114	Clear/BSP	None
1346	16	200	DRY	0.62	6.67	1.45	283	1.38	16.03	-105	Clear/BSP	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	NW side of site, behind concrete block	Well Locked at Arrival:	Yes
Condition of Well:	Fair	Well Locked at Departure:	Yes
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.0 parts per million, BSP = Black Suspended Particles.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-6	Date	10/8/2021
Project No.	30054252			Weather	67°F, Partly Cloudy

Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2"	Well Material: PVC	X
						SS	
Total Depth (ft-bmp)	36.79	Static Water Level (ft-bmp)	13.50	Water Column in Well (ft.)	23.29	Gallons in Well	3.70
MP Elevation	--	Pump Intake (ft-bmp)	34	Volumes Purged	--	Gallons Purged	1.40
Sample Method	Low Flow	Pump On/Off	0853/0940	Sample Time	Label 0930	Purge Method	Low Flow
					Start 0930	Centrifugal	
					End 0940	Submersible	
Replicate/Code No.	--	Sampled By	K. Stilson			Disp. Bailer	
						Other	Peri. Pump

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
0857	5	200	13.55	0.2	6.78	0.807	0.00	5.80	16.04	184	Clear	None
0903	10	200	15.12	0.4	7.66	0.789	0.00	3.71	15.61	134	Clear	None
0907	15	200	16.01	0.6	7.7	0.773	0.00	2.48	15.41	110	Clear	None
0913	20	200	16.23	0.8	7.70	0.769	0.00	2.22	15.97	99	Clear	None
0917	25	200	16.53	1.0	7.75	0.768	0.00	2.11	15.99	84	Clear	None
0923	30	200	16.67	1.2	7.76	0.768	0.00	2.10	15.97	83	Clear	None
0927	35	200	17.11	1.4	7.76	0.767	0.00	2.04	16.03	80	Clear	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
1,4-Dioxane	1 L Amber	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	Behind fence in Southeast corner	Well Locked at Arrival:	Yes
Condition of Well:	Good	Well Locked at Departure:	No
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.1 parts per million.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Groundwater Sampling Log

ARCADIS Design & Consultancy for natural and built assets

Project Name	Oswego Castings	Well ID	MW-7	Date	10/7/2021
Project No.	30054252			Weather	65°F, Sunny

Measuring Pt. Description	Top of PVC	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2"	Well Material:	PVC X / SS
Total Depth (ft-bmp)	16.20	Static Water Level (ft-bmp)	12.28	Water Column in Well (ft.)	3.92	Gallons in Well	0.36
MP Elevation	--	Pump Intake (ft-bmp)	15.00	Volumes Purged	1.20	Gallons Purged	1.20
Sample Method	Grab	Pump On/Off	1515/1610	Sample Time	Label 1600 / Start 1600 / End 1610	Purge Method	Centrifugal / Submersible / Disp. Bailer / Other Peri. Pump
Replicate/Code No.	--	Sampled By	R. Thomas				

Time	Minutes Elapsed	Rate (gpm) **(mL/min)**	Depth to Water (ft.)	Gallons Purged	pH	Cond. (µmhos) **(mS/cm)**	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. **(°C)** (°F)	Redox (mV)	Appearance	
											Color	Odor
1520	5	150	12.73	0.2	7.20	3.76	3.07	0.62	21.10	-55	Clear	Slight Odor
1525	10	150	12.95	0.4	7.04	5.29	0.76	0.88	19.30	-92	Clear	Slight Odor
1530	15	150	13.24	0.6	6.99	5.49	0.00	0.71	17.41	-97	Clear	Slight Odor
1535	20	150	13.40	0.8	6.93	5.68	0.00	0.51	16.95	-102	Clear	None
1540	25	150	13.66	1.0	6.91	5.73	0.00	0.42	16.75	-108	Clear	None
1545	30	150	13.99	1.2	6.87	5.80	0.00	0.37	16.54	-110	Clear	None

Constituents Sampled	**Container**	**Number**	**Preservative**
PFAS	250 mL Plastic	2	None
1,4-Dioxane	1 L Amber	2	None
PCBs	250 mL Plastic	2	None

Well Information

Well Location:	North Side of site, in phragmites area	Well Locked at Arrival:	Yes
Condition of Well:	Good	Well Locked at Departure:	Yes
Well Completion:	Flush Mount / **Stick Up**	Key Number To Well:	0344

NOTES: PID reading of 0.0 parts per million, slight odor similar to that of a fuel odor.

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

APPENDIX F

Analytical Data Package

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 480-190703-1
Client Project/Site: Oswego Castings #738033

For:
New York State D.E.C.
625 Broadway
4th Floor
Albany, New York 12233

Attn: Mr. Payson Long

Authorized for release by:
10/20/2021 4:47:15 PM
Wyatt Watson, Project Management Assistant I
Wyatt.Watson@Eurofinset.com

Designee for

Steve Hartmann, Project Manager I
(413)572-4000
Steve.Hartmann@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
10/20/2021 4:47:15 PM

Table of Contents

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
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
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
I	Value is EMPC (estimated maximum possible concentration).
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
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Job ID: 480-190703-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-190703-1

Comments
No additional comments.

Receipt
The samples were received on 10/9/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.2º C, 2.5º C and 2.9º C.

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

GC Semi VOA
Method 8082A: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-1 (480-190703-1), MW-1 (480-190703-1[MS]) and MW-1 (480-190703-1[MSD]). Elevated reporting limits (RLs) are provided.

Method 8082A: The following samples were diluted due to the abundance of target analytes : MW-1 (480-190703-1[MS]) and MW-1 (480-190703-1[MSD]). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

LCMS
Method 537 (modified): 13C4 PFBA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: MW-X-DUP (480-190703-2) and MW-2R (480-190703-3). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 537 (modified): The following samples exhibited elevated noise or matrix interferences for Perfluorobutanesulfonic acid (PFBS) causing elevation of the detection limit (EDL): MW-X-DUP (480-190703-2) and MW-2R (480-190703-3) . The reporting limit (RL) for PFBS has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 537 (modified): Method 537 (modified): The “I” qualifier associated with sample MW-7 (480-190703-9) is applied because the transition mass ratio for the indicated analyte(s) was outside of the established ratio limits. The qualitative identification has some degree of uncertainty, however analyst judgment was used to positively identify the analyte(s).

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

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

Detection Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-1 — Lab Sample ID: 480-190703-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.18	J	0.20	0.10	ug/L	1		8270D SIM ID	Total/NA
PCB-1248	74		10	3.5	ug/L	20		8082A	Total/NA
Perfluorobutanoic acid (PFBA)	100		4.4	0.79	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	22		1.8	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	16		1.8	0.40	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.8		1.8	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.3		1.8	0.37	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.9		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.76	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.31	J	1.8	0.26	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-X-DUP — Lab Sample ID: 480-190703-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	53		4.1	0.73	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	18		1.6	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	19		1.6	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.1		1.6	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.6	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.6		1.6	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.27	J	1.6	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.5	J	1.6	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.9		1.6	0.24	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-2R — Lab Sample ID: 480-190703-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	57		4.0	0.72	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	19		1.6	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	20		1.6	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.3		1.6	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	15		1.6	0.34	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.8		1.6	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.7		1.6	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.8		1.6	0.23	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 480-190703-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.6	J	4.1	0.74	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.54	J	1.7	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.60	J	1.7	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.31	J	1.7	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.52	J	1.7	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.23	J	1.7	0.21	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 480-190703-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.20		0.20	0.10	ug/L	1		8270D SIM ID	Total/NA
PCB-1248	2.3		0.50	0.18	ug/L	1		8082A	Total/NA
Perfluorobutanoic acid (PFBA)	3.2	J	4.2	0.75	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.48	J	1.7	0.40	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample ID: MW-4 (Continued) — Lab Sample ID: 480-190703-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.90	J	1.7	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.48	J	1.7	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.75	J	1.7	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 480-190703-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1248	11		0.63	0.22	ug/L	1		8082A	Total/NA
Perfluorobutanoic acid (PFBA)	4.6		4.1	0.73	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.58	J	1.6	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.1	J	1.6	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.38	J	1.6	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.74	J	1.6	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.88	J	1.6	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.40	J	1.6	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.38	J	1.6	0.24	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 480-190703-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1248	0.53		0.50	0.18	ug/L	1		8082A	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.36	J	1.7	0.24	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB-X — Lab Sample ID: 480-190703-8

No Detections.

Client Sample ID: MW-7 — Lab Sample ID: 480-190703-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1248	2.1		0.50	0.18	ug/L	1		8082A	Total/NA
Perfluorobutanoic acid (PFBA)	2.2	J	4.3	0.77	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.42	J	1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.74	J	1.7	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.40	J	1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.37	J I	1.7	0.25	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 480-190703-10

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1
Date Collected: 10/07/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-1
Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.18**	**J**	0.20	0.10	ug/L		10/12/21 07:16	10/14/21 14:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*42*		*15 - 110*	*10/12/21 07:16*	*10/14/21 14:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	F1	10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1221	ND		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1232	ND		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1242	ND		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1248	**74**		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1254	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1260	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1262	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1268	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*97*		*39 - 121*	*10/12/21 07:05*	*10/13/21 17:14*	*20*
Tetrachloro-m-xylene	*87*		*39 - 121*	*10/12/21 07:05*	*10/13/21 17:14*	*20*
DCB Decachlorobiphenyl	*77*		*19 - 120*	*10/12/21 07:05*	*10/13/21 17:14*	*20*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*10/12/21 07:05*	*10/13/21 17:14*	*20*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**100**		4.4	0.79	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoropentanoic acid (PFPeA)	**22**		1.8	0.42	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorohexanoic acid (PFHxA)	**16**		1.8	0.40	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoroheptanoic acid (PFHpA)	**4.8**		1.8	0.21	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorooctanoic acid (PFOA)	**9.3**		1.8	0.37	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.30	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.34	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.38	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.56	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.8	0.22	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.76**	**J**	1.8	0.27	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.21	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.27	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorooctanesulfonic acid (PFOS)	**0.31**	**J**	1.8	0.26	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.51	ng/L		10/15/21 14:33	10/18/21 20:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	0.79	ng/L		10/15/21 14:33	10/18/21 20:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	0.65	ng/L		10/15/21 14:33	10/18/21 20:57	1
6:2 FTS	ND		4.4	0.96	ng/L		10/15/21 14:33	10/18/21 20:57	1
8:2 FTS	ND		1.8	0.34	ng/L		10/15/21 14:33	10/18/21 20:57	1

Client Sample ID: MW-1
Date Collected: 10/07/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	91		25 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFBA	55		25 - 150	10/15/21 14:33	10/18/21 20:57	1
13C5 PFPeA	76		25 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFHxA	78		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFHpA	88		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFOA	90		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C5 PFNA	91		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFDA	89		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFUnA	85		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFDoA	86		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFTeDA	84		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C3 PFBS	95		50 - 150	10/15/21 14:33	10/18/21 20:57	1
18O2 PFHxS	101		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFOS	101		50 - 150	10/15/21 14:33	10/18/21 20:57	1
d3-NMeFOSAA	93		50 - 150	10/15/21 14:33	10/18/21 20:57	1
d5-NEtFOSAA	89		50 - 150	10/15/21 14:33	10/18/21 20:57	1
M2-6:2 FTS	114		25 - 150	10/15/21 14:33	10/18/21 20:57	1
M2-8:2 FTS	108		25 - 150	10/15/21 14:33	10/18/21 20:57	1

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-X-DUP

Date Collected: 10/07/21 09:05
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-2

Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 14:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*47*		*15 - 110*	*10/12/21 07:16*	*10/14/21 14:33*	*1*

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		10/12/21 07:05	10/12/21 21:52	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*79*		*39 - 121*	*10/12/21 07:05*	*10/12/21 21:52*	*1*
Tetrachloro-m-xylene	*84*		*39 - 121*	*10/12/21 07:05*	*10/12/21 21:52*	*1*
DCB Decachlorobiphenyl	*91*		*19 - 120*	*10/12/21 07:05*	*10/12/21 21:52*	*1*
DCB Decachlorobiphenyl	*79*		*19 - 120*	*10/12/21 07:05*	*10/12/21 21:52*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**53**		4.1	0.73	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoropentanoic acid (PFPeA)	**18**		1.6	0.39	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorohexanoic acid (PFHxA)	**19**		1.6	0.37	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoroheptanoic acid (PFHpA)	**8.1**		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorooctanoic acid (PFOA)	**14**		1.6	0.35	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorononanoic acid (PFNA)	**1.6**		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorodecanoic acid (PFDA)	**0.27**	**J**	1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.28	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.36	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorobutanesulfonic acid (PFBS)	ND	G	9.0	9.0	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorooctanesulfonic acid (PFOS)	**4.9**		1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.47	ng/L		10/15/21 14:33	10/18/21 21:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.74	ng/L		10/15/21 14:33	10/18/21 21:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.61	ng/L		10/15/21 14:33	10/18/21 21:22	1
6:2 FTS	ND		4.1	0.90	ng/L		10/15/21 14:33	10/18/21 21:22	1
8:2 FTS	ND		1.6	0.32	ng/L		10/15/21 14:33	10/18/21 21:22	1

Client: New York State D.E.C.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

Client Sample ID: MW-X-DUP
Lab Sample ID: 480-190703-2
Date Collected: 10/07/21 09:05
Matrix: Water
Date Received: 10/09/21 08:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	68		25 - 150	10/15/21 14:33	10/18/21 21:22	1
13C4 PFBA	22	*5-	25 - 150	10/15/21 14:33	10/18/21 21:22	1
13C5 PFPeA	45		25 - 150	10/15/21 14:33	10/18/21 21:22	1
13C2 PFHxA	57		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C4 PFHpA	65		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C4 PFOA	80		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C5 PFNA	85		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C2 PFDA	87		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C2 PFUnA	91		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C2 PFDoA	99		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C2 PFTeDA	107		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C3 PFBS	74		50 - 150	10/15/21 14:33	10/18/21 21:22	1
18O2 PFHxS	81		50 - 150	10/15/21 14:33	10/18/21 21:22	1
13C4 PFOS	90		50 - 150	10/15/21 14:33	10/18/21 21:22	1
d3-NMeFOSAA	102		50 - 150	10/15/21 14:33	10/18/21 21:22	1
d5-NEtFOSAA	111		50 - 150	10/15/21 14:33	10/18/21 21:22	1
M2-6:2 FTS	147		25 - 150	10/15/21 14:33	10/18/21 21:22	1
M2-8:2 FTS	135		25 - 150	10/15/21 14:33	10/18/21 21:22	1

Client Sample ID: MW-2R

Date Collected: 10/07/21 09:55
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-3

Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 14:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*45*		*15 - 110*	*10/12/21 07:16*	*10/14/21 14:58*	*1*

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		10/12/21 07:05	10/12/21 22:05	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:05*	*1*
Tetrachloro-m-xylene	*79*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:05*	*1*
DCB Decachlorobiphenyl	*58*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:05*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:05*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**57**		4.0	0.72	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoropentanoic acid (PFPeA)	**19**		1.6	0.38	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorohexanoic acid (PFHxA)	**20**		1.6	0.36	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoroheptanoic acid (PFHpA)	**8.3**		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorooctanoic acid (PFOA)	**15**		1.6	0.34	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorononanoic acid (PFNA)	**1.8**		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.28	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.35	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.51	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorobutanesulfonic acid (PFBS)	ND	G	12	12	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**		1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.46	ng/L		10/15/21 14:33	10/18/21 21:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	0.73	ng/L		10/15/21 14:33	10/18/21 21:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	0.60	ng/L		10/15/21 14:33	10/18/21 21:30	1
6:2 FTS	ND		4.0	0.88	ng/L		10/15/21 14:33	10/18/21 21:30	1
8:2 FTS	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:30	1

Client: New York State D.E.C.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

Client Sample ID: MW-2R
Lab Sample ID: 480-190703-3
Date Collected: 10/07/21 09:55
Matrix: Water
Date Received: 10/09/21 08:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	65		25 - 150	10/15/21 14:33	10/18/21 21:30	1
13C4 PFBA	22	*5-	25 - 150	10/15/21 14:33	10/18/21 21:30	1
13C5 PFPeA	45		25 - 150	10/15/21 14:33	10/18/21 21:30	1
13C2 PFHxA	55		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C4 PFHpA	63		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C4 PFOA	73		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C5 PFNA	81		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C2 PFDA	81		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C2 PFUnA	85		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C2 PFDoA	98		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C2 PFTeDA	103		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C3 PFBS	70		50 - 150	10/15/21 14:33	10/18/21 21:30	1
18O2 PFHxS	78		50 - 150	10/15/21 14:33	10/18/21 21:30	1
13C4 PFOS	84		50 - 150	10/15/21 14:33	10/18/21 21:30	1
d3-NMeFOSAA	102		50 - 150	10/15/21 14:33	10/18/21 21:30	1
d5-NEtFOSAA	91		50 - 150	10/15/21 14:33	10/18/21 21:30	1
M2-6:2 FTS	143		25 - 150	10/15/21 14:33	10/18/21 21:30	1
M2-8:2 FTS	131		25 - 150	10/15/21 14:33	10/18/21 21:30	1

Client Sample ID: MW-3

Date Collected: 10/07/21 15:20
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-4

Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 15:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*34*		*15 - 110*	*10/12/21 07:16*	*10/14/21 15:22*	*1*

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		10/12/21 07:05	10/12/21 22:18	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:18*	*1*
Tetrachloro-m-xylene	*76*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:18*	*1*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:18*	*1*
DCB Decachlorobiphenyl	*55*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:18*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.6**	**J**	4.1	0.74	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoropentanoic acid (PFPeA)	**0.54**	**J**	1.7	0.39	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorohexanoic acid (PFHxA)	**0.60**	**J**	1.7	0.37	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoroheptanoic acid (PFHpA)	**0.31**	**J**	1.7	0.20	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorooctanoic acid (PFOA)	**0.52**	**J**	1.7	0.35	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.52	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorobutanesulfonic acid (PFBS)	**0.23**	**J**	1.7	0.21	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.19	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.48	ng/L		10/15/21 14:33	10/18/21 21:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.75	ng/L		10/15/21 14:33	10/18/21 21:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.62	ng/L		10/15/21 14:33	10/18/21 21:38	1
6:2 FTS	ND		4.1	0.91	ng/L		10/15/21 14:33	10/18/21 21:38	1
8:2 FTS	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 21:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*90*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*

Client: New York State D.E.C.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

Client Sample ID: MW-3
Lab Sample ID: 480-190703-4
Date Collected: 10/07/21 15:20
Matrix: Water
Date Received: 10/09/21 08:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	65		25 - 150	10/15/21 14:33	10/18/21 21:38	1
13C5 PFPeA	77		25 - 150	10/15/21 14:33	10/18/21 21:38	1
13C2 PFHxA	80		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C4 PFHpA	86		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C4 PFOA	84		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C5 PFNA	84		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C2 PFDA	81		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C2 PFUnA	77		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C2 PFDoA	81		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C2 PFTeDA	77		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C3 PFBS	94		50 - 150	10/15/21 14:33	10/18/21 21:38	1
18O2 PFHxS	97		50 - 150	10/15/21 14:33	10/18/21 21:38	1
13C4 PFOS	93		50 - 150	10/15/21 14:33	10/18/21 21:38	1
d3-NMeFOSAA	84		50 - 150	10/15/21 14:33	10/18/21 21:38	1
d5-NEtFOSAA	81		50 - 150	10/15/21 14:33	10/18/21 21:38	1
M2-6:2 FTS	109		25 - 150	10/15/21 14:33	10/18/21 21:38	1
M2-8:2 FTS	98		25 - 150	10/15/21 14:33	10/18/21 21:38	1

Client Sample ID: MW-4
Date Collected: 10/07/21 13:10
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-5
Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.20**		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 15:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*53*		*15 - 110*	*10/12/21 07:16*	*10/14/21 15:46*	*1*

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		10/12/21 07:05	10/12/21 22:30	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1248	**2.3**		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:30*	*1*
Tetrachloro-m-xylene	*85*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:30*	*1*
DCB Decachlorobiphenyl	*78*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:30*	*1*
DCB Decachlorobiphenyl	*70*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:30*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.2**	**J**	4.2	0.75	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoropentanoic acid (PFPeA)	**0.48**	**J**	1.7	0.40	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorohexanoic acid (PFHxA)	**0.90**	**J**	1.7	0.38	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoroheptanoic acid (PFHpA)	**0.48**	**J**	1.7	0.20	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorooctanoic acid (PFOA)	**0.75**	**J**	1.7	0.35	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.48	ng/L		10/15/21 14:33	10/18/21 21:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	0.75	ng/L		10/15/21 14:33	10/18/21 21:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	0.62	ng/L		10/15/21 14:33	10/18/21 21:47	1
6:2 FTS	ND		4.2	0.92	ng/L		10/15/21 14:33	10/18/21 21:47	1
8:2 FTS	ND		1.7	0.33	ng/L		10/15/21 14:33	10/18/21 21:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*81*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-4
Date Collected: 10/07/21 13:10
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-5
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	64		25 - 150	10/15/21 14:33	10/18/21 21:47	1
13C5 PFPeA	77		25 - 150	10/15/21 14:33	10/18/21 21:47	1
13C2 PFHxA	74		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C4 PFHpA	80		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C4 PFOA	81		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C5 PFNA	80		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C2 PFDA	75		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C2 PFUnA	70		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C2 PFDoA	70		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C2 PFTeDA	67		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C3 PFBS	89		50 - 150	10/15/21 14:33	10/18/21 21:47	1
18O2 PFHxS	87		50 - 150	10/15/21 14:33	10/18/21 21:47	1
13C4 PFOS	88		50 - 150	10/15/21 14:33	10/18/21 21:47	1
d3-NMeFOSAA	75		50 - 150	10/15/21 14:33	10/18/21 21:47	1
d5-NEtFOSAA	69		50 - 150	10/15/21 14:33	10/18/21 21:47	1
M2-6:2 FTS	100		25 - 150	10/15/21 14:33	10/18/21 21:47	1
M2-8:2 FTS	93		25 - 150	10/15/21 14:33	10/18/21 21:47	1

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-5

Date Collected: 10/08/21 10:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1221	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1232	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1242	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1248	**11**		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1254	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1260	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1262	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1268	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*77*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:43*	*1*
Tetrachloro-m-xylene	*83*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:43*	*1*
DCB Decachlorobiphenyl	*66*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:43*	*1*
DCB Decachlorobiphenyl	*57*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:43*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.6**		4.1	0.73	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoropentanoic acid (PFPeA)	**0.58**	**J**	1.6	0.39	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorohexanoic acid (PFHxA)	**1.1**	**J**	1.6	0.37	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoroheptanoic acid (PFHpA)	**0.38**	**J**	1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorooctanoic acid (PFOA)	**0.74**	**J**	1.6	0.35	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.28	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.36	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorobutanesulfonic acid (PFBS)	**0.88**	**J**	1.6	0.20	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorohexanesulfonic acid (PFHxS)	**0.40**	**J**	1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorooctanesulfonic acid (PFOS)	**0.38**	**J**	1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.47	ng/L		10/15/21 14:33	10/18/21 21:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.74	ng/L		10/15/21 14:33	10/18/21 21:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.61	ng/L		10/15/21 14:33	10/18/21 21:55	1
6:2 FTS	ND		4.1	0.90	ng/L		10/15/21 14:33	10/18/21 21:55	1
8:2 FTS	ND		1.6	0.32	ng/L		10/15/21 14:33	10/18/21 21:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*81*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C4 PFBA	*51*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C5 PFPeA	*66*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C2 PFHxA	*72*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C4 PFHpA	*85*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-5
Date Collected: 10/08/21 10:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-6
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	81		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C5 PFNA	83		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C2 PFDA	78		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C2 PFUnA	79		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C2 PFDoA	81		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C2 PFTeDA	79		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C3 PFBS	88		50 - 150	10/15/21 14:33	10/18/21 21:55	1
18O2 PFHxS	92		50 - 150	10/15/21 14:33	10/18/21 21:55	1
13C4 PFOS	89		50 - 150	10/15/21 14:33	10/18/21 21:55	1
d3-NMeFOSAA	80		50 - 150	10/15/21 14:33	10/18/21 21:55	1
d5-NEtFOSAA	83		50 - 150	10/15/21 14:33	10/18/21 21:55	1
M2-6:2 FTS	112		25 - 150	10/15/21 14:33	10/18/21 21:55	1
M2-8:2 FTS	96		25 - 150	10/15/21 14:33	10/18/21 21:55	1

Client Sample ID: MW-6

Date Collected: 10/08/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-7

Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 16:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*37*		*15 - 110*	*10/12/21 07:16*	*10/14/21 16:11*	*1*

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		10/12/21 07:05	10/12/21 23:21	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1248	**0.53**		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:21*	*1*
Tetrachloro-m-xylene	*95*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:21*	*1*
DCB Decachlorobiphenyl	*83*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:21*	*1*
DCB Decachlorobiphenyl	*64*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:21*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.1	0.74	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.39	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.35	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.52	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.19	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorooctanesulfonic acid (PFOS)	**0.36**	**J**	1.7	0.24	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.48	ng/L		10/15/21 14:33	10/18/21 22:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.75	ng/L		10/15/21 14:33	10/18/21 22:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.62	ng/L		10/15/21 14:33	10/18/21 22:03	1
6:2 FTS	ND		4.1	0.91	ng/L		10/15/21 14:33	10/18/21 22:03	1
8:2 FTS	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 22:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*103*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-6
Date Collected: 10/08/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-7
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	10/15/21 14:33	10/18/21 22:03	1
13C5 PFPeA	102		25 - 150	10/15/21 14:33	10/18/21 22:03	1
13C2 PFHxA	97		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C4 PFHpA	105		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C4 PFOA	99		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C5 PFNA	101		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C2 PFDA	95		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C2 PFUnA	91		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C2 PFDoA	87		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C2 PFTeDA	93		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C3 PFBS	113		50 - 150	10/15/21 14:33	10/18/21 22:03	1
18O2 PFHxS	108		50 - 150	10/15/21 14:33	10/18/21 22:03	1
13C4 PFOS	105		50 - 150	10/15/21 14:33	10/18/21 22:03	1
d3-NMeFOSAA	100		50 - 150	10/15/21 14:33	10/18/21 22:03	1
d5-NEtFOSAA	86		50 - 150	10/15/21 14:33	10/18/21 22:03	1
M2-6:2 FTS	129		25 - 150	10/15/21 14:33	10/18/21 22:03	1
M2-8:2 FTS	115		25 - 150	10/15/21 14:33	10/18/21 22:03	1

Client Sample ID: FB-X

Date Collected: 10/07/21 13:20
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-8

Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 16:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*52*		*15 - 110*	*10/12/21 07:16*	*10/14/21 16:35*	*1*

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		10/12/21 07:05	10/12/21 23:34	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:34*	*1*
Tetrachloro-m-xylene	*90*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:34*	*1*
DCB Decachlorobiphenyl	*66*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:34*	*1*
DCB Decachlorobiphenyl	*53*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:34*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.4	0.78	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.41	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.39	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.30	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.34	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.38	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.22	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.50	ng/L		10/15/21 14:33	10/18/21 22:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	0.79	ng/L		10/15/21 14:33	10/18/21 22:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	0.65	ng/L		10/15/21 14:33	10/18/21 22:11	1
6:2 FTS	ND		4.4	0.96	ng/L		10/15/21 14:33	10/18/21 22:11	1
8:2 FTS	ND		1.7	0.34	ng/L		10/15/21 14:33	10/18/21 22:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*85*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: FB-X
Date Collected: 10/07/21 13:20
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-8
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91		25 - 150	10/15/21 14:33	10/18/21 22:11	1
13C5 PFPeA	95		25 - 150	10/15/21 14:33	10/18/21 22:11	1
13C2 PFHxA	93		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C4 PFHpA	98		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C4 PFOA	94		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C5 PFNA	95		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C2 PFDA	89		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C2 PFUnA	88		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C2 PFDoA	87		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C2 PFTeDA	77		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C3 PFBS	104		50 - 150	10/15/21 14:33	10/18/21 22:11	1
18O2 PFHxS	101		50 - 150	10/15/21 14:33	10/18/21 22:11	1
13C4 PFOS	103		50 - 150	10/15/21 14:33	10/18/21 22:11	1
d3-NMeFOSAA	89		50 - 150	10/15/21 14:33	10/18/21 22:11	1
d5-NEtFOSAA	88		50 - 150	10/15/21 14:33	10/18/21 22:11	1
M2-6:2 FTS	123		25 - 150	10/15/21 14:33	10/18/21 22:11	1
M2-8:2 FTS	104		25 - 150	10/15/21 14:33	10/18/21 22:11	1

Client Sample ID: MW-7

Date Collected: 10/08/21 09:00
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-9

Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 16:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*46*		*15 - 110*	*10/12/21 07:16*	*10/14/21 16:59*	*1*

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		10/12/21 07:05	10/12/21 23:47	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1248	**2.1**		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:47*	*1*
Tetrachloro-m-xylene	*87*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:47*	*1*
DCB Decachlorobiphenyl	*107*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:47*	*1*
DCB Decachlorobiphenyl	*89*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:47*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.3	0.77	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoropentanoic acid (PFPeA)	**0.42**	**J**	1.7	0.41	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorohexanoic acid (PFHxA)	**0.74**	**J**	1.7	0.39	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.30	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.33	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.38	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorobutanesulfonic acid (PFBS)	**0.40**	**J**	1.7	0.22	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorooctanesulfonic acid (PFOS)	**0.37**	**J I**	1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.50	ng/L		10/15/21 14:33	10/18/21 22:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	0.78	ng/L		10/15/21 14:33	10/18/21 22:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	0.64	ng/L		10/15/21 14:33	10/18/21 22:20	1
6:2 FTS	ND		4.3	0.95	ng/L		10/15/21 14:33	10/18/21 22:20	1
8:2 FTS	ND		1.7	0.34	ng/L		10/15/21 14:33	10/18/21 22:20	1

Client: New York State D.E.C.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

Client Sample ID: MW-7
Lab Sample ID: 480-190703-9
Date Collected: 10/08/21 09:00
Matrix: Water
Date Received: 10/09/21 08:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	85		25 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFBA	39		25 - 150	10/15/21 14:33	10/18/21 22:20	1
13C5 PFPeA	68		25 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFHxA	77		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFHpA	88		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFOA	87		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C5 PFNA	84		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFDA	80		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFUnA	74		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFDoA	75		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFTeDA	69		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C3 PFBS	87		50 - 150	10/15/21 14:33	10/18/21 22:20	1
18O2 PFHxS	91		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFOS	90		50 - 150	10/15/21 14:33	10/18/21 22:20	1
d3-NMeFOSAA	80		50 - 150	10/15/21 14:33	10/18/21 22:20	1
d5-NEtFOSAA	75		50 - 150	10/15/21 14:33	10/18/21 22:20	1
M2-6:2 FTS	109		25 - 150	10/15/21 14:33	10/18/21 22:20	1
M2-8:2 FTS	90		25 - 150	10/15/21 14:33	10/18/21 22:20	1

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: TRIP BLANK

Date Collected: 10/08/21 00:00
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.2	0.75	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.40	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.38	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.49	ng/L		10/15/21 14:33	10/18/21 22:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	0.76	ng/L		10/15/21 14:33	10/18/21 22:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	0.63	ng/L		10/15/21 14:33	10/18/21 22:28	1
6:2 FTS	ND		4.2	0.92	ng/L		10/15/21 14:33	10/18/21 22:28	1
8:2 FTS	ND		1.7	0.33	ng/L		10/15/21 14:33	10/18/21 22:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*86*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C4 PFBA	*91*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C5 PFPeA	*94*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C2 PFHxA	*93*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C4 PFHpA	*94*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C4 PFOA	*93*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C5 PFNA	*93*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C2 PFDA	*89*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C2 PFUnA	*84*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C2 PFDoA	*92*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C3 PFBS	*107*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
18O2 PFHxS	*98*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
13C4 PFOS	*100*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
d3-NMeFOSAA	*89*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
M2-6:2 FTS	*122*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*
M2-8:2 FTS	*112*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:28*	*1*

Surrogate Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCBP1	DCBP2
Lab Sample ID	Client Sample ID	(39-121)	(39-121)	(19-120)	(19-120)
480-190703-1	MW-1	87	97	63	77
480-190703-1 MS	MW-1	75	87	40	5 S1-
480-190703-1 MSD	MW-1	82	92	58	3 S1-
480-190703-2	MW-X-DUP	84	79	79	91
480-190703-3	MW-2R	79	75	49	58
480-190703-4	MW-3	76	71	55	63
480-190703-5	MW-4	85	76	70	78
480-190703-6	MW-5	83	77	57	66
480-190703-7	MW-6	95	93	64	83
480-190703-8	FB-X	90	86	53	66
480-190703-9	MW-7	87	83	89	107
LCS 480-599955/2-A	Lab Control Sample	77	77	39	49
MB 480-599955/1-A	Method Blank	70	73	47	61

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DXE (15-110)
480-190703-1	MW-1	42
480-190703-1 MS	MW-1	45
480-190703-1 MSD	MW-1	42
480-190703-2	MW-X-DUP	47
480-190703-3	MW-2R	45
480-190703-4	MW-3	34
480-190703-5	MW-4	53
480-190703-7	MW-6	37
480-190703-8	FB-X	52
480-190703-9	MW-7	46
LCS 480-599956/2-A	Lab Control Sample	47
MB 480-599956/1-A	Method Blank	43

Surrogate Legend

DXE = 1,4-Dioxane-d8

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)
480-190703-1	MW-1	91	55	76	78	88	90	91	89
480-190703-1 MS	MW-1	77	50	68	71	80	79	80	80
480-190703-1 MSD	MW-1	90	60	83	87	94	94	97	89
480-190703-2	MW-X-DUP	68	22 *5-	45	57	65	80	85	87
480-190703-3	MW-2R	65	22 *5-	45	55	63	73	81	81
480-190703-4	MW-3	90	65	77	80	86	84	84	81
480-190703-5	MW-4	81	64	77	74	80	81	80	75
480-190703-6	MW-5	81	51	66	72	85	81	83	78
480-190703-7	MW-6	103	93	102	97	105	99	101	95
480-190703-8	FB-X	85	91	95	93	98	94	95	89
480-190703-9	MW-7	85	39	68	77	88	87	84	80
480-190703-10	TRIP BLANK	86	91	94	93	94	93	93	89
LCS 200-172719/2-A	Lab Control Sample	60	76	78	78	78	77	79	75
MB 200-172719/1-A	Method Blank	63	74	78	76	79	77	75	72

		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)
480-190703-1	MW-1	85	86	84	95	101	101	93	89
480-190703-1 MS	MW-1	74	76	73	83	88	87	74	75
480-190703-1 MSD	MW-1	83	82	83	99	101	100	93	84
480-190703-2	MW-X-DUP	91	99	107	74	81	90	102	111
480-190703-3	MW-2R	85	98	103	70	78	84	102	91
480-190703-4	MW-3	77	81	77	94	97	93	84	81
480-190703-5	MW-4	70	70	67	89	87	88	75	69
480-190703-6	MW-5	79	81	79	88	92	89	80	83
480-190703-7	MW-6	91	87	93	113	108	105	100	86
480-190703-8	FB-X	88	87	77	104	101	103	89	88
480-190703-9	MW-7	74	75	69	87	91	90	80	75

Isotope Dilution Summary

Client: New York State D.E.C.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

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

Matrix: Water
Prep Type: Total/NA

		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)
480-190703-10	TRIP BLANK	84	92	74	107	98	100	89	85
LCS 200-172719/2-A	Lab Control Sample	64	60	53	86	84	82	71	60
MB 200-172719/1-A	Method Blank	65	62	56	89	82	79	72	68

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
480-190703-1	MW-1	114	108
480-190703-1 MS	MW-1	102	89
480-190703-1 MSD	MW-1	117	99
480-190703-2	MW-X-DUP	147	135
480-190703-3	MW-2R	143	131
480-190703-4	MW-3	109	98
480-190703-5	MW-4	100	93
480-190703-6	MW-5	112	96
480-190703-7	MW-6	129	115
480-190703-8	FB-X	123	104
480-190703-9	MW-7	109	90
480-190703-10	TRIP BLANK	122	112
LCS 200-172719/2-A	Lab Control Sample	96	91
MB 200-172719/1-A	Method Blank	96	90

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
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: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-599956/1-A
Matrix: Water
Analysis Batch: 600426

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 599956

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 12:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*43*		*15 - 110*	*10/12/21 07:16*	*10/14/21 12:31*	*1*

Lab Sample ID: LCS 480-599956/2-A
Matrix: Water
Analysis Batch: 600426

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 599956

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	2.11		ug/L		105	40 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*47*		*15 - 110*

Lab Sample ID: 480-190703-1 MS
Matrix: Water
Analysis Batch: 600426

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 599956

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	0.18	J	2.00	2.17		ug/L		99	40 - 140

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Dioxane-d8	*45*		*15 - 110*

Lab Sample ID: 480-190703-1 MSD
Matrix: Water
Analysis Batch: 600426

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 599956

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	0.18	J	2.00	2.18		ug/L		100	40 - 140	0	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Dioxane-d8	*42*		*15 - 110*

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

Lab Sample ID: MB 480-599955/1-A
Matrix: Water
Analysis Batch: 600141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 599955

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 18:39	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 18:39	1

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

Lab Sample ID: MB 480-599955/1-A
Matrix: Water
Analysis Batch: 600141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 599955

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 18:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*39 - 121*	*10/12/21 07:05*	*10/12/21 18:39*	*1*
Tetrachloro-m-xylene	*70*		*39 - 121*	*10/12/21 07:05*	*10/12/21 18:39*	*1*
DCB Decachlorobiphenyl	*61*		*19 - 120*	*10/12/21 07:05*	*10/12/21 18:39*	*1*
DCB Decachlorobiphenyl	*47*		*19 - 120*	*10/12/21 07:05*	*10/12/21 18:39*	*1*

Lab Sample ID: LCS 480-599955/2-A
Matrix: Water
Analysis Batch: 600141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 599955

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			4.00	3.69		ug/L		92	62 - 130		
PCB-1260			4.00	3.70		ug/L		93	56 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*77*		*39 - 121*
Tetrachloro-m-xylene	*77*		*39 - 121*
DCB Decachlorobiphenyl	*49*		*19 - 120*
DCB Decachlorobiphenyl	*39*		*19 - 120*

Lab Sample ID: 480-190703-1 MS
Matrix: Water
Analysis Batch: 600293

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 599955

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016	ND	F1	4.00	31.7	F1	ug/L		793	28 - 150		
PCB-1260	ND		4.00	7.25	J	ug/L		NC	25 - 131		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*87*		*39 - 121*
Tetrachloro-m-xylene	*75*		*39 - 121*
DCB Decachlorobiphenyl	*5*	*S1-*	*19 - 120*
DCB Decachlorobiphenyl	*40*		*19 - 120*

Lab Sample ID: 480-190703-1 MSD
Matrix: Water
Analysis Batch: 600293

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 599955

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND	F1	4.00	35.5	F1	ug/L		888	28 - 150	11	50
PCB-1260	ND		4.00	9.92	J	ug/L		NC	25 - 131	31	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*92*		*39 - 121*
Tetrachloro-m-xylene	*82*		*39 - 121*

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

Lab Sample ID: 480-190703-1 MSD
Matrix: Water
Analysis Batch: 600293

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 599955

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	3	S1-	19 - 120
DCB Decachlorobiphenyl	58		19 - 120

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-172719/1-A
Matrix: Water
Analysis Batch: 172780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 172719

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	0.89	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.47	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.45	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.24	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.42	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.34	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.39	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.43	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.63	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.25	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.30	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.23	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.29	ng/L		10/15/21 14:33	10/18/21 20:40	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.58	ng/L		10/15/21 14:33	10/18/21 20:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	0.90	ng/L		10/15/21 14:33	10/18/21 20:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	0.74	ng/L		10/15/21 14:33	10/18/21 20:40	1
6:2 FTS	ND		5.0	1.1	ng/L		10/15/21 14:33	10/18/21 20:40	1
8:2 FTS	ND		2.0	0.39	ng/L		10/15/21 14:33	10/18/21 20:40	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	63		25 - 150	10/15/21 14:33	10/18/21 20:40	1
13C4 PFBA	74		25 - 150	10/15/21 14:33	10/18/21 20:40	1
13C5 PFPeA	78		25 - 150	10/15/21 14:33	10/18/21 20:40	1
13C2 PFHxA	76		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C4 PFHpA	79		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C4 PFOA	77		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C5 PFNA	75		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C2 PFDA	72		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C2 PFUnA	65		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C2 PFDoA	62		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C2 PFTeDA	56		50 - 150	10/15/21 14:33	10/18/21 20:40	1
13C3 PFBS	89		50 - 150	10/15/21 14:33	10/18/21 20:40	1
18O2 PFHxS	82		50 - 150	10/15/21 14:33	10/18/21 20:40	1

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

Lab Sample ID: MB 200-172719/1-A
Matrix: Water
Analysis Batch: 172780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 172719

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	79		50 - 150	10/15/21 14:33	10/18/21 20:40	1
d3-NMeFOSAA	72		50 - 150	10/15/21 14:33	10/18/21 20:40	1
d5-NEtFOSAA	68		50 - 150	10/15/21 14:33	10/18/21 20:40	1
M2-6:2 FTS	96		25 - 150	10/15/21 14:33	10/18/21 20:40	1
M2-8:2 FTS	90		25 - 150	10/15/21 14:33	10/18/21 20:40	1

Lab Sample ID: LCS 200-172719/2-A
Matrix: Water
Analysis Batch: 172780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 172719

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	36.8		ng/L		92	50 - 150
Perfluoropentanoic acid (PFPeA)	40.0	38.0		ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	40.0	37.0		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	40.0	36.6		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	38.1		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	40.0	37.8		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	40.0	35.7		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	41.7		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	35.2		ng/L		88	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	30.0		ng/L		75	70 - 130
Perfluorotetradecanoic acid (PFTeA)	40.0	36.4		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	33.1		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.4		ng/L		92	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.0		ng/L		97	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	31.3		ng/L		81	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	34.4		ng/L		93	70 - 130
Perfluorooctanesulfonamide (FOSA)	40.0	35.6		ng/L		89	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	34.9		ng/L		87	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	36.5		ng/L		91	70 - 130
6:2 FTS	37.9	33.6		ng/L		89	50 - 150
8:2 FTS	38.3	37.8		ng/L		99	50 - 150

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	60		25 - 150
13C4 PFBA	76		25 - 150
13C5 PFPeA	78		25 - 150
13C2 PFHxA	78		50 - 150
13C4 PFHpA	78		50 - 150
13C4 PFOA	77		50 - 150

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

Lab Sample ID: LCS 200-172719/2-A
Matrix: Water
Analysis Batch: 172780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 172719

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C5 PFNA	79		50 - 150
13C2 PFDA	75		50 - 150
13C2 PFUnA	64		50 - 150
13C2 PFDoA	60		50 - 150
13C2 PFTeDA	53		50 - 150
13C3 PFBS	86		50 - 150
18O2 PFHxS	84		50 - 150
13C4 PFOS	82		50 - 150
d3-NMeFOSAA	71		50 - 150
d5-NEtFOSAA	60		50 - 150
M2-6:2 FTS	96		25 - 150
M2-8:2 FTS	91		25 - 150

Lab Sample ID: 480-190703-1 MS
Matrix: Water
Analysis Batch: 172780

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 172719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	100		34.3	133		ng/L		91	40 - 160
Perfluoropentanoic acid (PFPeA)	22		34.3	51.8		ng/L		87	40 - 160
Perfluorohexanoic acid (PFHxA)	16		34.3	49.1		ng/L		97	40 - 160
Perfluoroheptanoic acid (PFHpA)	4.8		34.3	36.2		ng/L		92	40 - 160
Perfluorooctanoic acid (PFOA)	9.3		34.3	42.5		ng/L		97	40 - 160
Perfluorononanoic acid (PFNA)	ND		34.3	33.5		ng/L		98	40 - 160
Perfluorodecanoic acid (PFDA)	ND		34.3	32.0		ng/L		93	40 - 160
Perfluoroundecanoic acid (PFUnA)	ND		34.3	34.2		ng/L		100	40 - 160
Perfluorododecanoic acid (PFDoA)	ND		34.3	28.8		ng/L		84	40 - 160
Perfluorotridecanoic acid (PFTriA)	ND		34.3	29.4		ng/L		86	40 - 160
Perfluorotetradecanoic acid (PFTeA)	ND		34.3	34.7		ng/L		101	40 - 160
Perfluorobutanesulfonic acid (PFBS)	2.9		30.3	31.2		ng/L		93	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.76	J	31.2	30.2		ng/L		94	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	ND		32.7	33.6		ng/L		103	40 - 160
Perfluorodecanesulfonic acid (PFDS)	ND		33.1	28.8		ng/L		87	40 - 160
Perfluorooctanesulfonic acid (PFOS)	0.31	J	31.8	30.1		ng/L		94	40 - 160
Perfluorooctanesulfonamide (FOSA)	ND		34.3	31.3		ng/L		91	40 - 160
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.3	31.4		ng/L		92	40 - 160
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		34.3	31.1		ng/L		91	40 - 160
6:2 FTS	ND		32.5	27.0		ng/L		83	40 - 160
8:2 FTS	ND		32.9	32.6		ng/L		99	40 - 160

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

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C8 FOSA	77		25 - 150
13C4 PFBA	50		25 - 150
13C5 PFPeA	68		25 - 150
13C2 PFHxA	71		50 - 150
13C4 PFHpA	80		50 - 150
13C4 PFOA	79		50 - 150
13C5 PFNA	80		50 - 150
13C2 PFDA	80		50 - 150
13C2 PFUnA	74		50 - 150
13C2 PFDoA	76		50 - 150
13C2 PFTeDA	73		50 - 150
13C3 PFBS	83		50 - 150
18O2 PFHxS	88		50 - 150
13C4 PFOS	87		50 - 150
d3-NMeFOSAA	74		50 - 150
d5-NEtFOSAA	75		50 - 150
M2-6:2 FTS	102		25 - 150
M2-8:2 FTS	89		25 - 150

Lab Sample ID: 480-190703-1 MSD
Matrix: Water
Analysis Batch: 172780

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 172719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	100		34.4	132		ng/L		88	40 - 160	1	30
Perfluoropentanoic acid (PFPeA)	22		34.4	53.6		ng/L		92	40 - 160	4	30
Perfluorohexanoic acid (PFHxA)	16		34.4	48.0		ng/L		94	40 - 160	2	20
Perfluoroheptanoic acid (PFHpA)	4.8		34.4	36.0		ng/L		91	40 - 160	0	20
Perfluorooctanoic acid (PFOA)	9.3		34.4	41.5		ng/L		93	40 - 160	2	20
Perfluorononanoic acid (PFNA)	ND		34.4	32.3		ng/L		94	40 - 160	3	20
Perfluorodecanoic acid (PFDA)	ND		34.4	30.3		ng/L		88	40 - 160	5	20
Perfluoroundecanoic acid (PFUnA)	ND		34.4	33.2		ng/L		97	40 - 160	3	20
Perfluorododecanoic acid (PFDoA)	ND		34.4	29.6		ng/L		86	40 - 160	3	20
Perfluorotridecanoic acid (PFTriA)	ND		34.4	28.1		ng/L		82	40 - 160	5	20
Perfluorotetradecanoic acid (PFTeA)	ND		34.4	34.2		ng/L		99	40 - 160	2	20
Perfluorobutanesulfonic acid (PFBS)	2.9		30.4	30.8		ng/L		92	40 - 160	1	20
Perfluorohexanesulfonic acid (PFHxS)	0.76	J	31.3	29.8		ng/L		93	40 - 160	1	20
Perfluoroheptanesulfonic Acid (PFHpS)	ND		32.8	32.1		ng/L		98	40 - 160	5	30
Perfluorodecanesulfonic acid (PFDS)	ND		33.2	26.9		ng/L		81	40 - 160	7	30
Perfluorooctanesulfonic acid (PFOS)	0.31	J	31.9	28.9		ng/L		90	40 - 160	4	20
Perfluorooctanesulfonamide (FOSA)	ND		34.4	29.8		ng/L		87	40 - 160	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.4	28.2		ng/L		82	40 - 160	11	20
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		34.4	32.5		ng/L		95	40 - 160	4	20

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

Lab Sample ID: 480-190703-1 MSD
Matrix: Water
Analysis Batch: 172780

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 172719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
6:2 FTS	ND		32.6	29.1		ng/L		89	40 - 160	8	30
8:2 FTS	ND		33.0	33.2		ng/L		101	40 - 160	2	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C8 FOSA	*90*		*25 - 150*
13C4 PFBA	*60*		*25 - 150*
13C5 PFPeA	*83*		*25 - 150*
13C2 PFHxA	*87*		*50 - 150*
13C4 PFHpA	*94*		*50 - 150*
13C4 PFOA	*94*		*50 - 150*
13C5 PFNA	*97*		*50 - 150*
13C2 PFDA	*89*		*50 - 150*
13C2 PFUnA	*83*		*50 - 150*
13C2 PFDoA	*82*		*50 - 150*
13C2 PFTeDA	*83*		*50 - 150*
13C3 PFBS	*99*		*50 - 150*
18O2 PFHxS	*101*		*50 - 150*
13C4 PFOS	*100*		*50 - 150*
d3-NMeFOSAA	*93*		*50 - 150*
d5-NEtFOSAA	*84*		*50 - 150*
M2-6:2 FTS	*117*		*25 - 150*
M2-8:2 FTS	*99*		*25 - 150*

GC/MS Semi VOA

Prep Batch: 599956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-1	MW-1	Total/NA	Water	3510C	
480-190703-2	MW-X-DUP	Total/NA	Water	3510C	
480-190703-3	MW-2R	Total/NA	Water	3510C	
480-190703-4	MW-3	Total/NA	Water	3510C	
480-190703-5	MW-4	Total/NA	Water	3510C	
480-190703-7	MW-6	Total/NA	Water	3510C	
480-190703-8	FB-X	Total/NA	Water	3510C	
480-190703-9	MW-7	Total/NA	Water	3510C	
MB 480-599956/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-599956/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-190703-1 MS	MW-1	Total/NA	Water	3510C	
480-190703-1 MSD	MW-1	Total/NA	Water	3510C	

Analysis Batch: 600426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-1	MW-1	Total/NA	Water	8270D SIM ID	599956
480-190703-2	MW-X-DUP	Total/NA	Water	8270D SIM ID	599956
480-190703-3	MW-2R	Total/NA	Water	8270D SIM ID	599956
480-190703-4	MW-3	Total/NA	Water	8270D SIM ID	599956
480-190703-5	MW-4	Total/NA	Water	8270D SIM ID	599956
480-190703-7	MW-6	Total/NA	Water	8270D SIM ID	599956
480-190703-8	FB-X	Total/NA	Water	8270D SIM ID	599956
480-190703-9	MW-7	Total/NA	Water	8270D SIM ID	599956
MB 480-599956/1-A	Method Blank	Total/NA	Water	8270D SIM ID	599956
LCS 480-599956/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	599956
480-190703-1 MS	MW-1	Total/NA	Water	8270D SIM ID	599956
480-190703-1 MSD	MW-1	Total/NA	Water	8270D SIM ID	599956

GC Semi VOA

Prep Batch: 599955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-1	MW-1	Total/NA	Water	3510C	
480-190703-2	MW-X-DUP	Total/NA	Water	3510C	
480-190703-3	MW-2R	Total/NA	Water	3510C	
480-190703-4	MW-3	Total/NA	Water	3510C	
480-190703-5	MW-4	Total/NA	Water	3510C	
480-190703-6	MW-5	Total/NA	Water	3510C	
480-190703-7	MW-6	Total/NA	Water	3510C	
480-190703-8	FB-X	Total/NA	Water	3510C	
480-190703-9	MW-7	Total/NA	Water	3510C	
MB 480-599955/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-599955/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-190703-1 MS	MW-1	Total/NA	Water	3510C	
480-190703-1 MSD	MW-1	Total/NA	Water	3510C	

Analysis Batch: 600141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-2	MW-X-DUP	Total/NA	Water	8082A	599955
480-190703-3	MW-2R	Total/NA	Water	8082A	599955
480-190703-4	MW-3	Total/NA	Water	8082A	599955

GC Semi VOA (Continued)

Analysis Batch: 600141 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-5	MW-4	Total/NA	Water	8082A	599955
480-190703-6	MW-5	Total/NA	Water	8082A	599955
480-190703-7	MW-6	Total/NA	Water	8082A	599955
480-190703-8	FB-X	Total/NA	Water	8082A	599955
480-190703-9	MW-7	Total/NA	Water	8082A	599955
MB 480-599955/1-A	Method Blank	Total/NA	Water	8082A	599955
LCS 480-599955/2-A	Lab Control Sample	Total/NA	Water	8082A	599955

Analysis Batch: 600293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-1	MW-1	Total/NA	Water	8082A	599955
480-190703-1 MS	MW-1	Total/NA	Water	8082A	599955
480-190703-1 MSD	MW-1	Total/NA	Water	8082A	599955

LCMS

Prep Batch: 172719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-1	MW-1	Total/NA	Water	3535	
480-190703-2	MW-X-DUP	Total/NA	Water	3535	
480-190703-3	MW-2R	Total/NA	Water	3535	
480-190703-4	MW-3	Total/NA	Water	3535	
480-190703-5	MW-4	Total/NA	Water	3535	
480-190703-6	MW-5	Total/NA	Water	3535	
480-190703-7	MW-6	Total/NA	Water	3535	
480-190703-8	FB-X	Total/NA	Water	3535	
480-190703-9	MW-7	Total/NA	Water	3535	
480-190703-10	TRIP BLANK	Total/NA	Water	3535	
MB 200-172719/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-172719/2-A	Lab Control Sample	Total/NA	Water	3535	
480-190703-1 MS	MW-1	Total/NA	Water	3535	
480-190703-1 MSD	MW-1	Total/NA	Water	3535	

Analysis Batch: 172780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-190703-1	MW-1	Total/NA	Water	537 (modified)	172719
480-190703-2	MW-X-DUP	Total/NA	Water	537 (modified)	172719
480-190703-3	MW-2R	Total/NA	Water	537 (modified)	172719
480-190703-4	MW-3	Total/NA	Water	537 (modified)	172719
480-190703-5	MW-4	Total/NA	Water	537 (modified)	172719
480-190703-6	MW-5	Total/NA	Water	537 (modified)	172719
480-190703-7	MW-6	Total/NA	Water	537 (modified)	172719
480-190703-8	FB-X	Total/NA	Water	537 (modified)	172719
480-190703-9	MW-7	Total/NA	Water	537 (modified)	172719
480-190703-10	TRIP BLANK	Total/NA	Water	537 (modified)	172719
MB 200-172719/1-A	Method Blank	Total/NA	Water	537 (modified)	172719
LCS 200-172719/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	172719
480-190703-1 MS	MW-1	Total/NA	Water	537 (modified)	172719
480-190703-1 MSD	MW-1	Total/NA	Water	537 (modified)	172719

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-1
Date Collected: 10/07/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 14:09	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		20	600293	10/13/21 17:14	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 20:57	ND	TAL BUR

Client Sample ID: MW-X-DUP
Date Collected: 10/07/21 09:05
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 14:33	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 21:52	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 21:22	ND	TAL BUR

Client Sample ID: MW-2R
Date Collected: 10/07/21 09:55
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 14:58	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 22:05	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 21:30	ND	TAL BUR

Client Sample ID: MW-3
Date Collected: 10/07/21 15:20
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 15:22	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 22:18	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 21:38	ND	TAL BUR

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-4
Date Collected: 10/07/21 13:10
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 15:46	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 22:30	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 21:47	ND	TAL BUR

Client Sample ID: MW-5
Date Collected: 10/08/21 10:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 22:43	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 21:55	ND	TAL BUR

Client Sample ID: MW-6
Date Collected: 10/08/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 16:11	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 23:21	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 22:03	ND	TAL BUR

Client Sample ID: FB-X
Date Collected: 10/07/21 13:20
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 16:35	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 23:34	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 22:11	ND	TAL BUR

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Client Sample ID: MW-7

Lab Sample ID: 480-190703-9

Date Collected: 10/08/21 09:00

Matrix: Water

Date Received: 10/09/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			599956	10/12/21 07:16	SMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	600426	10/14/21 16:59	IMZ	TAL BUF
Total/NA	Prep	3510C			599955	10/12/21 07:05	SMP	TAL BUF
Total/NA	Analysis	8082A		1	600141	10/12/21 23:47	W1T	TAL BUF
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 22:20	ND	TAL BUR

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-190703-10

Date Collected: 10/08/21 00:00

Matrix: Water

Date Received: 10/09/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			172719	10/15/21 14:33	EK	TAL BUR
Total/NA	Analysis	537 (modified)		1	172780	10/18/21 22:28	ND	TAL BUR

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.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

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

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2336	02-25-23
Connecticut	State	PH-0751	09-30-21 *
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	05-17-22
Florida	NELAP	E87467	06-30-22
Minnesota	NELAP	050-999-436	12-31-21
New Hampshire	NELAP	2006	12-18-21
New Jersey	NELAP	VT972	06-30-22
New York	NELAP	10391	04-01-22
Pennsylvania	NELAP	68-00489	04-30-22
Rhode Island	State	LAO00298	12-30-21
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00272	10-30-23
Vermont	State	VT4000	02-10-22
Virginia	NELAP	460209	12-14-21
Wisconsin	State	399133350	08-31-22

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

Method Summary

Client: New York State D.E.C.
Project/Site: Oswego Castings #738033

Job ID: 480-190703-1

Method	Method Description	Protocol	Laboratory
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	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

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: Oswego Castings #738033

Job ID: 480-190703-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-190703-1	MW-1	Water	10/07/21 09:30	10/09/21 08:00
480-190703-2	MW-X-DUP	Water	10/07/21 09:05	10/09/21 08:00
480-190703-3	MW-2R	Water	10/07/21 09:55	10/09/21 08:00
480-190703-4	MW-3	Water	10/07/21 15:20	10/09/21 08:00
480-190703-5	MW-4	Water	10/07/21 13:10	10/09/21 08:00
480-190703-6	MW-5	Water	10/08/21 10:30	10/09/21 08:00
480-190703-7	MW-6	Water	10/08/21 09:30	10/09/21 08:00
480-190703-8	FB-X	Water	10/07/21 13:20	10/09/21 08:00
480-190703-9	MW-7	Water	10/08/21 09:00	10/09/21 08:00
480-190703-10	TRIP BLANK	Water	10/08/21 00:00	10/09/21 08:00

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

AFAI → BVT From Syr - RE

Client Information			
Client Contact: Jasmine Mullins	Sampler: K. Stilson R. Thomas	Lab PM: Stone, Judy L	Carrier Tracking No(s): Syracuse #225
Company: ARCADIS U.S. Inc	Phone: 646-248-4208	E-Mail: Judy.Stone@Eurofinset.com	State of Origin:
Address: 855 Route 146 Suite 210	PWSID:		COC No: 480-163122-35835.2
City: Clifton Park	Due Date Requested:		Page: RS 1 Page 2 of 2
State, Zip: NY, 12065	TAT Requested (days): Standard		Job #:
Phone: 518-402-9625(Tel)	Compliance Project: Δ Yes Δ No		
Email: jasmine.mullins@arcadis.com	PO #: Callout ID: 137998		
Project Name: Oswego Castings #738033	WO #:		
Site:	Project #: 48024066		
	SSOW#:		

Preservation Codes: A - HCL, B - NaOH, M - Hexane, N - None, O - AsNaO2

480-190703 Chain of Custody

Other:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21) - SAC	8082A - TCL PCBs	8270D_SIM_MS_ID - 1,4-Dioxane	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N		
MW-1	10/7/21	0930	G	Water	N	Y	2	2	2	6	
MW-1 MS	|	0930	G	Water	N	Y	2	2	2	6	
MW-1 MSD	|	0930	G	Water	N	Y	2	2	2	6	
MW-X-DUP	|	0905	G	Water	N	N	2	2	2	6	
MW-2R	10/7/21	0955	G	Water	N	N	2	2	2	6	
MW-3	|	1520	G	|	N	N	2	2	2	6	
MW-4	|	1310	G	|	N	N	2	2	2	6	
MW-5	10/8/21	1030	G	|	N	N	2	2	0	2	low volume
MW-6	|	0930	G	|	N	N	2	2	2	6	
FB-X	10/7/21	1320	G	|	N	N	2	2	2	6	
Trip Blank	10/8/21	0900	G		N	N	2	0	0	2	

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: K Stilson	Date/Time: 10/8/21 1300	Company: Arcadis		Received by: R. English		Date/Time: 10.8.21, 1300	Company: Syr
Relinquished by: R. English	Date/Time: 10.8.21, 1900	Company: Syr		Received by: C Wallace		Date/Time: 10/9/21 0800	Company: TAB
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 2.5, 2.2, 2.1

Ver: 06/08/2021

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

PFAS → BUT FROM Syr - RE

Chain of Custody Record

eurofins | Environment Testing America

Syracuse #225

Client Information	Sampler: K. Stilson R. Morris	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-163122-35835.2
Client Contact: Jasmine Mullins	Phone: 646-248-4208	E-Mail: Judy.Stone@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: 855 Route 146 Suite 210	Due Date Requested:			
City: Clifton Park	TAT Requested (days): Standard			
State, Zip: NY, 12065	Compliance Project: Δ Yes Δ No			
Phone: 518-402-9625(Tel)	PO #: Callout ID: 137998			
Email: jasmine.mullins@arcadis.com	WO #:			
Project Name: Oswego Castings #738033	Project #: 48024066			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21) - SAC	8082A - TCL PCBs	8270D_SIM_MS_ID - 1,4-Dioxane	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N		
MW-7	10/8/21	0900	G	Water	N	N	2	2	2	6	

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:

UA 10/8/21

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: K Stilson	Date/Time: 10/8/21 1300	Company: Arcadis	Received by: R. English
Relinquished by: R English	Date/Time: 10.8.21, 1900	Company: Syr	Received by: C Walker
Relinquished by:	Date/Time:	Company:	Received by:

Received by: R. English	Date/Time: 10.8.21, 1300	Company: Syr
Received by: C Walker	Date/Time: 10/9/21 0800	Company: TAS
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 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

AFAI → BVT From Syr - RE

Syracuse #225

Client Information			
Client Contact: Jasmine Mullins	Sampler: K. Stilson R. Thomas	Lab PM: Stone, Judy L	COC No: 480-163122-35835.2
Company: ARCADIS U.S. Inc	Phone: 646-248-4208	E-Mail: Judy.Stone@Eurofinset.com	Page: RS 1 Page 2 of 2
Address: 855 Route 146 Suite 210	Due Date Requested:	State of Origin:	Job #:
City: Clifton Park	TAT Requested (days): Standard		
State, Zip: NY, 12065	Compliance Project: Δ Yes Δ No		
Phone: 518-402-9625(Tel)	PO #: Callout ID: 137998	PWSID:	
Email: jasmine.mullins@arcadis.com	WO #:		
Project Name: Oswego Castings #738033	Project #: 48024066		
Site:	SSOW#:		

480-190703 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21) - SAC	8082A - TCL PCBs	8270D_SIM_MS_ID - 1,4-Dioxane	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N		
MW-1	10/7/21	0930	G	Water	N	Y	2	2	2	6	
MW-1 MS	|	0930	G	Water	N	Y	2	2	2	6	
MW-1 MSD	|	0930	G	water	N	Y	2	2	2	6	
MW-X-DUP	|	0905	G	water	N	N	2	2	2	6	
MW-2R	10/7/21	0955	G	water	N	N	2	2	2	6	
MW-3	|	1520	G	|	N	N	2	2	2	6	
MW-4	|	1310	G	|	N	N	2	2	2	6	
MW-5	10/8/21	1030	G	|	N	N	2	2	0	4	low volume
MW-6	|	0930	G	|	N	N	2	2	2	6	
FB-X	10/7/21	1320	G	|	N	N	2	2	2	6	
Trip Blank	10/8/21	0900	G		N	N	2	0	0	2	

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

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
K Stilson	10/8/21 1300	Arcadis	R. English	10.8.21 1300	Syr
R. English	10.8.21, 1900	Syr	Michael Sollo	10/9/21 1000	EETBuf

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

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991 PFAS → BUT FROM SYR - RE

Chain of Custody Record

eurofins | Environment Testing America

Syracuse #225

Client Information			
Client Contact: Jasmine Mullins	Sampler: K. Stilson R. Morris	Lab PM: Stone, Judy L	Carrier Tracking No(s):
Company: ARCADIS U.S. Inc	Phone: 646-248-4208	E-Mail: Judy.Stone@Eurofinset.com	State of Origin:
Address: 855 Route 146 Suite 210	PWSID:		COC No: 480-163122-35835.2
City: Clifton Park	Due Date Requested:		Page: Page 2 of 2
State, Zip: NY, 12065	TAT Requested (days): Standard		Job #:
Phone: 518-402-9625(Tel)	Compliance Project: Δ Yes Δ No		
Email: jasmine.mullins@arcadis.com	PO #: Callout ID: 137998		
Project Name: Oswego Castings #738033	WO #:		
Site:	Project #: 48024066		
	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21) - SAC	8082A - TCL PCBs	8270D_SIM_MS_ID - 1,4-Dioxane	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	N	N	X	
MW-7	10/8/21	0900	G	Water	N	N	2	2	2	6	

KA 10/8/21

Preservation Codes:

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

Other:

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
K Stilson	10/8/21 1300	Arcadis	R. Engliluk	10.8.21, 1300	Syr
R Engliluk	10.8.21, 1900	Syr	[illegible]	10/9/21 1000	ETA Buf

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

Ver: 06/08/2021

FedEx®

eurofins | Environment Testing
TestAmerica

Part # 159469-434 RI2 EXP 04/22

ORIGIN ID:SYRA (315) 431-0171
SYR SERVICE CENTER
EUROFINS TESTAMERICA
118 BOSS RD

SYRACUSE, NY 13211
UNITED STATES US

SHIP DATE: 08OCT21
ACTWGT: 27.00 LB MAN
CAD: 0883373/CAFE3506

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
530 COMMUNITY DRIVE SUITE 11

SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: ARCADIS OSWEGO CASTINGS 1COOLER

570C2/077B/6F4D

FedEx
Express

E

J211020121101uv

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 9735 8147 2442

XO BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: New York State D.E.C. Job Number: 480-190703-1

Login Number: 190703 **List Source: Eurofins TestAmerica, Buffalo**
List Number: 1
Creator: Wallace, Cameron

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.	N/A	
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	ARCADIS
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: 480-190703-1

Login Number: 190703
List Number: 2
Creator: Beane, John P

List Source: Eurofins TestAmerica, Burlington
List Creation: 10/09/21 11:08 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	1660427
Sample custody seals, if present, are intact.	N/A	Not Present
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	0.9ºC
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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX G

Data Usability Summary Report

Data Usability Summary Report

Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

Oswego Casting #738033
Eurofins SDG#480-190703-1
January 4, 2022
Sampling date: 10/7, 8/2021

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Arcadis U.S. Inc., project located at Oswego Casting #738033, Eurofins SDG#480-190703-1 submitted to Vali-Data of WNY, LLC on November 21, 2021. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG), NYSDEC; 'Guidelines for Sampling and Analysis of PFAS'(6/2021) and NYSDEC Analytical Services Protocols. The laboratory performed the analyses using USEPA method Semi-Volatile Organics (8270D SIM ID), PCB (8082A) and Perfluorinated Hydrocarbons (537 modified).

ID	Sample ID	Laboratory ID
1	MW-1	480-190703-1
2	MW-X-DUP	480-190703-2
3	MW-2R	480-190703-3
4	MW-3	480-190703-4
5	MW-4	480-190703-5
6	MW-5	480-190703-6
7	MW-6	480-190703-7
8	FB-X	480-190703-8
9	MW-7	480-190703-9
10	TRIP BLANK	480-190703-10

SEMIVOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.
Data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All the criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.
Alternate forms of regression were performed on some target analytes, with acceptable results except as mentioned above.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

PCB

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in MS/MSD and Initial Calibration.

Samples: MW-1 and MW-1MS/MSD were diluted due to high target analyte concentrations.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.
Some surrogates were outside QC limits due to dilution, so no further action is required.

METHOD BLANK
All the criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All the criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All the criteria were met except the RPD of Aroclor 1260 was outside QC limits between the columns in MW-1MS/MSD and should be qualified as estimated.
Some target analytes were outside QC limits due to dilution, so no further action is required.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met except the %D of Aroclor 1268 peak 4 was outside QC limits off both columns in ICV 480-581327/30. This target analyte should be qualified as estimated in the blanks, samples and spikes.
Alternate forms of regression were used on all of the target analytes and surrogates, with acceptable results.

CONTINUING CALIBRATION
All criteria were met.

PFAA

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS)
- Surrogate Recoveries
- Blanks
- Field Duplicate Sample Precision

- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in Surrogate Recoveries and Blanks.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE RECOVERIES
All criteria were met except the %Rec of a surrogate was outside QC limits and should be qualified as estimated. Associated target analytes should be qualified as estimated.

Surrogate	%Rec	Qualifier	Associated Sample
13C4PFBA	22	J	2, 3

BLANKS
All the criteria were met except some target analytes were detected above the MDL, below the reporting limit and are qualified as estimated in ICB 200-168873/8. These target analytes should be qualified as undetected at the reporting limit in associated samples in which they were detected below the reporting limit. These target analytes should be qualified as estimated high in associated samples in which they were detected above the reporting limit but below 10x the blank concentration.

Target Analyte	Concentration (ng/L)	Qualifier	Associated Sample
PFHpA	6.77	JH	1-3
PFHpA	6.77	U at RL	4-6
PFNA	7.26	JH	2, 3
PFDA	6.91	U at RL	2
PFBS	6.3	JH	1
PFBS	6.3	U at RL	4, 6, 9
PFHxS	8.91	JH	3
PFHxS	8.91	U at RL	1, 2, 6
PFHpS	6.28	U at RL	None
PFOS	10.3	JH	2, 3
PFOS	10.3	U at RL	1, 6, 7, 9
NMeFOSAA	27	U at RL	None
NEtFOSAA	24.9	U at RL	None

FIELD DUPLICATE SAMPLE PRECISION
All the criteria were met except PFDA was detected in MW-X-DUP but was not detected in MW-2R.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All the criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met.

Job Narrative
480-190703-1

Comments
No additional comments.

Receipt
The samples were received on 10/9/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.2º C, 2.5º C and 2.9º C.

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

GC Semi VOA
Method 8082A: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-1 (480-190703-1), MW-1 (480-190703-1[MS]) and MW-1 (480-190703-1[MSD]). Elevated reporting limits (RLs) are provided.

Method 8082A: The following samples were diluted due to the abundance of target analytes : MW-1 (480-190703-1[MS]) and MW-1 (480-190703-1[MSD]). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

LCMS
Method 537 (modified): 13C4 PFBA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: MW-X-DUP (480-190703-2) and MW-2R (480-190703-3). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 537 (modified): The following samples exhibited elevated noise or matrix interferences for Perfluorobutanesulfonic acid (PFBS) causing elevation of the detection limit (EDL): MW-X-DUP (480-190703-2) and MW-2R (480-190703-3) . The reporting limit (RL) for PFBS has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 537 (modified): Method 537 (modified): The “I” qualifier associated with sample MW-7 (480-190703-9) is applied because the transition mass ratio for the indicated analyte(s) was outside of the established ratio limits. The qualitative identification has some degree of uncertainty, however analyst judgment was used to positively identify the analyte(s).

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

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

Client Sample ID: MW-1
Date Collected: 10/07/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-1
Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.18**	**J**	0.20	0.10	ug/L		10/12/21 07:16	10/14/21 14:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*42*		*15 - 110*	*10/12/21 07:16*	*10/14/21 14:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	F1	10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1221	ND		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1232	ND		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1242	ND		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1248	**74**		10	3.5	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1254	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1260	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1262	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20
PCB-1268	ND		10	5.0	ug/L		10/12/21 07:05	10/13/21 17:14	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*97*		*39 - 121*	*10/12/21 07:05*	*10/13/21 17:14*	*20*
Tetrachloro-m-xylene	*87*		*39 - 121*	*10/12/21 07:05*	*10/13/21 17:14*	*20*
DCB Decachlorobiphenyl	*77*		*19 - 120*	*10/12/21 07:05*	*10/13/21 17:14*	*20*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*10/12/21 07:05*	*10/13/21 17:14*	*20*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**100**		4.4	0.79	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoropentanoic acid (PFPeA)	**22**		1.8	0.42	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorohexanoic acid (PFHxA)	**16**		1.8	0.40	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoroheptanoic acid (PFHpA)	**4.8**		1.8	0.21	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorooctanoic acid (PFOA)	**9.3**		1.8	0.37	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.30	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.34	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.38	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.56	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.8	0.22	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.76**	**J**	1.8	0.27	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.21	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.27	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorooctanesulfonic acid (PFOS)	**0.31**	**J**	1.8	0.26	ng/L		10/15/21 14:33	10/18/21 20:57	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.51	ng/L		10/15/21 14:33	10/18/21 20:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	0.79	ng/L		10/15/21 14:33	10/18/21 20:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	0.65	ng/L		10/15/21 14:33	10/18/21 20:57	1
6:2 FTS	ND		4.4	0.96	ng/L		10/15/21 14:33	10/18/21 20:57	1
8:2 FTS	ND		1.8	0.34	ng/L		10/15/21 14:33	10/18/21 20:57	1

Client Sample ID: MW-1
Lab Sample ID: 480-190703-1
Date Collected: 10/07/21 09:30
Matrix: Water
Date Received: 10/09/21 08:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	91		25 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFBA	55		25 - 150	10/15/21 14:33	10/18/21 20:57	1
13C5 PFPeA	76		25 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFHxA	78		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFHpA	88		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFOA	90		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C5 PFNA	91		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFDA	89		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFUnA	85		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFDoA	86		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C2 PFTeDA	84		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C3 PFBS	95		50 - 150	10/15/21 14:33	10/18/21 20:57	1
18O2 PFHxS	101		50 - 150	10/15/21 14:33	10/18/21 20:57	1
13C4 PFOS	101		50 - 150	10/15/21 14:33	10/18/21 20:57	1
d3-NMeFOSAA	93		50 - 150	10/15/21 14:33	10/18/21 20:57	1
d5-NEtFOSAA	89		50 - 150	10/15/21 14:33	10/18/21 20:57	1
M2-6:2 FTS	114		25 - 150	10/15/21 14:33	10/18/21 20:57	1
M2-8:2 FTS	108		25 - 150	10/15/21 14:33	10/18/21 20:57	1

Client Sample ID: MW-X-DUP
Lab Sample ID: 480-190703-2
Date Collected: 10/07/21 09:05
Matrix: Water
Date Received: 10/09/21 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 14:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	47		15 - 110	10/12/21 07:16	10/14/21 14:33	1

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		10/12/21 07:05	10/12/21 21:52	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		39 - 121	10/12/21 07:05	10/12/21 21:52	1
Tetrachloro-m-xylene	84		39 - 121	10/12/21 07:05	10/12/21 21:52	1
DCB Decachlorobiphenyl	91		19 - 120	10/12/21 07:05	10/12/21 21:52	1
DCB Decachlorobiphenyl	79		19 - 120	10/12/21 07:05	10/12/21 21:52	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**53**		4.1	0.73	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoropentanoic acid (PFPeA)	**18**		1.6	0.39	ng/L		10/15/21 14:33	10/18/21 21:22	1

Client Sample ID: MW-X-DUP
Lab Sample ID: 480-190703-2

Date Collected: 10/07/21 09:05
Matrix: Water
Date Received: 10/09/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**19**		1.6	0.37	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoroheptanoic acid (PFHpA)	**8.1**		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorooctanoic acid (PFOA)	**14**		1.6	0.35	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorononanoic acid (PFNA)	**1.6**		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorodecanoic acid (PFDA)	**0.27**	**J**	1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.28	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.36	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorobutanesulfonic acid (PFBS)	ND	G	9.0	9.0	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorooctanesulfonic acid (PFOS)	**4.9**		1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:22	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.47	ng/L		10/15/21 14:33	10/18/21 21:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.74	ng/L		10/15/21 14:33	10/18/21 21:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.61	ng/L		10/15/21 14:33	10/18/21 21:22	1
6:2 FTS	ND		4.1	0.90	ng/L		10/15/21 14:33	10/18/21 21:22	1
8:2 FTS	ND		1.6	0.32	ng/L		10/15/21 14:33	10/18/21 21:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*68*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C4 PFBA	*22*	*5-	*25 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C5 PFPeA	*45*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C2 PFHxA	*57*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C4 PFHpA	*65*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C4 PFOA	*80*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C5 PFNA	*85*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C2 PFDA	*87*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C2 PFUnA	*91*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C2 PFDoA	*99*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C2 PFTeDA	*107*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C3 PFBS	*74*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
18O2 PFHxS	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
13C4 PFOS	*90*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
d5-NEtFOSAA	*111*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
M2-6:2 FTS	*147*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*
M2-8:2 FTS	*135*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:22*	*1*

Client Sample ID: MW-2R
Lab Sample ID: 480-190703-3

Date Collected: 10/07/21 09:55
Matrix: Water
Date Received: 10/09/21 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 14:58	1

Client Sample ID: MW-2R
Date Collected: 10/07/21 09:55
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-3
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	45		15 - 110	10/12/21 07:16	10/14/21 14:58	1

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		10/12/21 07:05	10/12/21 22:05	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		39 - 121	10/12/21 07:05	10/12/21 22:05	1
Tetrachloro-m-xylene	79		39 - 121	10/12/21 07:05	10/12/21 22:05	1
DCB Decachlorobiphenyl	58		19 - 120	10/12/21 07:05	10/12/21 22:05	1
DCB Decachlorobiphenyl	49		19 - 120	10/12/21 07:05	10/12/21 22:05	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**57**		4.0	0.72	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoropentanoic acid (PFPeA)	**19**		1.6	0.38	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorohexanoic acid (PFHxA)	**20**		1.6	0.36	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoroheptanoic acid (PFHpA)	**8.3**		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorooctanoic acid (PFOA)	**15**		1.6	0.34	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorononanoic acid (PFNA)	**1.8**		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.28	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.35	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.51	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorobutanesulfonic acid (PFBS)	ND	G	12	12	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**		1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:30	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.46	ng/L		10/15/21 14:33	10/18/21 21:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	0.73	ng/L		10/15/21 14:33	10/18/21 21:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	0.60	ng/L		10/15/21 14:33	10/18/21 21:30	1
6:2 FTS	ND		4.0	0.88	ng/L		10/15/21 14:33	10/18/21 21:30	1
8:2 FTS	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	65		25 - 150	10/15/21 14:33	10/18/21 21:30	1
13C4 PFBA	22	*5-	25 - 150	10/15/21 14:33	10/18/21 21:30	1
13C5 PFPeA	45		25 - 150	10/15/21 14:33	10/18/21 21:30	1

Client Sample ID: MW-2R
Lab Sample ID: 480-190703-3
Date Collected: 10/07/21 09:55
Matrix: Water
Date Received: 10/09/21 08:00

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*55*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C4 PFHpA	*63*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C4 PFOA	*73*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C5 PFNA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C2 PFDA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C2 PFUnA	*85*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C2 PFDoA	*98*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C2 PFTeDA	*103*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C3 PFBS	*70*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
18O2 PFHxS	*78*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
13C4 PFOS	*84*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
d5-NEtFOSAA	*91*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
M2-6:2 FTS	*143*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*
M2-8:2 FTS	*131*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:30*	*1*

Client Sample ID: MW-3
Lab Sample ID: 480-190703-4
Date Collected: 10/07/21 15:20
Matrix: Water
Date Received: 10/09/21 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 15:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*34*		*15 - 110*	*10/12/21 07:16*	*10/14/21 15:22*	*1*

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		10/12/21 07:05	10/12/21 22:18	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:18*	*1*
Tetrachloro-m-xylene	*76*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:18*	*1*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:18*	*1*
DCB Decachlorobiphenyl	*55*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:18*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.6**	**J**	4.1	0.74	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoropentanoic acid (PFPeA)	**0.54**	**J**	1.7	0.39	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorohexanoic acid (PFHxA)	**0.60**	**J**	1.7	0.37	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoroheptanoic acid (PFHpA)	**0.31**	**J**	1.7	0.20	ng/L		10/15/21 14:33	10/18/21 21:38	1

Client Sample ID: MW-3
Lab Sample ID: 480-190703-4

Date Collected: 10/07/21 15:20
Matrix: Water
Date Received: 10/09/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**0.52**	**J**	1.7	0.35	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.52	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorobutanesulfonic acid (PFBS)	**0.23**	**J**	1.7	0.21	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.19	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 21:38	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.48	ng/L		10/15/21 14:33	10/18/21 21:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.75	ng/L		10/15/21 14:33	10/18/21 21:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.62	ng/L		10/15/21 14:33	10/18/21 21:38	1
6:2 FTS	ND		4.1	0.91	ng/L		10/15/21 14:33	10/18/21 21:38	1
8:2 FTS	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 21:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*90*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C4 PFBA	*65*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C5 PFPeA	*77*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C2 PFHxA	*80*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C4 PFHpA	*86*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C4 PFOA	*84*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C5 PFNA	*84*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C2 PFDA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C2 PFUnA	*77*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C2 PFDoA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C2 PFTeDA	*77*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C3 PFBS	*94*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
18O2 PFHxS	*97*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
13C4 PFOS	*93*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
d3-NMeFOSAA	*84*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
d5-NEtFOSAA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*
M2-8:2 FTS	*98*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:38*	*1*

Client Sample ID: MW-4
Lab Sample ID: 480-190703-5

Date Collected: 10/07/21 13:10
Matrix: Water
Date Received: 10/09/21 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.20**		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 15:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*53*		*15 - 110*	*10/12/21 07:16*	*10/14/21 15:46*	*1*

Client Sample ID: MW-4
Date Collected: 10/07/21 13:10
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-5
Matrix: Water

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		10/12/21 07:05	10/12/21 22:30	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1248	**2.3**		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:30*	*1*
Tetrachloro-m-xylene	*85*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:30*	*1*
DCB Decachlorobiphenyl	*78*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:30*	*1*
DCB Decachlorobiphenyl	*70*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:30*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.2**	**J**	4.2	0.75	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoropentanoic acid (PFPeA)	**0.48**	**J**	1.7	0.40	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorohexanoic acid (PFHxA)	**0.90**	**J**	1.7	0.38	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoroheptanoic acid (PFHpA)	**0.48**	**J**	1.7	0.20	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorooctanoic acid (PFOA)	**0.75**	**J**	1.7	0.35	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 21:47	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.48	ng/L		10/15/21 14:33	10/18/21 21:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	0.75	ng/L		10/15/21 14:33	10/18/21 21:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	0.62	ng/L		10/15/21 14:33	10/18/21 21:47	1
6:2 FTS	ND		4.2	0.92	ng/L		10/15/21 14:33	10/18/21 21:47	1
8:2 FTS	ND		1.7	0.33	ng/L		10/15/21 14:33	10/18/21 21:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*81*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C4 PFBA	*64*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C5 PFPeA	*77*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C2 PFHxA	*74*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C4 PFHpA	*80*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C4 PFOA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C5 PFNA	*80*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*

Client Sample ID: MW-4
Lab Sample ID: 480-190703-5

Date Collected: 10/07/21 13:10
Matrix: Water
Date Received: 10/09/21 08:00

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*75*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C2 PFUnA	*70*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C2 PFDoA	*70*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C2 PFTeDA	*67*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C3 PFBS	*89*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
18O2 PFHxS	*87*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
13C4 PFOS	*88*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
d3-NMeFOSAA	*75*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
d5-NEtFOSAA	*69*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
M2-6:2 FTS	*100*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*
M2-8:2 FTS	*93*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:47*	*1*

Client Sample ID: MW-5
Lab Sample ID: 480-190703-6

Date Collected: 10/08/21 10:30
Matrix: Water
Date Received: 10/09/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1221	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1232	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1242	ND		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1248	**11**		0.63	0.22	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1254	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1260	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1262	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1
PCB-1268	ND		0.63	0.31	ug/L		10/12/21 07:05	10/12/21 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*77*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:43*	*1*
Tetrachloro-m-xylene	*83*		*39 - 121*	*10/12/21 07:05*	*10/12/21 22:43*	*1*
DCB Decachlorobiphenyl	*66*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:43*	*1*
DCB Decachlorobiphenyl	*57*		*19 - 120*	*10/12/21 07:05*	*10/12/21 22:43*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.6**		4.1	0.73	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoropentanoic acid (PFPeA)	**0.58**	**J**	1.6	0.39	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorohexanoic acid (PFHxA)	**1.1**	**J**	1.6	0.37	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoroheptanoic acid (PFHpA)	**0.38**	**J**	1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorooctanoic acid (PFOA)	**0.74**	**J**	1.6	0.35	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.23	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.28	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.36	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorobutanesulfonic acid (PFBS)	**0.88**	**J**	1.6	0.20	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorohexanesulfonic acid (PFHxS)	**0.40**	**J**	1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:55	1

Client Sample ID: MW-5
Date Collected: 10/08/21 10:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorooctanesulfonic acid (PFOS)	**0.38**	**J**	1.6	0.24	ng/L		10/15/21 14:33	10/18/21 21:55	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.47	ng/L		10/15/21 14:33	10/18/21 21:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.74	ng/L		10/15/21 14:33	10/18/21 21:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.61	ng/L		10/15/21 14:33	10/18/21 21:55	1
6:2 FTS	ND		4.1	0.90	ng/L		10/15/21 14:33	10/18/21 21:55	1
8:2 FTS	ND		1.6	0.32	ng/L		10/15/21 14:33	10/18/21 21:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*81*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C4 PFBA	*51*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C5 PFPeA	*66*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C2 PFHxA	*72*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C4 PFHpA	*85*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C4 PFOA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C5 PFNA	*83*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C2 PFDA	*78*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C2 PFUnA	*79*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C2 PFDoA	*81*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C2 PFTeDA	*79*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C3 PFBS	*88*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
18O2 PFHxS	*92*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
13C4 PFOS	*89*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
d3-NMeFOSAA	*80*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
d5-NEtFOSAA	*83*		*50 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
M2-6:2 FTS	*112*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*
M2-8:2 FTS	*96*		*25 - 150*	*10/15/21 14:33*	*10/18/21 21:55*	*1*

Client Sample ID: MW-6
Date Collected: 10/08/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-7
Matrix: Water

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 16:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*37*		*15 - 110*	*10/12/21 07:16*	*10/14/21 16:11*	*1*

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		10/12/21 07:05	10/12/21 23:21	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1248	**0.53**		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1

Client Sample ID: MW-6
Date Collected: 10/08/21 09:30
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:21*	*1*
Tetrachloro-m-xylene	*95*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:21*	*1*
DCB Decachlorobiphenyl	*83*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:21*	*1*
DCB Decachlorobiphenyl	*64*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:21*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.1	0.74	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.39	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.35	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.52	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.19	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorooctanesulfonic acid (PFOS)	**0.36**	**J**	1.7	0.24	ng/L		10/15/21 14:33	10/18/21 22:03	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.48	ng/L		10/15/21 14:33	10/18/21 22:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.75	ng/L		10/15/21 14:33	10/18/21 22:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.62	ng/L		10/15/21 14:33	10/18/21 22:03	1
6:2 FTS	ND		4.1	0.91	ng/L		10/15/21 14:33	10/18/21 22:03	1
8:2 FTS	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 22:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*103*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C4 PFBA	*93*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C5 PFPeA	*102*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C2 PFHxA	*97*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C4 PFHpA	*105*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C4 PFOA	*99*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C5 PFNA	*101*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C2 PFDA	*95*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C2 PFUnA	*91*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C2 PFDoA	*87*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C2 PFTeDA	*93*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C3 PFBS	*113*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
18O2 PFHxS	*108*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
13C4 PFOS	*105*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*

Client Sample ID: MW-6
Lab Sample ID: 480-190703-7
Date Collected: 10/08/21 09:30
Matrix: Water
Date Received: 10/09/21 08:00

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d3-NMeFOSAA	*100*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
d5-NEtFOSAA	*86*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
M2-6:2 FTS	*129*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*
M2-8:2 FTS	*115*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:03*	*1*

Client Sample ID: FB-X
Lab Sample ID: 480-190703-8
Date Collected: 10/07/21 13:20
Matrix: Water
Date Received: 10/09/21 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 16:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*52*		*15 - 110*	*10/12/21 07:16*	*10/14/21 16:35*	*1*

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		10/12/21 07:05	10/12/21 23:34	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1248	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:34*	*1*
Tetrachloro-m-xylene	*90*		*39 - 121*	*10/12/21 07:05*	*10/12/21 23:34*	*1*
DCB Decachlorobiphenyl	*66*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:34*	*1*
DCB Decachlorobiphenyl	*53*		*19 - 120*	*10/12/21 07:05*	*10/12/21 23:34*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.4	0.78	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.41	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.39	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.30	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.34	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.38	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.22	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		10/15/21 14:33	10/18/21 22:11	1

Client Sample ID: FB-X
Lab Sample ID: 480-190703-8
Date Collected: 10/07/21 13:20
Matrix: Water
Date Received: 10/09/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:11	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.50	ng/L		10/15/21 14:33	10/18/21 22:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	0.79	ng/L		10/15/21 14:33	10/18/21 22:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	0.65	ng/L		10/15/21 14:33	10/18/21 22:11	1
6:2 FTS	ND		4.4	0.96	ng/L		10/15/21 14:33	10/18/21 22:11	1
8:2 FTS	ND		1.7	0.34	ng/L		10/15/21 14:33	10/18/21 22:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*85*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C4 PFBA	*91*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C5 PFPeA	*95*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C2 PFHxA	*93*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C4 PFHpA	*98*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C4 PFOA	*94*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C5 PFNA	*95*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C2 PFDA	*89*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C2 PFUnA	*88*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C2 PFDoA	*87*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C2 PFTeDA	*77*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C3 PFBS	*104*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
18O2 PFHxS	*101*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
13C4 PFOS	*103*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
d3-NMeFOSAA	*89*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
d5-NEtFOSAA	*88*		*50 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
M2-6:2 FTS	*123*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*
M2-8:2 FTS	*104*		*25 - 150*	*10/15/21 14:33*	*10/18/21 22:11*	*1*

Client Sample ID: MW-7
Lab Sample ID: 480-190703-9
Date Collected: 10/08/21 09:00
Matrix: Water
Date Received: 10/09/21 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		10/12/21 07:16	10/14/21 16:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*46*		*15 - 110*	*10/12/21 07:16*	*10/14/21 16:59*	*1*

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		10/12/21 07:05	10/12/21 23:47	1
PCB-1221	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1232	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1242	ND		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1248	**2.1**		0.50	0.18	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1254	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1260	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1262	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1
PCB-1268	ND		0.50	0.25	ug/L		10/12/21 07:05	10/12/21 23:47	1

Client Sample ID: MW-7
Date Collected: 10/08/21 09:00
Date Received: 10/09/21 08:00

Lab Sample ID: 480-190703-9
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		39 - 121	10/12/21 07:05	10/12/21 23:47	1
Tetrachloro-m-xylene	87		39 - 121	10/12/21 07:05	10/12/21 23:47	1
DCB Decachlorobiphenyl	107		19 - 120	10/12/21 07:05	10/12/21 23:47	1
DCB Decachlorobiphenyl	89		19 - 120	10/12/21 07:05	10/12/21 23:47	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.3	0.77	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoropentanoic acid (PFPeA)	**0.42**	**J**	1.7	0.41	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorohexanoic acid (PFHxA)	**0.74**	**J**	1.7	0.39	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.30	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.33	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.38	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorobutanesulfonic acid (PFBS)	**0.40**	**J**	1.7	0.22	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorooctanesulfonic acid (PFOS)	**0.37**	**J I**	1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:20	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.50	ng/L		10/15/21 14:33	10/18/21 22:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	0.78	ng/L		10/15/21 14:33	10/18/21 22:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	0.64	ng/L		10/15/21 14:33	10/18/21 22:20	1
6:2 FTS	ND		4.3	0.95	ng/L		10/15/21 14:33	10/18/21 22:20	1
8:2 FTS	ND		1.7	0.34	ng/L		10/15/21 14:33	10/18/21 22:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	85		25 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFBA	39		25 - 150	10/15/21 14:33	10/18/21 22:20	1
13C5 PFPeA	68		25 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFHxA	77		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFHpA	88		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFOA	87		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C5 PFNA	84		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFDA	80		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFUnA	74		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFDoA	75		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C2 PFTeDA	69		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C3 PFBS	87		50 - 150	10/15/21 14:33	10/18/21 22:20	1
18O2 PFHxS	91		50 - 150	10/15/21 14:33	10/18/21 22:20	1
13C4 PFOS	90		50 - 150	10/15/21 14:33	10/18/21 22:20	1
d3-NMeFOSAA	80		50 - 150	10/15/21 14:33	10/18/21 22:20	1
d5-NEtFOSAA	75		50 - 150	10/15/21 14:33	10/18/21 22:20	1
M2-6:2 FTS	109		25 - 150	10/15/21 14:33	10/18/21 22:20	1

Client Sample ID: MW-7
Lab Sample ID: 480-190703-9

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

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	90		25 - 150	10/15/21 14:33	10/18/21 22:20	1

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-190703-10

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

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.2	0.75	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.40	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.38	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.36	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.24	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.37	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.21	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.20	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.25	ng/L		10/15/21 14:33	10/18/21 22:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.49	ng/L		10/15/21 14:33	10/18/21 22:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	0.76	ng/L		10/15/21 14:33	10/18/21 22:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	0.63	ng/L		10/15/21 14:33	10/18/21 22:28	1
6:2 FTS	ND		4.2	0.92	ng/L		10/15/21 14:33	10/18/21 22:28	1
8:2 FTS	ND		1.7	0.33	ng/L		10/15/21 14:33	10/18/21 22:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	86		25 - 150	10/15/21 14:33	10/18/21 22:28	1
13C4 PFBA	91		25 - 150	10/15/21 14:33	10/18/21 22:28	1
13C5 PFPeA	94		25 - 150	10/15/21 14:33	10/18/21 22:28	1
13C2 PFHxA	93		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C4 PFHpA	94		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C4 PFOA	93		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C5 PFNA	93		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C2 PFDA	89		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C2 PFUnA	84		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C2 PFDoA	92		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C2 PFTeDA	74		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C3 PFBS	107		50 - 150	10/15/21 14:33	10/18/21 22:28	1
18O2 PFHxS	98		50 - 150	10/15/21 14:33	10/18/21 22:28	1
13C4 PFOS	100		50 - 150	10/15/21 14:33	10/18/21 22:28	1
d3-NMeFOSAA	89		50 - 150	10/15/21 14:33	10/18/21 22:28	1
d5-NEtFOSAA	85		50 - 150	10/15/21 14:33	10/18/21 22:28	1
M2-6:2 FTS	122		25 - 150	10/15/21 14:33	10/18/21 22:28	1

Client: New York State D.E.C.
Job ID: 480-190703-1
Project/Site: Oswego Castings #738033

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-190703-10
Date Collected: 10/08/21 00:00
Matrix: Water
Date Received: 10/09/21 08:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	112		25 - 150	10/15/21 14:33	10/18/21 22:28	1

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-190703-1

SDG No.:

Client Sample ID: MW-1 MS Lab Sample ID: 480-190703-1 MS

Instrument ID (1): HP6890-6 Instrument ID (2): HP6890-6

Date Analyzed (1): 10/13/2021 16:49 Date Analyzed (2): 10/13/2021 16:49

GC Column (1): ZB-35 ID: 0.53(mm) GC Column (2): ZB-5 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.37	3.36	3.39	13.0	31.7	24.8
		2	3.73	3.72	3.75	25.4		
		3	4.09	4.08	4.11	38.5		
		4	4.22	4.20	4.23	5.61		
		5	4.62	4.60	4.63	76.1		
	2	1	3.19	3.17	3.20	9.85	40.7	
		2	3.53	3.51	3.54	45.0		
		3	3.91	3.90	3.93	42.8		
		4	4.00	3.98	4.01	18.9		
		5	4.18	4.17	4.20	87.0		
PCB-1248	1	1	4.36	4.34	4.37	53.0	56.1	18.6
		2	4.62	4.61	4.64	62.5		
		3	4.88	4.86	4.89	13.4		
		4	5.16	5.14	5.17	74.7		
		5	5.48	5.47	5.50	77.0		
	2	1	4.18	4.17	4.20	66.4	67.7	
		2	4.37	4.36	4.39	63.8		
		3	4.73	4.71	4.74	68.1		
		4	4.88	4.87	4.90	71.0		
		5	5.23	5.22	5.25	69.1		
PCB-1260	1	2	5.75	5.73	5.76	7.62	7.25	45.4
		3	6.15	6.14	6.17	9.92		
		4	6.59	6.58	6.61	6.34		
		5	6.78	6.77	6.80	5.13		
	2	1	5.43	5.41	5.44	31.6	11.5	
		2	5.61	5.60	5.63	7.48		
		3	5.88	5.86	5.89	9.47		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-190703-1

SDG No.:

Client Sample ID: MW-1 MSD Lab Sample ID: 480-190703-1 MSD

Instrument ID (1): HP6890-6 Instrument ID (2): HP6890-6

Date Analyzed (1): 10/13/2021 17:01 Date Analyzed (2): 10/13/2021 17:01

GC Column (1): ZB-35 ID: 0.53(mm) GC Column (2): ZB-5 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.37	3.36	3.39	11.3	35.5	24.6
		2	3.73	3.72	3.75	28.4		
		3	4.09	4.08	4.11	44.6		
		4	4.22	4.20	4.23	5.96		
		5	4.62	4.60	4.63	87.3		
	2	1	3.18	3.17	3.20	11.2	45.5	
		2	3.53	3.51	3.54	47.1		
		3	3.91	3.90	3.93	49.1		
		4	4.00	3.98	4.01	20.8		
		5	4.18	4.17	4.20	99.4		
PCB-1248	1	1	4.36	4.34	4.37	62.2	66.9	17.9
		2	4.62	4.61	4.64	71.8		
		3	4.88	4.86	4.89	15.0		
		4	5.16	5.14	5.17	89.0		
		5	5.48	5.47	5.50	96.6		
	2	1	4.18	4.17	4.20	76.0	80.1	
		2	4.37	4.36	4.39	73.6		
		3	4.73	4.71	4.74	81.3		
		4	4.88	4.87	4.90	85.3		
		5	5.23	5.22	5.25	84.2		
PCB-1260	1	1	5.64	5.63	5.66	12.4	9.92	35.4
		2	5.75	5.73	5.76	10.1		
		3	6.16	6.14	6.17	12.9		
		4	6.60	6.58	6.61	8.07		
		5	6.78	6.77	6.80	6.04		
	2	1	5.43	5.41	5.44	39.4	14.2	
		2	5.61	5.60	5.63	9.37		
		3	5.88	5.86	5.89	10.9		
		4	6.03	6.01	6.04	6.03		
		5	6.55	6.54	6.57	5.24		

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-190703-1

SDG No.:

Lab Sample ID: ICV 480-581327/30 Calibration Date: 05/17/2021 23:07

Instrument ID: HP6890-6 Calib Start Date: 05/17/2021 22:29

GC Column: ZB-5 ID: 0.53(mm) Calib End Date: 05/17/2021 22:54

Lab File ID: 6_087-212.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin2		0.0171		0.512	0.500	2.3	20.0
PCB-1242 Peak 2	Lin2		0.0209		0.517	0.500	3.5	20.0
PCB-1242 Peak 3	Lin2		0.0448		0.482	0.500	-3.7	20.0
PCB-1242 Peak 4	Lin2		0.0275		0.492	0.500	-1.7	20.0
PCB-1242 Peak 5	Lin2		0.0205		0.513	0.500	2.6	20.0
PCB-1268 Peak 1	Lin2		0.1398		0.510	0.500	1.9	20.0
PCB-1268 Peak 2	Lin2		0.1257		0.505	0.500	1.0	20.0
PCB-1268 Peak 3	Lin2		0.1196		0.554	0.500	10.8	20.0
PCB-1268 Peak 4	Lin2		0.0350		0.368	0.500	-26.4*	20.0
PCB-1268 Peak 5	Lin2		0.3141		0.456	0.500	-8.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-190703-1

SDG No.:

Lab Sample ID: ICV 480-581327/30 Calibration Date: 05/17/2021 23:07

Instrument ID: HP6890-6 Calib Start Date: 05/17/2021 22:29

GC Column: ZB-35 ID: 0.53(mm) Calib End Date: 05/17/2021 22:54

Lab File ID: 6_087-212.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin2		0.0163		0.508	0.500	1.5	20.0
PCB-1242 Peak 2	Lin2		0.0362		0.505	0.500	1.1	20.0
PCB-1242 Peak 3	Lin2		0.0425		0.488	0.500	-2.5	20.0
PCB-1242 Peak 4	Lin2		0.0280		0.502	0.500	0.3	20.0
PCB-1242 Peak 5	Lin2		0.0264		0.508	0.500	1.7	20.0
PCB-1268 Peak 1	Lin2		0.1350		0.523	0.500	4.6	20.0
PCB-1268 Peak 2	Lin2		0.1243		0.529	0.500	5.7	20.0
PCB-1268 Peak 3	Lin2		0.1154		0.567	0.500	13.4	20.0
PCB-1268 Peak 4	Lin2		0.0342		0.371	0.500	-25.9*	20.0
PCB-1268 Peak 5	Lin2		0.3085		0.462	0.500	-7.7	20.0

FORM II
PFAS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-190703-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	C3PFBS #	PFHxA #	C4PFHA #	PFHxS #	M262FTS #	PFOA #
MW-1	480-190703-1	55	76	95	78	88	101	114	90
MW-X-DUP	480-190703-2	22 *5-	45	74	57	65	81	147	80
MW-2R	480-190703-3	22 *5-	45	70	55	63	78	143	73
MW-3	480-190703-4	65	77	94	80	86	97	109	84
MW-4	480-190703-5	64	77	89	74	80	87	100	81
MW-5	480-190703-6	51	66	88	72	85	92	112	81
MW-6	480-190703-7	93	102	113	97	105	108	129	99
FB-X	480-190703-8	91	95	104	93	98	101	123	94
MW-7	480-190703-9	39	68	87	77	88	91	109	87
TRIP BLANK	480-190703-10	91	94	107	93	94	98	122	93
	MB 200-172719/1-A	74	78	89	76	79	82	96	77
	LCS 200-172719/2-A	76	78	86	78	78	84	96	77
MW-1 MS	480-190703-1 MS	50	68	83	71	80	88	102	79
MW-1 MSD	480-190703-1 MSD	60	83	99	87	94	101	117	94

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
C3PFBS = 13C3 PFBS	50-150
PFHxA = 13C2 PFHxA	50-150
PFHxS = 18O2 PFHxS	50-150
C4PFHA = 13C4 PFHpA	50-150
M262FTS = M2-6:2 FTS	25-150
PFOA = 13C4 PFOA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM I
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-190703-1

SDG No.:

Client Sample ID: Lab Sample ID: ICB 200-168873/8

Matrix: Water Lab File ID: PA210708ICAL08.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 07/08/2021 16:08

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 168873 Units: ng/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		0.13	0.022
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		0.050	0.012
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		0.050	0.011
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.00677	J	0.050	0.0060
335-67-1	Perfluorooctanoic acid (PFOA)	ND		0.050	0.011
375-95-1	Perfluorononanoic acid (PFNA)	0.00726	J	0.050	0.0070
335-76-2	Perfluorodecanoic acid (PFDA)	0.00691	J	0.050	0.0062
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		0.050	0.0086
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		0.050	0.0096
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		0.050	0.0074
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		0.050	0.012
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.00630	J	0.050	0.0046
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.00891	J	0.050	0.0071
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.00628	J	0.050	0.0059
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		0.050	0.0058
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0103	J	0.050	0.0073
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		0.050	0.0084
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.0270	J	0.13	0.019
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.0249	J	0.13	0.019
27619-97-2	6:2 FTS	ND		0.13	0.015
39108-34-4	8:2 FTS	ND		0.050	0.0080

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