Appendix D – Tomhannock Reservoir PFAS Laboratory Results

NEW YORK STATE OF OPPORTUNITY. | Department of Health

ANDREW M. CUOMO
Governor

HOWARD A. ZUCKER, M.D., J.D.
Commissioner

SALLY DRESLIN, M.S., R.N.
Executive Deputy Commissioner

July 31, 2018

Chris Wheland, Superintendent of Public Utilities
City of Troy
433 River Street
Troy, NY 12601

Re: City of Troy Water Treatment Plant
Water Sample Results
Troy (C), Rensselaer County

Dear Mr. Wheland,

The New York State Department of Health (DOH) recently tested your drinking water system for perfluoroalkyl substances (PFAS) as part of our efforts to test for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) throughout the state. Samples were collected from two locations at the Tomhannock Reservoir: one from the intake point and one from the reservoir at the spillway. One sample was also collected from the entry point (i.e., "finished" or fully-treated water) at the Troy water treatment facility.

PFOA and PFOS were not detected in your system. The U.S. Environmental Protection Agency (EPA) health advisory level is 70 parts per trillion for PFOA and PFOS combined. Complete testing results are enclosed. Note that the testing for PFOA and PFOS includes fourteen additional PFAS, which were also not detected in your system.

If you have any questions, please contact the New York State Department of Health Bureau of Water Supply Protection at 518-402-7650; email: bpwsp@health.ny.gov.

Additional information is available at the U.S. EPA's website: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos.

Sincerely,

William Gilday

William Gilday, P.E.
Chief, Operations Section
Bureau of Water Supply Protection

Enclosures

cc: R. Swider – NYSDOH CAEH Regional Director
R. Elder – Rensselaer County DOH
K. Anders/J. Deming – NYSDOH BEEI

New York State Department of Health
Wadsworth Center

Biggs Laboratory
PO Box 509
Albany, NY 12201
CLIA# 33D0654341

David Axelrod Institute
120 New Scotland Avenue
Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024923-SR-1**

Report Date: **06/13/2018**

Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

ATTN: MIN-SOOK KIM
DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Wadsworth Center - Environmental Labs

County: RENSSELAER
City (or) Town: TROY
Submitted by: MIN-SOOK KIM
Collected by: MIN-SOOK KIM

Grab/Collection Date: 06/08/2018 09:21
Date received: 06/08/2018 11:32

Location/Project/Facility Name: NY4100050, TROY CITY PWS - TROY (C)
Sampling Location Details: ENTRY POINT TO DISTRIBUTION SYSTEM A
Chlorinated: Yes

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024923-01

Sample Type: Finished Water

Received Temperature (°C): **16.0**

Received State: **Cooling**

Lab Tracking Id: A

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L; Test associated with low internal standard recovery; result may be biased.**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L; Test associated with high internal standard recovery; result may be biased.**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanonic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L; Test associated with low internal standard recovery; result may be biased.**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NELAP: National Environmental Laboratory Approval Program Accreditation

New York State Department of Health
Wadsworth Center

Biggs Laboratory
PO Box 509
Albany, NY 12201
CLIA# 33D0654341

David Axelrod Institute
120 New Scotland Avenue
Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024923-SR-1**

Report Date: **06/13/2018**

Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

END OF REPORT

The Laboratory Director authorizes the release of this report. The results in this report relate only to the sample submitted to the laboratory.

New York State Department of Health
Wadsworth Center

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CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024924-SR-1**

Report Date: **06/13/2018**

Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Wadsworth Center - Environmental Labs

County: RENSSELAER
Submitted by: LOAC-QAQC
Collected by: LOAC-QAQC

Submitter's Reference Number: FRB A

Grab/Collection Date: 06/08/2018
Date received: 06/08/2018 11:32

Location/Project/Facility Name: FIELD REAGENT BLANK
Sampling Location Details: PREPARED ON: 6/7/18 WITH SAMPLE(S): EHS1800024923

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024924-01

Sample Type: Field Blank

Received Temperature (°C): **15.2**

Received State: **Cooling**

Lab Tracking Id: FRB A

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanonic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

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Wadsworth Center

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CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024925-SR-1**
Report Date: **06/13/2018**
Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

ATTN: MIN-SOOK KIM
DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Wadsworth Center - Environmental Labs

County: RENSSELAER
City (or) Town: TROY
Submitted by: MN-SOOK KIM
Collected by: MN-SOOK KIM

Grab/Collection Date: 06/08/2018 10:23
Date received: 06/08/2018 11:32

Location/Project/Facility Name: NY4100050, TROY CITY PWS - TROY (C)
Sampling Location Details: RAW WATER INTAKE B1
Chlorinated: No

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024925-01
Sample Type: Raw Water

Received Temperature (°C): **15.0**
Received State: **Cooling**

Lab Tracking Id: B1

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L; Test associated with low internal standard recovery; result may be biased.**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanoic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L; Test associated with low internal standard recovery; result may be biased.**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NOTES:

[1] Sample extracted light brown in color, which remained in the final extract.

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

The Laboratory Director authorizes the release of this report. The results in this report relate only to the sample submitted to the laboratory.

New York State Department of Health
Wadsworth Center

Biggs Laboratory
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CLIA# 33D0654341

David Axelrod Institute
120 New Scotland Avenue
Albany, NY 12208
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5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024926-SR-1**
Report Date: **06/13/2018**
Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

ATTN: MIN-SOOK KIM
DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Wadsworth Center - Environmental Labs

County: RENSSELAER
City (or) Town: TROY
Submitted by: NMIN-SOOK KIM
Collected by: NMIN-SOOK KIM

Grab/Collection Date: 06/08/2018 10:24
Date received: 06/08/2018 11:32

Location/Project/Facility Name: NY4100050, TROY CITY PWS - TROY (C)
Sampling Location Details: RAW WATER INTAKE DUPLICATE B2
Chlorinated: No

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024926-01
Sample Type: Raw Water

Received Temperature (°C): **12.0**
Received State: **Cooling**
Lab Tracking Id: B2

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L; Test associated with low internal standard recovery; result may be biased.**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanoic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L; Test associated with low internal standard recovery; result may be biased.**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NOTES:

[1] Sample extracted light brown in color, which remained in the final extract.

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

The Laboratory Director authorizes the release of this report. The results in this report relate only to the sample submitted to the laboratory.

New York State Department of Health
Wadsworth Center

Biggs Laboratory
PO Box 509
Albany, NY 12201
CLIA# 33D0654341

David Axelrod Institute
120 New Scotland Avenue
Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024927-SR-1**
Report Date: **06/13/2018**
Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Submitter's Reference Number: FRB B

Wadsworth Center - Environmental Labs

County: RENSSELAER
Submitted by: LOAC-QAQC
Collected by: LOAC-QAQC

Grab/Collection Date: 06/08/2018
Date received: 06/08/2018 11:32

Location/Project/Facility Name: FIELD REAGENT BLANK
Sampling Location Details: PREPARED ON: 6/7/18 WITH SAMPLE(S): EHS1800024925 - 24926

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024927-01
Sample Type: Field Blank

Received Temperature (°C): **14.1**
Received State: **Cooling**

Lab Tracking Id: FRB B

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanonic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

The Laboratory Director authorizes the release of this report. The results in this report relate only to the sample submitted to the laboratory.

New York State Department of Health
Wadsworth Center

Biggs Laboratory
PO Box 509
Albany, NY 12201
CLIA# 33D0654341

David Axelrod Institute
120 New Scotland Avenue
Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024928-SR-2**

****Replaces information in report No: EHS1800024928-SR-1 (Report Date: 06/13/2018)**

Report Date: **07/31/2018**

Report retrieved via NYSDOH Health Commerce System by czd01 on 07/31/2018

REQUESTED BY: DIRECTOR-WCENVIRO

ATTN: MIN-SOOK KIM
DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Wadsworth Center - Environmental Labs

County: RENSSELAER
City (or) Town: TROY
Submitted by: MIN-SOOK KIM
Collected by: MIN-SOOK KIM

Grab/Collection Date: 06/08/2018 10:37
Date received: 06/08/2018 11:32

Location/Project/Facility Name: NY4100050, TROY CITY PWS - TROY (C)
Sampling Location Details: SLUICE GATE SPILLWAY C
Chlorinated: No

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024928-01

Sample Type: Raw Water

Received Temperature (°C): **13.4**

Received State: **Cooling**

Lab Tracking Id: C

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L; Test associated with low internal standard recovery; result may be biased.**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanonic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NOTES:

[1] Sample extracted light brown in color, which remained in the final extract.

New York State Department of Health
Wadsworth Center

Biggs Laboratory
PO Box 509
Albany, NY 12201
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Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024928-SR-2**

****Replaces information in report No: EHS1800024928-SR-1 (Report Date: 06/13/2018)**

Report Date: **07/31/2018**

Report retrieved via NYSDOH Health Commerce System by czd01 on 07/31/2018

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

The Laboratory Director authorizes the release of this report. The results in this report relate only to the sample submitted to the laboratory.

New York State Department of Health
Wadsworth Center

Biggs Laboratory
PO Box 509
Albany, NY 12201
CLIA# 33D0654341

David Axelrod Institute
120 New Scotland Avenue
Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024929-SR-1**

Report Date: **06/13/2018**

Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Wadsworth Center - Environmental Labs

County: RENSSELAER
Submitted by: LOAC-QAQC
Collected by: LOAC-QAQC

Submitter's Reference Number: FRB C

Grab/Collection Date: 06/08/2018
Date received: 06/08/2018 11:32

Location/Project/Facility Name: FIELD REAGENT BLANK
Sampling Location Details: PREPARED ON: 6/7/18 WITH SAMPLE(S): EHS1800024928

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024929-01

Sample Type: Field Blank

Received Temperature (°C): **13.6**

Received State: **Cooling**

Lab Tracking Id: FRB C

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanonic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

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Wadsworth Center

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120 New Scotland Avenue
Albany, NY 12208
CLIA# 33D2005937

Griffin Laboratory
5668 State Farm Road
Slingerlands, NY 12159
CLIA# 33D2005935

Report No: **EHS1800024930-SR-1**
Report Date: **06/13/2018**
Report retrieved via NYSDOH Health Commerce System by czd01 on 06/20/2018

REQUESTED BY: DIRECTOR-WCENVIRO

DIRECTOR'S OFFICE
DIVISION OF ENVIRONMENTAL HEALTH SCIENCES
WADSWORTH CENTER
PO BOX 509
EMPIRE STATE PLAZA
ALBANY NY 12201-0509

Submitter's Reference Number: LRB

Wadsworth Center - Environmental Labs

County: RENSSELAER
Submitted by: LOAC-QAQC
Collected by: LOAC-QAQC

Grab/Collection Date: 06/08/2018
Date received: 06/08/2018 11:32

Location/Project/Facility Name: LABORATORY REAGENT BLANK
Sampling Location Details: PREPARED ON: 6/8/18 EXTRACTED WITH: EHS1800024923 - 24929

FINAL LABORATORY REPORT

Biggs Laboratory
NYS ELAP ID: 10763

Laboratory of Organic Analytical Chemistry
Lab Director: Dr. David Spink
Contact: Nicole Cairns 518-473-0323

Sample Id: EHS1800024930-01
Sample Type: Method Blank

Lab Tracking Id: LRB

Perfluoroalkyl Substances (PFASs) in Drinking Water by Ultra Performance Liquid Chromatography (UPLC) Tandem Mass Spectrometry (MS/MS): ISO 25101

Start Date: 6/11/2018 Analysis Date: 6/11/2018

Perfluorobutanoic acid (PFBA):	**<5.00 ng/L**	
Perfluoropentanoic acid (PFPeA):	**<2.00 ng/L**	
Perfluorohexanoic acid (PFHxA):	**<2.00 ng/L**	
Perfluoroheptanoic acid (PFHpA):	**<2.00 ng/L**	
Perfluorooctanoic acid (PFOA):	**<2.00 ng/L**	NELAP
Perfluorononanoic acid (PFNA):	**<2.00 ng/L**	
Perfluorodecanonic acid (PFDA):	**<2.00 ng/L**	
Perfluoroundecanoic acid (PFUnA):	**<5.00 ng/L**	
Perfluorododecanoic acid (PFDoA):	**<5.00 ng/L**	
Perfluoropropanesulfonic acid (PFPrS):	**<1.83 ng/L**	
Perfluorobutanesulfonic acid (PFBS):	**<1.77 ng/L**	
Perfluoropentansulfonic acid (PFPeS):	**<1.88 ng/L**	
Perfluorohexanesulfonic acid (PFHxS):	**<1.89 ng/L**	
Perfluoroheptanesulfonic acid (PFHpS):	**<1.90 ng/L**	
Perfluorooctanesulfonic acid (PFOS):	**<1.91 ng/L**	NELAP
Perfluorooctanesulfonamide (PFOSA):	**<5.00 ng/L**	

NELAP: National Environmental Laboratory Approval Program Accreditation

END OF REPORT

The Laboratory Director authorizes the release of this report. The results in this report relate only to the sample submitted to the laboratory.

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

James Murphy
PASI Long Island
2190 Technology Drive
Schenectady NY 12308

REPORT OF LABORATORY ANALYSIS FOR PFAAs

Report Information:

Pace Project #: 10469684
Sample Receipt Date: 04/05/2019
Client Project #: 7084299
Client Sub PO #: N/A
State Cert #: 11647

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PFAA Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Kirsten Hogberg, your Pace Project Manager.

This report has been reviewed by:

May 10, 2019

Kirsten Hogberg, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
kirsten.hogberg@pacelabs.com

Report Prepared Date:
May 10, 2019

Report of Laboratory Analysis

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
(612) 607-1700

EPA Method 537 V1.1
Sample Analysis Summary

Client's Sample ID	MELROSE RAW	Date Extracted	05/02/2019
Lab Sample ID	7084299002	Total Amount Extracted	0 mL
Filename	B190419B_011	ICAL ID	190418C02
Matrix	Drinking_Water	Starting CCal	B190419B_003
Collected	04/01/2019	Ending CCal	B190419B_016
Received	04/05/2019	Method Blank Filename	B190419B_005

Compound	Concentration (ng/L)	PQL (ng/L)	MDL (ng/L)	Dilution	Analyzed	CAS No.	Qual.
PFOA	ND	1.9	0.29	1	04/19/201921:21	335-67-1	
PFOS	ND	1.8	0.50	1	04/19/201921:21	1763-23-1	

Surrogate Standards

SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail
13C2_PFHxA	4.0	3.6	90	70 - 130	Pass
13C2_PFDA	4.0	3.8	95	70 - 130	Pass
d5-EtFOSAA	8.0	8.2	103	70 - 130	Pass

Internal Standards

IS Compound	Area	Ical Limits	CCV Limits	Pass/Fail
13C2_PFOA	399824	209565 - 628694	295887 - 591775	Pass
13C4_PFOS	732408	393144 - 1179432	517600 - 1035201	Pass
d3-MeFOSAA	244709	112527 - 337581	154263 - 308526	Pass

50-150% of Ical area
70-140% of the preceding CCV area

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
(612) 607-1700

EPA Method 537 V1.1
Sample Analysis Summary

Client's Sample ID	PLANT FINISH	Date Extracted	05/02/2019
Lab Sample ID	7084299004	Total Amount Extracted	0 mL
Filename	B190419B_013	ICAL ID	190418C02
Matrix	Drinking_Water	Starting CCal	B190419B_003
Collected	04/01/2019	Ending CCal	B190419B_016
Received	04/05/2019	Method Blank Filename	B190419B_005

Compound	Concentration (ng/L)	PQL (ng/L)	MDL (ng/L)	Dilution	Analyzed	CAS No.	Qual.
PFOA	ND	2.0	0.30	1	04/19/201921:44	335-67-1	
PFOS	ND	1.8	0.51	1	04/19/201921:44	1763-23-1	

Surrogate Standards

SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail
13C2_PFHxA	4.0	3.7	92	70 - 130	Pass
13C2_PFDA	4.0	3.8	96	70 - 130	Pass
d5-EtFOSAA	8.0	9.0	113	70 - 130	Pass

Internal Standards

IS Compound	Area	Ical Limits	CCV Limits	Pass/Fail
13C2_PFOA	389662	209565 - 628694	295887 - 591775	Pass
13C4_PFOS	759105	393144 - 1179432	517600 - 1035201	Pass
d3-MeFOSAA	228396	112527 - 337581	154263 - 308526	Pass

50-150% of Ical area
70-140% of the preceding CCV area

(518) 525-5475 **ST. PETER'S HOSPITAL ENVIRONMENTAL LABORATORY** 19 WAREHOUSE ROW ALBANY, NEW YORK 12205

Renss. County Dept. of Health

County Office Building
Troy ,NY 12180

Printed On 3/22/2016

Sample ID: **AW02809**
Date Received: 03/07/2016
Time Received: 16:49
Time Finalized: 03/21/2016
PO Number:
Your Ref:

Customer: Rensselaer Cnty DOH
Owner: City of Troy PWS
Sample Loc: 1600 7th Ave
Sample Pt: 2nd Floor Mop Sink CWT

Collect Date: 03/07/2016
Collect Time: 09:40
Collected by: IAN CARY
Receipt Temp: 2.4 C On Ice Chilling

Water Source:
Chlorinated: Yes *Field Residual Chlorine:* 0.55

Potability: Yes
Grab/Comp: Grab

Laboratory Report

Test	Result	MCL	Qualifiers	Units	Method Used	Analyst	Analysis Date
Perfluorobutanesulfonic acid	<0.030		S+	ug/L	EPA 537	SUB*	3/16/2016
Perfluoroheptanoic acid	<0.0033		S+	ug/L	EPA 537	SUB*	3/16/2016
Perfluorohexanesulfonic acid	<0.010		S+	ug/L	EPA 537	SUB*	3/16/2016
Perfluorononanoic acid	<0.00067			ug/L	EPA 537	SUB*	3/16/2016
Perfluorooctanesulfonic acid	<0.0013			ug/L	EPA 537	SUB*	3/16/2016
Perfluorooctanoic acid (PFOA)	0.0025		J	ug/L	EPA 537	SUB*	3/16/2016

Qualifiers Key:

X	Exceeds maximum contamination limit	R	Duplication outside acceptance limits	H	Hold time exceeded
T	Temperature outside specifications	A	Sample contained air bubble or headspace	B	Analyte detected in blank
P	Sample preserved in lab	Z	Analysis is not state-certified	C	Incorrect bottle received
S(+/-)	Lab control sample outside acceptance limits	M(+/-)	Matrix spike recovery outside acceptance limits		

Legend: < Less Than, > Greater Than mg/L=PPM, ug/L=PPB If no collection time was given, 00:00 is reported

MCL = Maximum Contaminant Level referenced from New York State Subpart 5-1 of the Public Drinking Water Standards and/or National Primary/Secondary Drinking Water Standards.

Note 1: Per ELAP requirements, water analyzed for alkalinity, color, conductivity, nitrate, nitrite, sulfate, organics, UV absorbance, non-potable bacteriological analyses, BOD/CBOD, solids and phosphorus (total & ortho), should be received on ice to indicate the chilling process was begun. ELAP requirements specify that temperatures equal to or less than 4 degrees C are required for potable samples and equal to or less than 6 degrees C for non-potable samples. Samples should not be frozen.

Comments:
SUB* EPA Method 537 analysis was completed by Pace Analytical. Prep method EPA 537 completed on 03/11/16. Laboratory control sample (LCS) exceeded QC limits as noted. Test results below reporting limits. Results unaffected by high bias.

J- PFOA result is estimated.

Surrogates:
Perfluorohexanoic acid 130% (70-130%)
Perfluorodecanoic acid 109% (70-130%)

John Wilson
Environmental Laboratory Supervisor and contact person
If you have questions, please call.
(518) 525-5480/5479

Reviewed by Brian Collins
These results relate to samples as received.

New York State DOH E.L.A.P. # 10350

March 30, 2016

CASE NARRATIVE

This data package (SDG ID: 16030340) consists of 2 drinking water samples and 2 water samples received on 03/16/2016. The samples are from Project Name: CITY OF TROY WTP MONTHLY.

This sample delivery group consists of the following samples:

Lab Sample ID	Client ID	Collection Date
AT06071	REAGENT DI	03/16/2016 09:00
AT06072	INTAKE RAW	03/16/2016 08:40
AT06073	PLANT FILTER	03/16/2016 09:04
AT06074	PLANT FINISH	03/16/2016 09:30

Sample Delivery and Receipt Conditions

(1.) Lab provided sample pickup service on 03/16/2016.

(2.) All samples were received at the laboratory intact and within holding times.

(3.) All samples were received at the laboratory properly preserved, if applicable.

Total Organic Carbon Analysis

Analysis for Total Organic Carbon was performed by Standard Methods 5310B. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for this analysis, unless otherwise noted.

Subcontract Analysis

(1.) Please see the PACE-LI Laboratory report for quality assurance details related to the Alkalinity, Ammonia, TKN and TON analyses.

(2.) Please see the PACE-FL Laboratory report for quality assurance details related to the PFOA, TOC, Chlorate and Chlorite analyses.

Respectfully submitted,

Nicole D. Johnson

Nicole D. Johnson
Project Manager

S:\Lims Data\1603\16030340\Package\CN_16030340_Rev00.doc

Pace Analytical Services, Inc.
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

ANALYTICAL RESULTS

Project: 16030340 TROY MONTHLY
Pace Project No.: 35234571

Sample: AT06072 **Lab ID: 35234571001** Collected: 03/16/16 08:40 Received: 03/17/16 10:30 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
537 Perfluorinated Compounds	Analytical Method: EPA 537 Preparation Method: EPA 537							
Perfluorobutanesulfonic acid	**<0.090**	ug/L	0.090	1	03/22/16 10:00	03/22/16 01:38	375-73-5	
Perfluoroheptanoic acid	**<0.010**	ug/L	0.010	1	03/22/16 10:00	03/22/16 01:38	375-85-9	L2
Perfluorohexanesulfonic acid	**<0.030**	ug/L	0.030	1	03/22/16 10:00	03/22/16 01:38	355-46-4	
Perfluorononanoic acid	**<0.020**	ug/L	0.020	1	03/22/16 10:00	03/22/16 01:38	375-95-1	L2
Perfluorooctanesulfonic acid	**<0.040**	ug/L	0.040	1	03/22/16 10:00	03/22/16 01:38	1763-23-1	
Perfluorooctanoic acid	**<0.0020**	ug/L	0.0020	1	03/22/16 10:00	03/22/16 01:38	335-67-1	L2
Surrogates								
Perfluorohexanoic acid (S)	88	%	70-130	1	03/22/16 10:00	03/22/16 01:38		
Perfluorodecanoic acid (S)	79	%	70-130	1	03/22/16 10:00	03/22/16 01:38		

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REPORT OF LABORATORY ANALYSIS

March 21, 2016

CASE NARRATIVE

This data package (SDG ID: 16030280) consists of 1 drinking water sample received on 03/14/2016. The sample is from Project Name: PFOA - SPECIAL.

This sample delivery group consists of the following samples:

Lab Sample ID	Client ID	Collection Date
AT05797	PLANT FINISH	03/14/2016 12:35

Sample Delivery and Receipt Conditions

(1.) Lab provided sample pickup service on 03/14/2016.

(2.) All samples were received at the laboratory intact and within holding times.

(3.) All samples were received at the laboratory properly preserved, if applicable.

Subcontract Analysis

(1.) Please see the PACE-FL Laboratory report for quality assurance details related to the PFOA analysis.

Respectfully submitted,

Nicole D. Johnson
Project Manager

Pace Analytical Services, Inc.
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

ANALYTICAL RESULTS

Project: 16030280 PFOA SPECIAL
Pace Project No.: 35234129

Sample: AT05797 **Lab ID: 35234129001** Collected: 03/14/16 12:35 Received: 03/15/16 14:05 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
537 Perfluorinated Compounds	Analytical Method: EPA 537 Preparation Method: EPA 537							
Perfluorobutanesulfonic acid	**<0.090**	ug/L	0.090	1	03/18/16 09:45	03/19/16 04:54	375-73-5	
Perfluoroheptanoic acid	**<0.010**	ug/L	0.010	1	03/18/16 09:45	03/19/16 04:54	375-85-9	
Perfluorohexanesulfonic acid	**<0.030**	ug/L	0.030	1	03/18/16 09:45	03/19/16 04:54	355-46-4	
Perfluorononanoic acid	**<0.020**	ug/L	0.020	1	03/18/16 09:45	03/19/16 04:54	375-95-1	
Perfluorooctanesulfonic acid	**<0.040**	ug/L	0.040	1	03/18/16 09:45	03/19/16 04:54	1763-23-1	
Perfluorooctanoic acid	**<0.0020**	ug/L	0.0020	1	03/18/16 09:45	03/19/16 04:54	335-67-1	
Surrogates								
Perfluorohexanoic acid (S)	112	%	70-130	1	03/18/16 09:45	03/19/16 04:54		
Perfluorodecanoic acid (S)	94	%	70-130	1	03/18/16 09:45	03/19/16 04:54		

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REPORT OF LABORATORY ANALYSIS

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

FINAL

Tomhannock Reservoir, Rensselaer County

Per- and Polyfluoroalkyl Substances

Trip Report

May 2019

Revised June 2019

PREPARED BY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF ENVIRONMENTAL REMEDIATION

www.dec.ny.gov

1.0 Introduction

Sampling was conducted the first week of April 2019 at the Tomhannock Reservoir (the Reservoir) in the Town of Pittstown, NY as part of the ongoing collection of data associated with the water supply study for the Village of Hoosick Falls and the evaluation of potential new drinking water sources. The New York State Department of Environmental Conservation (NYSDEC) utilized Arcadis (Engineering Contract D007618-WA 54) to implement field work under NYSDEC oversight. Analysis of the samples was performed by Eurofins (Contract 136490). Sampling of environmental media was completed to assess the Reservoir for the presence of per- and polyfluoroalkyl substances (PFAS) in the subject surface water and sediment. Sampling was performed in accordance with NYSDEC's "Tomhannock Reservoir Sampling Plan for per- and polyfluoroalkyl Substances" (Work Plan) provided in Appendix A. This report has been prepared to summarize field activities performed and present analytical results for the sampling of the Reservoir.

2.0 Background

As part of the water supply study several options are being evaluated as potential sources of municipal water for the community of Hoosick Falls including a new groundwater source, a new surface water source (the Reservoir), new interconnections to facilitate purchase of water from other municipal supplies, and continued treatment. The Reservoir is also being evaluated as an alternative for a new interconnection with an existing water supply. The Reservoir is owned by the city of Troy (the City) and has a reported capacity of 12.3 billion gallons providing a yield of 32 million gallons per day (mgd). The Reservoir was therefore determined to have sufficient storage to meet demands of both the City, existing customers, and the Village of Hoosick Falls within a conservative factor of safety (Arcadis 2016). This was confirmed by the safe yield analysis performed by the City and documented in the final report, "Safe Yield Study" (CDM Smith 2018). Sampling access was obtained in coordination with the City, New York State Department of Health (NYSDOH), and the Rensselaer County Health Department (RCDOH).

3.0 Environmental Sampling

NYSDEC performed sampling to evaluate if the Reservoir is impacted by PFAS, including perfluorooctonoic acid (PFOA). The data will be used as one of the criteria to compare different water source options included in the pending municipal water supply study report expected in summer 2019.

Co-located surface water and sediment samples, and associated QA/QC samples, were collected from three locations along the length of the reservoir as shown on Figure 1. Samples were collected from predetermined sites based on locations sampled by NYSDOH in 2018, at the conceptual raw water intake, and at an upgradient location in the southern portion of the waterbody. Samples were initially anticipated to be collected during winter, beneath the overlaying ice using an ice auger as detailed in the Work Plan but due to variable ice conditions and health and safety concerns, sampling was deferred to a date when the water was open. A non-motorized jon boat was procured by Arcadis, decontaminated and approved by the City for use to access specified sample locations.

Surface water samples were collected from two discrete depths within the water column at each sample location. The first was collected approximately five feet above the mudline and the second was collected

within five feet of the surface. Samples were collected using a peristaltic pump with the intake of the tubing positioned at the desired depth within the water column. Samples were collected directly into laboratory-provided containers after pumping for one minute to remove water from the tubing that would have entered the tube from the top of the water column. Water quality parameters were documented at the time of sample collection. A total of seven surface water samples, including a duplicate and MS/MSD QA/QC samples, were collected as part of this sampling effort.

Sediment samples were collected using a stainless-steel petite ponar 'grab' sampler. Upon contact with the sediment surface, the ponar line was drawn upwards, closing the dredge to collect the sediment sample. A total of four co-located sediment samples, including one duplicate QA/QC sample, were collected after surface water sampling was completed at designated locations. The sediment sample collected at Sample Location 2 was not submitted for analysis of TOC or pH. The substrate material at this location was not suitable for the sampling method used, resulting in collection of insufficient volume.

4.0 Data Quality

4.1 Quality Assurance/Quality Control (QA/QC)

All samples were collected following guidelines provided in the Work Plan and in accordance with the NYSDEC approved Quality Assurance Project Plan (QAPP) prepared by Arcadis for NYSDEC-issued work assignments (Arcadis 2010). Samples were collected using conservative protocols as outlined in NYSDEC, Division of Environmental Remediation (DER) guidance (provided in the Work Plan) to prevent PFAS contamination of samples from materials and media unrelated to the study area. Sampling procedures used were consistent with NYSDEC March 1991 sampling guidelines and protocols.

QA/QC samples were collected in accordance with the QAPP and Work Plan to evaluate data quality and potential cross-contamination from sampling equipment. QA/QC samples collected included duplicates of each environmental media sampled, matrix spike/matrix duplicate (MS/MSD), and equipment blanks of each piece of equipment used as part of this sampling effort.

4.2 Data Usability

The laboratory analytical results were reviewed by a DER chemist for consistency with DER's Analytical Services Protocol (ASP). A Data Usability Summary Report (DUSR) was prepared and is provided in Appendix B. The DUSR summarizes any data deficiencies, analytical protocol deviations, and quality control concerns that should be considered when using data. An EDD will be prepared and uploaded to NYSDEC's Environmental Information Management System (EIMS), EQuIS.

The data are usable as reported by the lab except for the samples noted under the "BLANK" criteria. The equipment blank detections for gloves and tubing were likely laboratory contamination and not contamination from the field sampling activities or the materials used in the field. The equipment blanks for the sediment samples had small detections of perfluorobutanoic acid (PFBA) and perfluorohexanesulfonic acid (PFHxS) that are likely attributed to lab contamination. There were other detections in the sediment equipment blanks but they were not detected in the sediment samples so there was no impact to the sediment results.

There are some other detections in the samples that could be attributed to laboratory method blank contamination. There are a couple different ways that data can be handled and those are noted in the comments/action section of the data review summary.

5.0 Analytical Results

All samples were analyzed for the current DER list of 21 PFAS compounds at the NYSDOH-ELAP certified Eurofins (formerly Test America) laboratory in Sacramento, CA using Modified EPA Method 537. Sediment samples were additionally analyzed for total organic carbon (TOC) via Lloyd Kahn and pH via Method 9045D with the exception of the sediment sample collected from Sample Location 2 (TR-02).

All samples were placed in laboratory-provided containers, labeled, and stored in ice. Samples were delivered to the project laboratory by Arcadis under standard chain-of-custody procedures. A NYSDEC ASP Category A deliverable was prepared for the data and is provided in Appendix C. An EDD will be prepared and uploaded to NYSDEC EQuIS database by Arcadis. A NYSDEC ASP Category B deliverable is available upon request.

5.1 Surface Water Samples

Concentrations of PFAS ranged from non-detect at the method detection limit to 9.0 parts per trillion (ppt) for perfluorododecanoic acid (PFDoA), detected in sample TR-SW-2(5). Of the seven surface water samples collected, TR-SW-2(5) had the greatest number of detections of the 21 compounds analyzed for under modified method 537 including perfluorononanoic acid (PFNA) at 5.9 ppt, perfluorodecanoic acid (PFDA) at 3.5 ppt, perfluorotridecanoic acid (PFTriA) at 7.3 ppt, perfluoroundecanoic acid (PFUnA) at 5.7 ppt, perfluorotetradecanoic acid (PFTeA) at 3.0 ppt (estimated value, see Table 1 Notes), and PFDoA at 9.0 ppt, as previously mentioned. PFOA was detected in three other samples at varying depths including: at a concentration of 2.5 ppt in sample TR-SW-3 (5) at a depth of 5 feet below the water surface; at a concentration of 2.1 ppt in sample TR-SW-2(14) at a depth of 14 feet below the water surface; at a concentration of 1.9 in TR-SW-DUP-1; and at a concentration of 2.2 ppt in sample TR-SW-3(11.5) at a depth of 11.5 feet below the water surface. PFBA was detected in TR-SW-3(5), 5 feet below the water surface, and in TR-SW-DUP-1 at a concentration of 1.9 ppt (estimated values, see Table 1 Notes).

Analytical results for all surface water samples are summarized in Table 3 and provided in the Category A Laboratory report, Appendix C.

5.2 Sediment Samples

Concentrations of all analyzed PFAS were non-detect above the laboratory reporting limits (0.26 – 2.0 ppt) with the exception of PFBA, detected in TR-SED-1, TR-SED-3, and TR-SED-DUP-1 at concentrations of 1.6 ppt, 1.5 ppt, and 1.3 ppt (estimated values, see Table 2 Notes), respectively.

The pH values in samples ranged of 6.5 to 8.5.

The TOC results for sediment samples ranged from 30,100 to 35,500 mg/kg.

Analytical results for sediment samples are provided in Table 2 and provided in the Category A Laboratory report, Appendix C.

6.0 References

Arcadis, 2016. Draft Memorandum - Village of Hoosick Falls Alternative Water Supply Study, NYSDEC WA D0076618-43, Site #442008, Arcadis, June 17, 2016.

CDM Smith, 2018. Final Report – City of Troy, New York, Tomhannock Reservoir, Safe Yield Study. CDM Smith, August 2018.

Tables

Table 1. Surface Water Sample Analytical Results

Constituent	Units	Sample ID/Sample Location						
		TR-SW-1(5)/TR-01	TR-SW-1(20)/TR-01	TR-SW-2(5)/TR-02	TR-SW-2(14)/TR-02	TR-SW-3(5)-1/TR-03	TR-SW-3(11.5)/TR-03	TR-SW-DUP-1/TR-03
PFBA	ng/L	1.7 J+	1.6 J+	1.3 J+	1.5 J+	**1.9 J+**	1.9 J+	**1.9 J+**
PFPeA	ng/L	0.95 J	0.75 J	1.0 J	0.88 J	1.4 J	0.98 J	1.2 J
PFHxA	ng/L	0.75 J	<2.0	0.78 J	0.77 J	1.1 J	1.2 J	1.1 J
PFHpA	ng/L	0.70 J	0.47 J	0.74 J	0.56 J	0.83 J	0.80 J	0.85 J
PFOA	ng/L	1.9 J	1.6 J	2.0	**2.1**	**2.5**	**2.2**	**1.9**
PFNA	ng/L	<2.0	<2.0	**5.9**	0.33 J	0.28 J	0.67 J	0.27 J
PFDA	ng/L	<2.0	<2.0	**3.5**	<2.0	<1.8	0.69 J	<1.8
PFUnA	ng/L	<2.0	<2.0	**5.7**	<2.0	<1.8	<2.0	<1.8
PFDoA	ng/L	<2.0	<2.0	**9.0**	<2.0	<1.8	<2.0	<1.8
PFTriA	ng/L	<2.0	<2.0	**7.3**	<2.0	<1.8	<2.0	<1.8
PFTeA	ng/L	0.34 J+	0.29 J+	**3.0 J+**	0.31 J+	<1.8	<2.0	<1.8
PFBS	ng/L	0.37 J	0.25 J	0.31 J	0.32 J	0.32 J	0.33 J	0.34 J
PFHxS	ng/L	0.48 J+	0.42 J+	0.53 J+	0.50 J+	0.43 J+	0.48 J+	0.45 J+
PFHpS	ng/L	<2.0	<2.0	<2.0	<2.0	<1.8	<2.0	<1.8
PFOS	ng/L	0.72 J	0.64 J	1.2 J	0.88 J	0.98 J	1.1 J	1.1 J
PFDS	ng/L	<2.0	<2.0	<2.0	<2.0	<1.8	<2.0	<1.8
FOSA	ng/L	<2.0	<2.0	<2.0	<2.0	<1.8	<2.0	<1.8
NMeFOSAA	ng/L	<20	<20	<20	<20	<18	<20	<18
NEtFOSAA	ng/L	<20	<20	<20	<20	<18	<20	<18
6:2 FTS	ng/L	<20	<20	<20	<20	<18	<20	<18
8:2 FTS	ng/L	<20	<20	<20	<20	<18	<20	<18

Notes

PFAS - Analyzed via Modified USEPA Method 537

J+ - Estimated result that is also biased high due to presence of the compound in lab method blank

J - Estimated values. J qualified results represent values above the method detection limit but below the reporting limit. Results are estimated but can be reported with 99% confidence that the measured concentration is distinguishable from the method blank. J Values < RL are included for informational purposes.

RL - Reporting Limit

NA – Sample not analyzed for this parameter

Bold denotes detected value above reporting limit

Table 2. Sediment Sample Analytical Results

Constituent	Units	Sample ID/Sample Location			
		TR-SED-1/TR-01	TR-SED-2/TR-02	TR-SED-3/TR-03	TR-SED-DUP-1/TR-03
PFBA	µg/kg	**1.6 J+**	0.15 J+	**1.5 J+**	**1.3 J+**
PFPeA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFHxA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFHpA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFOA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFNA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFDA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFUnA	µg/kg	<0.69	0.083 J	<0.71	<0.61
PFDoA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFTriA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFTeA	µg/kg	<0.69	<0.26	<0.71	<0.61
PFBS	µg/kg	<0.69	<0.26	<0.71	<0.61
PFHxS	µg/kg	<0.69	<0.26	<0.71	<0.61
PFHpS	µg/kg	<0.69	<0.26	<0.71	<0.61
PFOS	µg/kg	<1.7	<0.64	<1.8	<1.5
PFDS	µg/kg	<0.69	<0.26	<0.71	<0.61
FOSA	µg/kg	<0.69	<0.26	<0.71	<0.61
NMeFOSAA	µg/kg	<6.9	<2.6	<7.1	<6.1
NEtFOSAA	µg/kg	<6.9	<2.6	<7.1	<6.1
6:2 FTS	µg/kg	<6.9	<2.6	1.2 J	<6.1
8:2 FTS	µg/kg	<6.9	<2.6	<7.1	<6.1
pH	SU	6.3	NA	6.5	6.4
TOC	mg/kg	**30100**	NA	**35500**	**30800**

Notes

PFAS - Analyzed via Modified USEPA Method 537

pH - Analyzed via Method 9045D

TOC - Total Organic Carbon analyzed via Method Lloyd Kahn

J+ - Estimated result that is also biased high due to presence of the compound in lab method blank

J - Estimated values. J qualified results represent values above the method detection limit but below the reporting limit. Results are estimated but can be reported with 99% confidence that the measured concentration is distinguishable from the method blank. J Values < RL are included for informational purposes.

RL - Reporting Limit

NA – Sample not analyzed for this parameter

Bold denotes detected value above reporting limit

Table 3. Rinse Blank/Field Blank Sample Analytical Results

Constituent	Units	Sample ID				
		TR-RB-SED BOWLS	TR-RB-TUBING1	TR-RB-SED SAMPLER	TR-RB-SED SAMPLER 2	TR-RB-GLOVES
PFBA	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFPeA	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFHxA	ng/L	<1.7	<2.0	0.69 J	<1.9	<1.8
PFHpA	ng/L	<1.7	<2.0	0.32 J	<1.9	<1.8
PFOA	ng/L	<1.7	<2.0	0.73 J	<1.9	<1.8
PFNA	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFDA	ng/L	<1.7	<2.0	0.30 J	<1.9	<1.8
PFUnA	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFDoA	ng/L	<1.7	<2.0	<1.7	1.3 J	<1.8
PFTriA	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFTeA	ng/L	<1.7	<2.0	<1.7	0.49 J	<1.8
PFBS	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFHxS	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFHpS	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
PFOS	ng/L	<1.7	<2.0	0.73 J	<1.9	<1.8
PFDS	ng/L	<1.7	<2.0	0.51 J	<1.9	<1.8
FOSA	ng/L	<1.7	<2.0	<1.7	<1.9	<1.8
NMeFOSAA	ng/L	<17	<20	<17	<19	<18
NEtFOSAA	ng/L	<17	<20	<17	<19	<18
6:2 FTS	ng/L	<17	<20	<17	<19	<18
8:2 FTS	ng/L	<17	<20	<17	<19	<18

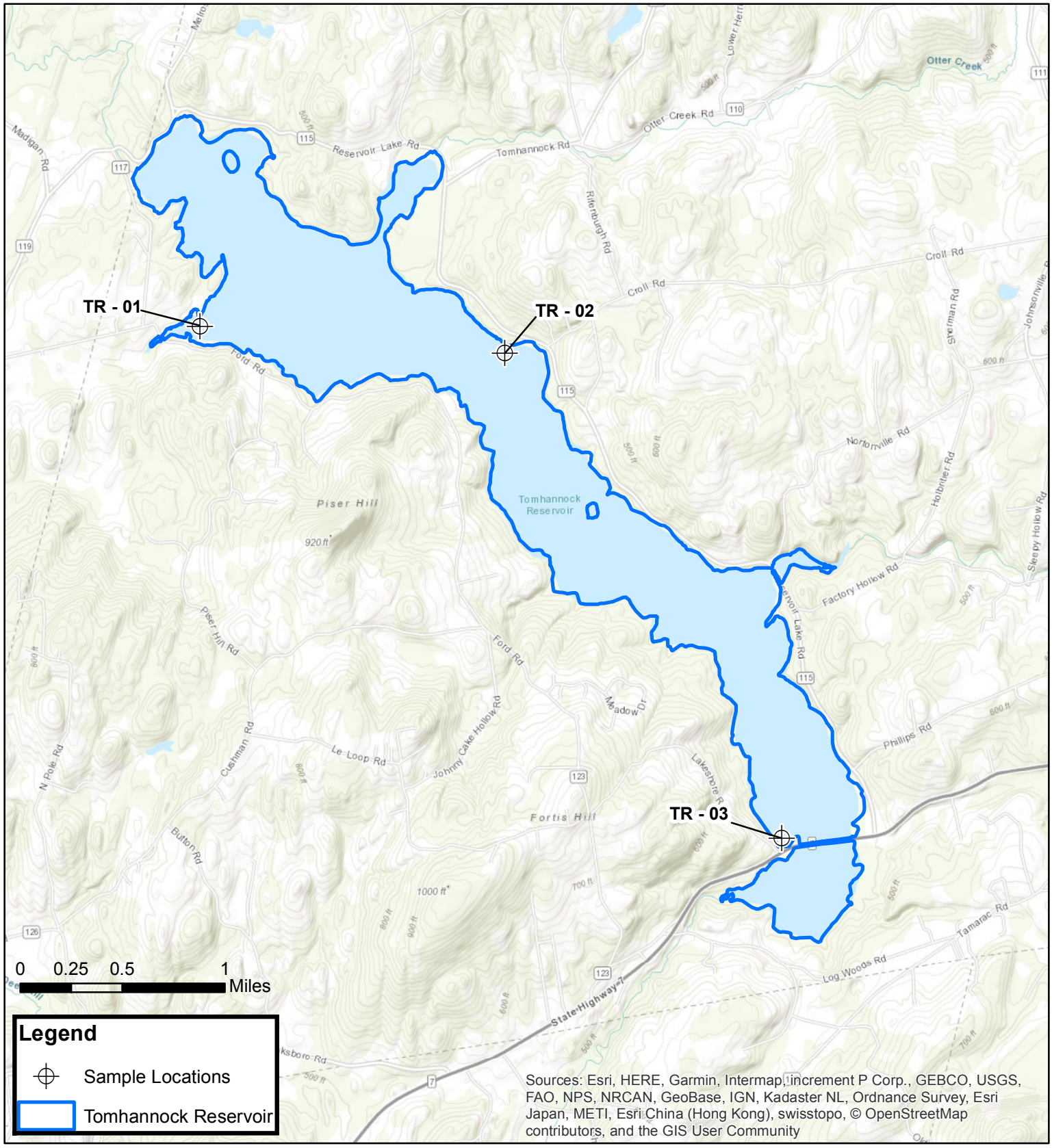
Notes

PFAS - Analyzed via Modified USEPA Method 537

J - Estimated values. J qualified results represent values above the method detection limit but below the reporting limit. Results are estimated but can be reported with 99% confidence that the measured concentration is distinguishable from the method blank. J Values < RL are included for informational purposes.

RL - Reporting Limit

Figures



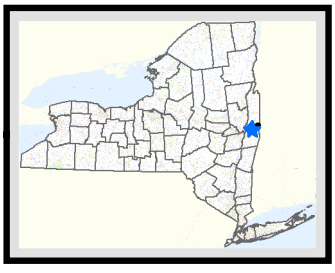


Figure 1
NYSDEC FINAL
Tomhannock Reservoir, Rensselaer County
PFAS Sample Location and Results

N

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Appendix A

New York State Department of Environmental Conservation
Tomhannock Reservoir Sampling Plan for
Per- and Poly-fluoroalkyl Substances

New York State Department of Environmental Conservation
Tomhannock Reservoir Sampling Plan
for
Per- and Polyfluoroalkyl Substances

Purpose

Various options are being evaluated to supply the Village of Hoosick Falls with a source of drinking water. One option under consideration to serve this purpose is the Tomhannock Reservoir (Reservoir) in the Town of Pittstown, Rensselaer County. To fully evaluate the viability of the Reservoir to serve as a source of drinking water, risk assessors and managers need to understand whether the potential source is impacted by Per- and polyfluoroalkyl Substances (PFAS) including perfluorooctonoic acid (PFOA).

Scope

Sampling of the Reservoir will include the collection of co-located surface water and sediment samples along with accompanying QA/QC samples. Samples will be collected from three locations in the Reservoir encompassing nearly the entire length of the waterbody. A surface water sample will be collected from multiple depths at each location. One sample of the ice cover will also be analyzed for PFAS. It is anticipated that samples will be collected from the frozen surface.

Sample Location Rationale

Sample locations are based on locations previously sampled by New York State Department of Health (NYSDOH) and the conceptual raw water intake location, as well as, the generally "upgradient" end of the reservoir (southern end). Sample locations are shown on the attached figure.

Access and Coordination

Request for access will be submitted to the City of Troy, the municipality responsible for maintenance and security of the reservoir. Sampling activities will be coordinated with the city, NYSDOH and Rensselaer County Health Department (RCDOH). Points of contact for the parties follows later in this work plan.

Sampling Procedures and Precautions

Procedures used for this effort will be consistent with the "NYSDEC March 1991 Sampling Guidelines and Protocols." Precautions identified in NYSDEC, Division of Environmental Remediation (DER) guidance (included with this work plan) will be followed during collection of all samples.

At each location identified on Figure 1, an ice auger will be used to determine the ice thickness in the vicinity. In consultation with Division of Operations staff responsible for posting ice fishing advisories and ice conditions, a minimum of 3" is required to safely conduct activities on the ice surface. Test holes will be drilled every fifteen feet to ensure that the thickness of the ice is not changing.

Once on station, the ice auger will be used to drill a hole so that the core sampler can be lowered into the water and the depth to the reservoir sediment surface (mud line) will be measured. The depth will be recorded on the sediment sample collection field log

A submersible pump will then be used to collect the surface water samples in this location. One sample will be collected from approximately five feet above the mudline. Tubing will be attached to the core and extension rods used to collect sediment.

Lower rod with tubing attached to the prescribed depth and hold position. Purge water from the tubing until any water not from the prescribed depth has been expelled. The sample jar will now be filled from the pump.

A second sample will be collected within five feet of the surface utilizing the same process. If the total depth of the water column is 30 feet or more, a third sample will be collected at the midpoint of the water column.

The core will then be pushed into the sediment to obtain the sample. The full length of the core should be driven into the sediment and then removed and brought up to the surface for transfer to the collection jar. The jar will then be labeled and placed in a cooler with ice.

Record GPS data from the sample location before relocating.

Analysis

All samples will be analyzed for the current list of 21 PFAS analytes using Modified EPA Method 527 or ISO 25101 analyses by a laboratory holding ELAP certification for PFOA and PFOS in drinking water for these methods.

All analytical data will be validated and a DUSR will be provided with the final report. The standby engineer will prepare and submit validated EDDs for all data packages.

Quality Assurance/Quality Control

The following will be collected for QA/QC per 20 samples:
One duplicate sample
One ms/msd
One trip blank
One equipment blank

Equipment

Core Barrel with Butterfly Flap
Extension Rods
Submersible pump/Battery or other
Water quality meter
Tubing
Tape Measure/Lead line
Camera
PFAS-free water
Sample log forms (surface water/sediment)
GPS unit.

Contacts

The following are the various agency points of contact for this sampling effort:

NYSDEC
Ian Beilby
625 Broadway
Albany NY, 12233-7013
518-402-9639
Ian.beilby@dec.ny.gov

Barbara Firebaugh
625 Broadway
Albany NY, 12233-7013
518-402-9767
barbara.firebaugh@dec.ny.gov

NYSDOH
Min-Sook Kim
ESP-Corning Tower
Albany NY, 12237
518-402-7650
min-sook.kim@health.ny.gov

RCDOH
Richard Elder
Rensselaer County
518-270-2632
relder@rensco.com

City of Troy
Christopher Wheland
Troy Water Treatment Plant
518-237-0193
chris.wheland@troyny.gov

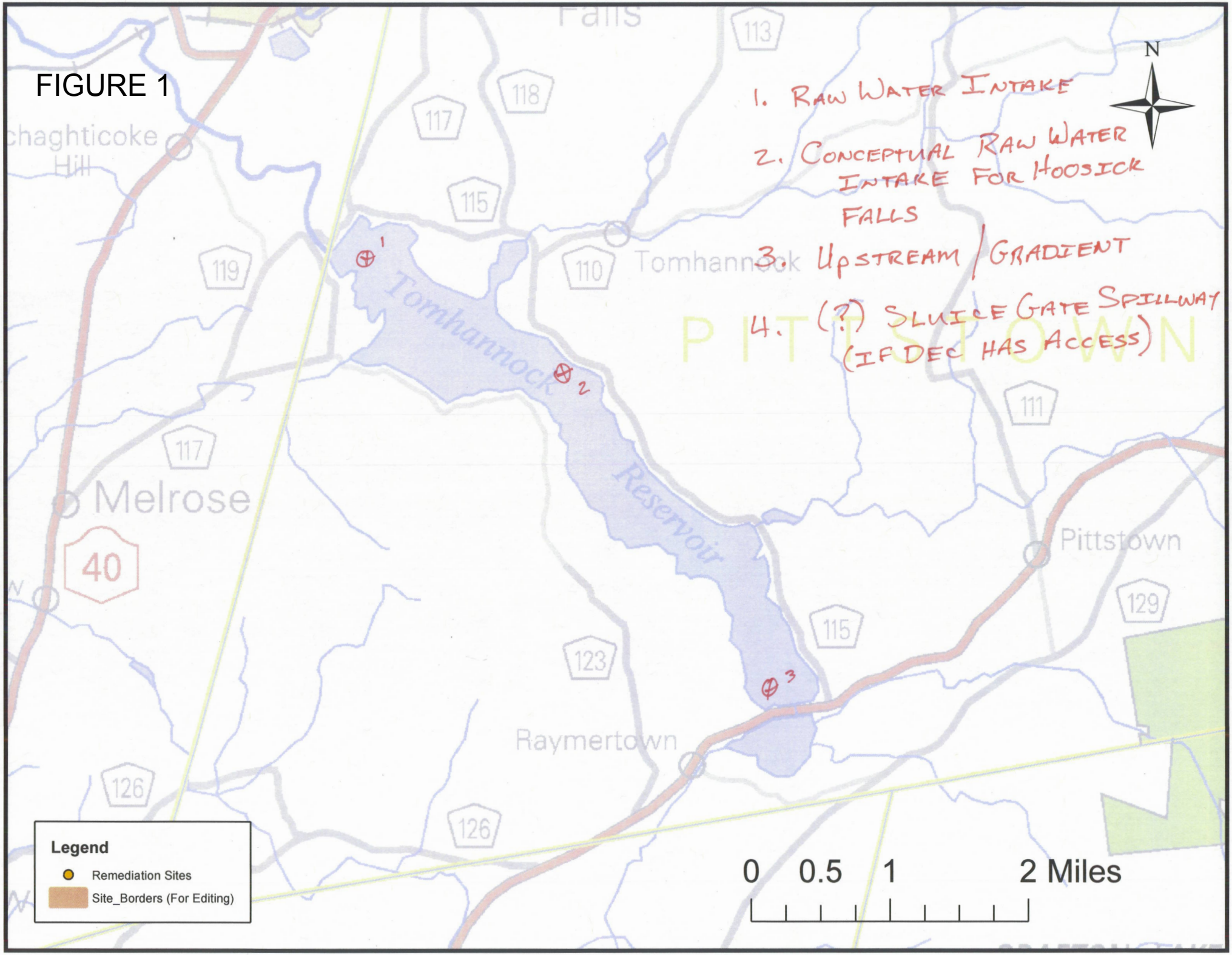


FIGURE 1
1. Raw Water Intake
2. Conceptual Raw Water Intake for Hoosick Falls
3. Upstream / Gradient
4. (?) Sluice Gate Spillway (If DEC has Access)
N
Falls
Tomhannock
Reservoir
Melrose
Pittstown
Raymertown
Tomhannock
Hill
PITTSTOWN
113
118
117
115
119
110
111
129
123
126
40
Legend
Remediation Sites
Site_Borders (For Editing)
0 0.5 1 2 Miles

Collection of Surface Water Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) Protocol

Samples collected using this protocol are intended to be analyzed for perfluorooctanoic acid (PFOA) and other perfluorinated compounds by Modified (Low Level) Test Method 537. Reporting limits of 2 nanograms per liter.

The sampling procedure used must be consistent with the NYSDEC March 1991 SAMPLING GUIDELINES AND PROTOCOLS
http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf with the following materials limitations.

At this time acceptable materials for sampling include: stainless steel, high density polyethylene (HDPE), PVC, silicone, acetate and polypropylene. Equipment blanks should be generated at least daily. Additional materials may be acceptable if pre-approved by NYSDEC. Requests to use alternate equipment should include clean equipment blanks. All sampling equipment components and sample containers should not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer. Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFC materials. Where conditions permit, (e.g. creek or pond) sampling devices (e.g. stainless steel cup) should be rinsed with site medium to be sampled prior to collection of the sample. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFC materials must be avoided. Many food and drink packaging materials and “plumbers thread seal tape” contain PFCs.

All clothing worn by sampling personnel must have been laundered multiple times. The sampler must wear nitrile gloves while filling and sealing the sample bottles.

Pre-cleaned sample bottles with closures, coolers, sample labels and a chain of custody form will be provided by the laboratory.

1. Fill two pre-cleaned 500 mL HDPE or polypropylene bottle with the sample.
2. Cap the bottles with an acceptable cap and liner closure system.
3. Label the sample bottles.
4. Fill out the chain of custody.
5. Place in a cooler maintained at 4 ± 2º Celsius.

Collect one equipment blank for every sample batch, not to exceed 20 samples.

Collect one field duplicate for every sample batch, not to exceed 20 samples.

Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, not to exceed 20 samples.

Request appropriate data deliverable (Category A or B) and an electronic data deliverable.

Collection of Shallow Soil Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) Protocol

General

The objective of this protocol is to give general guidance for the collection of soil samples for PFC analysis. The sampling procedure used must be consistent with the NYSDEC March 1991 SAMPLING GUIDELINES AND PROTOCOLS http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf with the following materials limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFOA and other PFCs by Modified (Low Level) via the modified (low level) EPA Test Method **537**. Based on four laboratories, the PFC reporting limits range from 0.1 to 3 micrograms per kilogram. One 8 ounce high density polyethylene (HDPE) container is required for each sample. Pre-cleaned sample containers, coolers, sample labels and a chain of custody form will be provided by the laboratory.

Sampling Location and Survey

Shallow soil sampling will generally be confined to surface or near-surface soils and/or sediments with hand equipment. For screening purposes, sampling of this type should be conducted in potential depositional areas. Sample locations shall be located and recorded.

Equipment

At this time acceptable materials for sampling include: stainless steel, high density polyethylene (HDPE), PVC, silicone, acetate and polypropylene. Additional materials may be acceptable if proven not to contain PFCs. All sampling equipment components and sample containers should not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer. A list of acceptable equipment is provided below, but other equipment may be considered appropriate at a later date.

- stainless steel spoon
- stainless steel bowl
- carbon steel hand auger without any coatings

Equipment Decontamination

Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFC materials.

Sampling Techniques

Sampling is often conducted in areas where a vegetative turf has been established. In these cases a clean stainless steel spoon should be used to carefully remove the turf so that it may be replaced at the conclusion of sampling. Surface soil samples (e.g. 0 to 6 inches below surface) shall then be collected using a pre-cleaned, stainless steel spoon. Shallow subsurface soil samples (e.g. 6 to ~36 inches below surface) may be collected by digging a hole using a hand auger. When the desired subsurface depth is reached, a pre-cleaned hand auger shall be used to obtain the sample.

When the soil sample is obtained, it should be deposited into a stainless steel bowl for mixing prior to filling the sample containers. The soil should be placed directly into the bowl and mixed thoroughly by rolling the material into the middle until the material is homogenized.

Sample Identification and Logging

A label shall be attached to each sample container with an identification consistent with the format indicated below. Each sample shall be included on the chain of custody (COC).

- Each sample shall be labelled as Street#, Street Name, date, Sample S#, Depth Interval (e.g. 2MainSt-3-30-16-S1-0-2).
- Each duplicate shall be labelled as a blind duplicate identified as “date, DUP, # (e.g. 3-30-16-DUP1).

Quality Assurance/Quality Control

- Immediately place samples in cooler maintained at 4 ± 2º Celsius.
- Collect one field duplicate for every sample batch, not to exceed 20 samples. The duplicate shall consist of an additional sample at a given location.
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, not to exceed 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC.
- Request appropriate data deliverable (Category A or B) and an electronic data deliverable.

Documentation

A soil log or sample log shall document the location of the sample/borehole, depth of the sample, duplicate sample, visual description of the material and any other observations or notes determined to be appropriate.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler must wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFC materials must be avoided. All clothing worn by sampling personnel must have been laundered multiple times.

Appendix B

Data Usability Summary Report

SITE Tomhannock Resevoir	**SDG No.** 480-151471-1
LABORATORY Test America Sacramento	**NO. OF SAMPLES** 16
SAMPLE ID TR-RB-SED BOWL STR-RB-TUBING1 TR-RB-SED SAMPLER TR-RB-SED SAMPLER 2 TR-RB-GLOVES TR-SW-DUP-1 TR-SW-3(11.5) TR-SED-1 TR-SED-2 TR-SED-3 TR-SED-DUP-1 TR-SW-3(5) TR-SW-2(5) TR-SW-2(14) TR-SW-1(5) TR-SW-1(20)	**COMPLETION DATE** 6/6/2019
DATES SAMPLED 4/3/2019, 4/5/2019	**ANALYTICAL METHOD** 537 Modified

PFAS Non-Potable Water and Solid

Review Criteria	Acceptance Criteria	Criteria Met (Y/N)	Comments/Action
Preservation and Holding Times	< 14 days to extract, 28 days to analyze extract <10C when received at the lab (not to exceed 10C within the first 48 hours)	Sampled: 4/3/2019, 4/5/2019 Prepared: 4/9/2019, 4/11/2019 Analyzed: 4/12/2019, 4/13/2019, 4/16/2019, 4/17/2019 Criteria were met	No action necessary
Calibration	-5 Standards -%RSD <20 -R^2 > 0.99 (linear fit)	Criteria were met	No action necessary
Blanks	No detections above the reporting limit	**TR-RB GLOVES and TR-RB-TUBING 1** The small detections of PFBA and PFHxS are likely from lab contamination and not field contamination **TR-RB-SED BOWLS, TR-RB-SED SAMPLER, and TR-RB-SED SAMPLER 2** The small detections of PFBA and PFHxS are likely from lab contamination and not field contamination	Change results to ND at the RL Change results to ND at the RL

		TR-RB- SED SAMPLER 2 also had one small detection of PFDoA but this compound was not detected in the soil samples therefore there is no affect on the data.	No action necessary
		TR-SED1, TR-SED3, TR-SED DUP1 PFBA result is >10X the blank amount	J+ qualify PFBA result
		TR-SED 2 PFBA was detected in the method blank. Result is less than 10x the blank concentration	J+ qualify PFBA result
		TR-SW DUP 1, TR-SW-3(11.5), TR-SW-3(5) PFBA and PFHxS were detected in the method blank. Results were less than10x the blank concentration	J+ qualify PFBA and PFHxS
		TR-SW-2(5), TR-SW-2(14), TR-SW-1(5), TR-SW-1(20) PFBA, PFHxS, PFTeA were detected in the method blank. Results were less than 10x the blank amount.	J+ qualify PFBA, PFHxS, and PFTeA results
Initial Calibration Verification	LL ICV 50-150% HL ICV 70-130%	Criteria were met	No action necessary
Continuing Calibration Checks (CCC)	Frequency – beginning and end of run, and after every 10^{th} sample 70-130% Recovery	Criteria were met	No action necessary

Duplicates	RPD ≤ 30%	Blind field duplicates were collected on: TR-SW-3(5) TW-SED-1 Results were less than 2x the reporting limit therefore the RPDs were not calculated	No action necessary
MS/MSD	In house limits 70-130% RPD <30%	Criteria were met	No action necessary
Extracted Internal Standards (Isotope Dilution Analytes)	50-150%	M2 8:2 FTS recovered high (179%) in sample TR-RB-SED SAMPLER 2 Compound was not detected in the sample.	No action necessary
Lab Control Spike	70-130% or in-house control limits 1 per 20 samples	Criteria were met	No action necessary
Sample Result Info Accuracy	Sample information on result pages must match COC	Sample information on the result pages matched the COC	No action necessary
Peak Integration	Peaks must be integrated properly	Criteria were met	No action necessary
Secondary ion (qualifier ion) monitoring	Secondary ion transition should be monitored, and the ratio of quantifier ion to qualifier ion must be within lab defined criteria	Secondary ions were monitored Ion ratios for PFOA in TR-SW-3(5) were outside of the limits	PFOA result for TR-SW-3(5) is qualified by the lab with an “I”
Signal to noise ratio	Signal to noise ratio should be calculated for each compound. s/n > 3 for quant ion	Signal to noise criteria were met except for results lower than the reporting limit. Criteria were met	No action necessary
Branched and linear isomers	Both branched and linear isomers should be used for calibration curves and sample quantification	Branched and linear isomer standards were used for calibration and isomers integrated in samples.	No action necessary
Ion Transitions	PFOA 413 > 369 PFOS 499 > 80 PFHxS 399 > 80 PFBS 299 > 80 6:2 FTS 427 > 407 8:2 FTS 527 > 507	The correct ion transitions were monitored.	No action necessary

	NEtFOSAA 584 > 419 NMeFOSAA 570 > 419		
Reporting Limits	Must meet project objectives 2 ng/L for water (PFOA and PFOS) 1 ug/kg for soil	Water reporting limits were 2ppt except for 6:2 FTS, 8:2 FTS, NMeFOSAA, NEtFOSAA which were 20 ppt. These elevated RLs have been pre-approved. Soil reporting limits were 0.20 ug/kg for most PFAS, 2.0 ug/kg for 6:2 FTS, 8:2 FTS, NMeFOSAA, NEtFOSAA And PFOS at 0.5ug/kg before correction for % solids	No action necessary

Appendix C

Category A Laboratory Results

Package

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 480-151471-1
Laboratory Sample Delivery Group: Tomhannock Reservoir
Client Project/Site: HOOSICK FALLS Rt 22 #1510556

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

Attn: Susan Edwards

Joseph V. Giacomazza

Authorized for release by:
4/24/2019 12:03:00 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

LINKS

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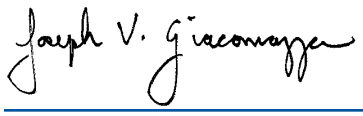
The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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.



Joe Giacomazza
Project Management Assistant II
4/24/2019 12:03:00 PM

Table of Contents

Definitions/Glossary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
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.

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Job ID: 480-151471-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-151471-1

Receipt
The samples were received on 4/6/2019 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2º C.

LCMS
Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS in the following sample: TR-RB-SED SAMPLER 2 (480-151471-4). Re-analysis was performed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for M2-6:2 FTS and M2-8:2 FTS in the following samples: TR-SED-1 (480-151471-8), TR-SED-1 (480-151471-8[MS]) and TR-SED-DUP-1 (480-151471-11). Re-analysis was performed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2 FTS in the following sample: TR-SED-1 (480-151471-8[MSD]). Re-analysis was performed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): The matrix spike recovery for preparation batch 320-287004 and analytical batch 320-287732 was outside control limits for Perfluoroundecanoic acid (PFUnA). Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

General Chemistry
Method(s) 9045D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: TR-SED-1 (480-151471-8), TR-SED-3 (480-151471-10), TR-SED-DUP-1 (480-151471-11) and (480-151471-B-8 DU).

Method(s) Lloyd Kahn: The continuing calibration blank (CCB) for analytical batch 200-141921 contained Total Organic Carbon above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Organic Prep
Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-287119.

Method(s) SHAKE: After the final volume, the following samples are light-yellow: TR-SED-1 (480-151471-8), TR-SED-1 (480-151471-8[MS]), TR-SED-1 (480-151471-8[MSD]), TR-SED-3 (480-151471-10) and TR-SED-DUP-1 (480-151471-11).

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

Detection Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-SED BOWLS — Lab Sample ID: 480-151471-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.73	J B	1.7	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	1.7	0.15	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-RB-TUBING1 — Lab Sample ID: 480-151471-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.75	J B	2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.34	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-RB-SED SAMPLER — Lab Sample ID: 480-151471-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.67	J B	1.7	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.69	J	1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.32	J	1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.73	J	1.7	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.30	J I	1.7	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J B	1.7	0.15	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.73	J I	1.7	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.51	J	1.7	0.27	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-RB-SED SAMPLER 2 — Lab Sample ID: 480-151471-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.80	J B	1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	1.3	J	1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.49	J B	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.33	J B	1.9	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-RB-GLOVES — Lab Sample ID: 480-151471-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.75	J B	1.8	0.32	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.31	J B	1.8	0.15	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-SW-DUP-1 — Lab Sample ID: 480-151471-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.9	B	1.8	0.32	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.2	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.1	J I	1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.85	J	1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		1.8	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.27	J	1.8	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.34	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.45	J B	1.8	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.8	0.49	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-SW-3(11.5) — Lab Sample ID: 480-151471-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.9	J B	2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.98	J	2.0	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.2	J	2.0	0.57	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-3(11.5) (Continued) — Lab Sample ID: 480-151471-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.80	J	2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.2		2.0	0.84	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.67	J	2.0	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.69	J	2.0	0.31	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.33	J	2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.48	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1	J	2.0	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-SED-1 — Lab Sample ID: 480-151471-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.6	B	0.69	0.097	ug/Kg	1	☼	537 (modified)	Total/NA
pH	6.3	HF			SU	1		9045D	Total/NA
Temperature	21°	HF			Degrees C	1		9045D	Total/NA
Total Organic Carbon	30100	^	1000	380	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: TR-SED-2 — Lab Sample ID: 480-151471-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.26	0.036	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.083	J I	0.26	0.046	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: TR-SED-3 — Lab Sample ID: 480-151471-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.5	B	0.71	0.099	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS	1.2	J	7.1	0.53	ug/Kg	1	☼	537 (modified)	Total/NA
pH	6.5	HF			SU	1		9045D	Total/NA
Temperature	21°	HF			Degrees C	1		9045D	Total/NA
Total Organic Carbon	35500	^	1000	380	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: TR-SED-DUP-1 — Lab Sample ID: 480-151471-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.3	B	0.61	0.085	ug/Kg	1	☼	537 (modified)	Total/NA
pH	6.4	HF			SU	1		9045D	Total/NA
Temperature	21°	HF			Degrees C	1		9045D	Total/NA
Total Organic Carbon	30800	^	1000	380	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: TR-SW-3(5) — Lab Sample ID: 480-151471-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.9	B	1.8	0.32	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.4	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.1	J	1.8	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.83	J	1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.5	I	1.8	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.28	J	1.8	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.32	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.43	J B	1.8	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.98	J	1.8	0.50	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-2(5) — Lab Sample ID: 480-151471-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.3	J B	2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.0	J	2.0	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.78	J	2.0	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.74	J	2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	0.84	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	5.9		2.0	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.5		2.0	0.31	ng/L	1		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	5.7		2.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	9.0		2.0	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTriA)	7.3		2.0	1.3	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	3.0	B	2.0	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.31	J	2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.53	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2	J	2.0	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-SW-2(14) — Lab Sample ID: 480-151471-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.5	J B	2.0	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.88	J	2.0	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.77	J	2.0	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.56	J	2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.33	J	2.0	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.31	J I B	2.0	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.32	J	2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.50	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.88	J I	2.0	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-SW-1(5) — Lab Sample ID: 480-151471-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.7	J B	2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.95	J	2.0	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.75	J	2.0	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.70	J	2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.9	J	2.0	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.34	J I B	2.0	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.37	J	2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.48	J I B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.72	J	2.0	0.54	ng/L	1		537 (modified)	Total/NA

Client Sample ID: TR-SW-1(20) — Lab Sample ID: 480-151471-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.6	J B	2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.75	J	2.0	0.49	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.47	J	2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.6	J	2.0	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.29	J B	2.0	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.25	J	2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.42	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-1(20) (Continued)

Lab Sample ID: 480-151471-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.64	J	2.0	0.54	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-SED BOWLS
Date Collected: 04/03/19 08:20
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.73**	**J B**	1.7	0.30	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.73	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorohexanesulfonic acid (PFHxS)	**0.28**	**J B**	1.7	0.15	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.16	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		04/09/19 12:49	04/13/19 20:35	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.30	ng/L		04/09/19 12:49	04/13/19 20:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7	ng/L		04/09/19 12:49	04/13/19 20:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6	ng/L		04/09/19 12:49	04/13/19 20:35	1
6:2 FTS	ND		17	1.7	ng/L		04/09/19 12:49	04/13/19 20:35	1
8:2 FTS	ND		17	1.7	ng/L		04/09/19 12:49	04/13/19 20:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C5 PFPeA	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C2 PFHxA	*92*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C4 PFHpA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C4 PFOA	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C5 PFNA	*101*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C2 PFDA	*112*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C2 PFUnA	*118*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C2 PFDoA	*124*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C2 PFTeDA	*111*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C3 PFBS	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
18O2 PFHxS	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C4 PFOS	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
13C8 FOSA	*91*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
d3-NMeFOSAA	*77*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
M2-6:2 FTS	*111*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*
M2-8:2 FTS	*122*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:35*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-TUBING1

Date Collected: 04/03/19 08:10
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.75**	**J B**	2.0	0.35	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.48	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.57	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorohexanesulfonic acid (PFHxS)	**0.34**	**J B**	2.0	0.17	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.53	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/09/19 12:49	04/13/19 20:44	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/09/19 12:49	04/13/19 20:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/09/19 12:49	04/13/19 20:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/09/19 12:49	04/13/19 20:44	1
6:2 FTS	ND		20	2.0	ng/L		04/09/19 12:49	04/13/19 20:44	1
8:2 FTS	ND		20	2.0	ng/L		04/09/19 12:49	04/13/19 20:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C5 PFPeA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C2 PFHxA	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C4 PFHpA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C4 PFOA	*105*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C5 PFNA	*106*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C2 PFDA	*109*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C2 PFUnA	*103*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C2 PFDoA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C2 PFTeDA	*102*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C3 PFBS	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
18O2 PFHxS	*101*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C4 PFOS	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
13C8 FOSA	*85*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
d3-NMeFOSAA	*99*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
d5-NEtFOSAA	*103*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*
M2-8:2 FTS	*108*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:44*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-SED SAMPLER
Date Collected: 04/03/19 11:55
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-3
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.67**	**J B**	1.7	0.30	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorohexanoic acid (PFHxA)	**0.69**	**J**	1.7	0.50	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluoroheptanoic acid (PFHpA)	**0.32**	**J**	1.7	0.21	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorooctanoic acid (PFOA)	**0.73**	**J**	1.7	0.73	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorodecanoic acid (PFDA)	**0.30**	**J I**	1.7	0.27	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J B**	1.7	0.15	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.16	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorooctanesulfonic acid (PFOS)	**0.73**	**J I**	1.7	0.46	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorodecanesulfonic acid (PFDS)	**0.51**	**J**	1.7	0.27	ng/L		04/09/19 12:49	04/13/19 20:54	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.30	ng/L		04/09/19 12:49	04/13/19 20:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7	ng/L		04/09/19 12:49	04/13/19 20:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6	ng/L		04/09/19 12:49	04/13/19 20:54	1
6:2 FTS	ND		17	1.7	ng/L		04/09/19 12:49	04/13/19 20:54	1
8:2 FTS	ND		17	1.7	ng/L		04/09/19 12:49	04/13/19 20:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C5 PFPeA	*93*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C2 PFHxA	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C4 PFHpA	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C4 PFOA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C5 PFNA	*101*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C2 PFDA	*118*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C2 PFUnA	*118*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C2 PFDoA	*130*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C2 PFTeDA	*120*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C3 PFBS	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
18O2 PFHxS	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C4 PFOS	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
13C8 FOSA	*91*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
d5-NEtFOSAA	*107*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
M2-6:2 FTS	*121*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*
M2-8:2 FTS	*133*		*25 - 150*	*04/09/19 12:49*	*04/13/19 20:54*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-SED SAMPLER 2
Date Collected: 04/05/19 12:30
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.80**	**J B**	1.9	0.34	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.48	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.83	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorododecanoic acid (PFDoA)	**1.3**	**J**	1.9	0.53	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorotetradecanoic acid (PFTeA)	**0.49**	**J B**	1.9	0.28	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorohexanesulfonic acid (PFHxS)	**0.33**	**J B**	1.9	0.17	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		04/11/19 05:35	04/12/19 23:01	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.34	ng/L		04/11/19 05:35	04/12/19 23:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		04/11/19 05:35	04/12/19 23:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		04/11/19 05:35	04/12/19 23:01	1
6:2 FTS	ND		19	1.9	ng/L		04/11/19 05:35	04/12/19 23:01	1
8:2 FTS	ND		19	1.9	ng/L		04/11/19 05:35	04/12/19 23:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C5 PFPeA	*106*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C2 PFHxA	*108*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C4 PFHpA	*107*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C4 PFOA	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C5 PFNA	*114*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C2 PFDA	*120*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C2 PFUnA	*123*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C2 PFDoA	*117*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C2 PFTeDA	*117*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C3 PFBS	*108*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
18O2 PFHxS	*107*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C4 PFOS	*108*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
13C8 FOSA	*115*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
d3-NMeFOSAA	*92*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
d5-NEtFOSAA	*131*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
M2-6:2 FTS	*135*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*
M2-8:2 FTS	*179*	*	*25 - 150*	*04/11/19 05:35*	*04/12/19 23:01*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-GLOVES

Lab Sample ID: 480-151471-5

Date Collected: 04/03/19 08:15

Matrix: Water

Date Received: 04/06/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.75**	**J B**	1.8	0.32	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.44	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.53	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.77	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.26	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorohexanesulfonic acid (PFHxS)	**0.31**	**J B**	1.8	0.15	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		04/09/19 12:49	04/13/19 21:03	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.32	ng/L		04/09/19 12:49	04/13/19 21:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.8	ng/L		04/09/19 12:49	04/13/19 21:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7	ng/L		04/09/19 12:49	04/13/19 21:03	1
6:2 FTS	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 21:03	1
8:2 FTS	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 21:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C5 PFPeA	*93*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C2 PFHxA	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C4 PFHpA	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C4 PFOA	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C5 PFNA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C2 PFDA	*106*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C2 PFUnA	*108*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C2 PFDoA	*126*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C2 PFTeDA	*129*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C3 PFBS	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
18O2 PFHxS	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C4 PFOS	*92*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
13C8 FOSA	*90*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
M2-6:2 FTS	*115*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*
M2-8:2 FTS	*110*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:03*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-DUP-1
Date Collected: 04/03/19 00:00
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-6
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.9**	**B**	1.8	0.32	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluoropentanoic acid (PFPeA)	**1.2**	**J**	1.8	0.45	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorohexanoic acid (PFHxA)	**1.1**	**J I**	1.8	0.53	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluoroheptanoic acid (PFHpA)	**0.85**	**J**	1.8	0.23	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.8	0.78	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorononanoic acid (PFNA)	**0.27**	**J**	1.8	0.25	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.27	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorobutanesulfonic acid (PFBS)	**0.34**	**J**	1.8	0.18	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorohexanesulfonic acid (PFHxS)	**0.45**	**J B**	1.8	0.16	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**	**J**	1.8	0.49	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		04/09/19 12:49	04/13/19 21:13	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.32	ng/L		04/09/19 12:49	04/13/19 21:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.8	ng/L		04/09/19 12:49	04/13/19 21:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7	ng/L		04/09/19 12:49	04/13/19 21:13	1
6:2 FTS	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 21:13	1
8:2 FTS	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 21:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C5 PFPeA	*88*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C2 PFHxA	*87*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C4 PFHpA	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C4 PFOA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C5 PFNA	*106*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C2 PFDA	*110*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C2 PFUnA	*102*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C2 PFDoA	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C2 PFTeDA	*93*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C3 PFBS	*90*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
18O2 PFHxS	*93*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C4 PFOS	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
13C8 FOSA	*92*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
d5-NEtFOSAA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
M2-6:2 FTS	*114*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:13*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-3(11.5)
Date Collected: 04/03/19 10:25
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-7
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.9**	**J B**	2.0	0.35	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluoropentanoic acid (PFPeA)	**0.98**	**J**	2.0	0.49	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorohexanoic acid (PFHxA)	**1.2**	**J**	2.0	0.57	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluoroheptanoic acid (PFHpA)	**0.80**	**J**	2.0	0.25	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorooctanoic acid (PFOA)	**2.2**		2.0	0.84	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorononanoic acid (PFNA)	**0.67**	**J**	2.0	0.27	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorodecanoic acid (PFDA)	**0.69**	**J**	2.0	0.31	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorobutanesulfonic acid (PFBS)	**0.33**	**J**	2.0	0.20	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorohexanesulfonic acid (PFHxS)	**0.48**	**J B**	2.0	0.17	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**	**J**	2.0	0.53	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/09/19 12:49	04/13/19 21:51	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/09/19 12:49	04/13/19 21:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/09/19 12:49	04/13/19 21:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/09/19 12:49	04/13/19 21:51	1
6:2 FTS	ND		20	2.0	ng/L		04/09/19 12:49	04/13/19 21:51	1
8:2 FTS	ND		20	2.0	ng/L		04/09/19 12:49	04/13/19 21:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C5 PFPeA	*89*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C2 PFHxA	*83*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C4 PFHpA	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C4 PFOA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C5 PFNA	*107*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C2 PFDA	*108*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C2 PFUnA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C2 PFDoA	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C2 PFTeDA	*93*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C3 PFBS	*93*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
18O2 PFHxS	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C4 PFOS	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
13C8 FOSA	*91*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
d3-NMeFOSAA	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
d5-NEtFOSAA	*98*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
M2-6:2 FTS	*120*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*
M2-8:2 FTS	*117*		*25 - 150*	*04/09/19 12:49*	*04/13/19 21:51*	*1*

Client Sample ID: TR-SED-1

Date Collected: 04/05/19 11:20
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-8

Matrix: Solid
Percent Solids: 27.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.6**	**B**	0.69	0.097	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.69	0.27	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.69	0.15	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.69	0.10	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorooctanoic acid (PFOA)	ND		0.69	0.30	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorononanoic acid (PFNA)	ND		0.69	0.12	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorodecanoic acid (PFDA)	ND		0.69	0.076	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluoroundecanoic acid (PFUnA)	ND	F1	0.69	0.12	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.69	0.23	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorotridecanoic acid (PFTriA)	ND		0.69	0.18	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.69	0.19	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.69	0.087	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.69	0.11	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.69	0.12	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.69	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.69	0.14	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
Perfluorooctanesulfonamide (FOSA)	ND		0.69	0.28	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		6.9	1.4	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		6.9	1.3	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
6:2 FTS	ND		6.9	0.52	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1
8:2 FTS	ND		6.9	0.87	ug/Kg	☼	04/09/19 08:31	04/12/19 10:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C5 PFPeA	*94*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C2 PFHxA	*86*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C4 PFHpA	*92*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C4 PFOA	*92*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C5 PFNA	*89*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C2 PFDA	*97*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C2 PFUnA	*103*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C2 PFDoA	*87*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C3 PFBS	*103*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
18O2 PFHxS	*91*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C4 PFOS	*88*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
13C8 FOSA	*80*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
d5-NEtFOSAA	*116*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
M2-6:2 FTS	*192*	*	*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*
M2-8:2 FTS	*181*	*	*25 - 150*	*04/09/19 08:31*	*04/12/19 10:20*	*1*

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.3**	**HF**			SU			04/10/19 13:57	1
Temperature	**21°**	**HF**			Degrees C			04/10/19 13:57	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**30100**	**^**	1000	380	mg/Kg			04/11/19 17:16	1

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SED-2
Date Collected: 04/05/19 10:00
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-9
Matrix: Solid
Percent Solids: 77.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.15**	**J B**	0.26	0.036	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluoropentanoic acid (PFPeA)	ND		0.26	0.098	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorohexanoic acid (PFHxA)	ND		0.26	0.054	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.26	0.037	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorooctanoic acid (PFOA)	ND		0.26	0.11	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorononanoic acid (PFNA)	ND		0.26	0.046	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorodecanoic acid (PFDA)	ND		0.26	0.028	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluoroundecanoic acid (PFUnA)	**0.083**	**J I**	0.26	0.046	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.26	0.086	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorotridecanoic acid (PFTriA)	ND		0.26	0.065	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.26	0.069	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.032	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.26	0.040	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.26	0.045	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.64	0.26	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.26	0.050	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
Perfluorooctanesulfonamide (FOSA)	ND		0.26	0.10	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.6	0.50	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.6	0.47	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
6:2 FTS	ND		2.6	0.19	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1
8:2 FTS	ND		2.6	0.32	ug/Kg	☼	04/09/19 08:31	04/12/19 10:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C5 PFPeA	*93*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C2 PFHxA	*88*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C4 PFHpA	*96*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C4 PFOA	*87*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C5 PFNA	*96*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C2 PFDA	*96*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C2 PFUnA	*95*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C2 PFDoA	*88*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C3 PFBS	*94*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
18O2 PFHxS	*85*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C4 PFOS	*84*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
13C8 FOSA	*84*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
M2-6:2 FTS	*107*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*
M2-8:2 FTS	*132*		*25 - 150*	*04/09/19 08:31*	*04/12/19 10:48*	*1*

Client Sample ID: TR-SED-3

Date Collected: 04/05/19 12:45
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-10

Matrix: Solid
Percent Solids: 27.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.5**	**B**	0.71	0.099	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluoropentanoic acid (PFPeA)	ND		0.71	0.27	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.71	0.15	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.71	0.10	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorooctanoic acid (PFOA)	ND		0.71	0.30	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorononanoic acid (PFNA)	ND		0.71	0.13	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorodecanoic acid (PFDA)	ND		0.71	0.078	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluoroundecanoic acid (PFUnA)	ND		0.71	0.13	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorododecanoic acid (PFDoA)	ND		0.71	0.24	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorotridecanoic acid (PFTriA)	ND		0.71	0.18	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.71	0.19	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.71	0.088	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.71	0.11	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.71	0.12	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.71	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.71	0.14	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
Perfluorooctanesulfonamide (FOSA)	ND		0.71	0.29	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		7.1	1.4	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		7.1	1.3	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
6:2 FTS	**1.2**	**J**	7.1	0.53	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1
8:2 FTS	ND		7.1	0.88	ug/Kg	☼	04/09/19 08:31	04/17/19 15:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*60*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C5 PFPeA	*71*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C2 PFHxA	*63*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C4 PFHpA	*74*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C4 PFOA	*79*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C5 PFNA	*77*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C2 PFDA	*81*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C2 PFUnA	*82*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C2 PFDoA	*76*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C2 PFTeDA	*75*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C3 PFBS	*76*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
18O2 PFHxS	*70*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C4 PFOS	*75*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
13C8 FOSA	*60*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
d3-NMeFOSAA	*65*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
d5-NEtFOSAA	*77*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
M2-6:2 FTS	*147*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*
M2-8:2 FTS	*131*		*25 - 150*	*04/09/19 08:31*	*04/17/19 15:23*	*1*

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.5**	**HF**			SU			04/10/19 14:02	1
Temperature	**21°**	**HF**			Degrees C			04/10/19 14:02	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**35500**	**^**	1000	380	mg/Kg			04/11/19 17:32	1

Client Sample ID: TR-SED-DUP-1

Date Collected: 04/05/19 00:00
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-11

Matrix: Solid
Percent Solids: 31.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.3**	**B**	0.61	0.085	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.61	0.23	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.61	0.13	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.61	0.088	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorooctanoic acid (PFOA)	ND		0.61	0.26	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorononanoic acid (PFNA)	ND		0.61	0.11	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorodecanoic acid (PFDA)	ND		0.61	0.067	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.61	0.11	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.61	0.20	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorotridecanoic acid (PFTriA)	ND		0.61	0.15	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.61	0.16	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.61	0.076	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.61	0.094	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.61	0.11	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.61	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.61	0.12	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
Perfluorooctanesulfonamide (FOSA)	ND		0.61	0.25	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		6.1	1.2	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		6.1	1.1	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
6:2 FTS	ND		6.1	0.45	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1
8:2 FTS	ND		6.1	0.76	ug/Kg	☼	04/09/19 08:31	04/12/19 11:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C5 PFPeA	*86*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C2 PFHxA	*79*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C4 PFHpA	*84*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C4 PFOA	*88*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C5 PFNA	*81*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C2 PFDA	*90*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C2 PFUnA	*93*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C2 PFDoA	*81*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C2 PFTeDA	*68*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C3 PFBS	*90*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
18O2 PFHxS	*82*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C4 PFOS	*77*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
13C8 FOSA	*71*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
d3-NMeFOSAA	*77*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
d5-NEtFOSAA	*101*		*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
M2-6:2 FTS	*185*	*	*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*
M2-8:2 FTS	*154*	*	*25 - 150*	*04/09/19 08:31*	*04/12/19 11:07*	*1*

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.4**	**HF**			SU			04/10/19 14:05	1
Temperature	**21°**	**HF**			Degrees C			04/10/19 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**30800**	**^**	1000	380	mg/Kg			04/11/19 17:37	1

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-3(5)

Date Collected: 04/03/19 10:30
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.9**	**B**	1.8	0.32	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluoropentanoic acid (PFPeA)	**1.4**	**J**	1.8	0.45	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorohexanoic acid (PFHxA)	**1.1**	**J**	1.8	0.54	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluoroheptanoic acid (PFHpA)	**0.83**	**J**	1.8	0.23	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorooctanoic acid (PFOA)	**2.5**	**I**	1.8	0.79	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorononanoic acid (PFNA)	**0.28**	**J**	1.8	0.25	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.29	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.27	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorobutanesulfonic acid (PFBS)	**0.32**	**J**	1.8	0.18	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorohexanesulfonic acid (PFHxS)	**0.43**	**J B**	1.8	0.16	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.18	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorooctanesulfonic acid (PFOS)	**0.98**	**J**	1.8	0.50	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.30	ng/L		04/09/19 12:49	04/13/19 22:00	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.32	ng/L		04/09/19 12:49	04/13/19 22:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.9	ng/L		04/09/19 12:49	04/13/19 22:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 22:00	1
6:2 FTS	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 22:00	1
8:2 FTS	ND		18	1.8	ng/L		04/09/19 12:49	04/13/19 22:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C5 PFPeA	*88*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C2 PFHxA	*84*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C4 PFHpA	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C4 PFOA	*100*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C5 PFNA	*104*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C2 PFDA	*107*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C2 PFUnA	*103*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C2 PFDoA	*101*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C2 PFTeDA	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C3 PFBS	*91*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
18O2 PFHxS	*96*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C4 PFOS	*94*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
13C8 FOSA	*92*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
d3-NMeFOSAA	*97*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
d5-NEtFOSAA	*95*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
M2-6:2 FTS	*115*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*
M2-8:2 FTS	*117*		*25 - 150*	*04/09/19 12:49*	*04/13/19 22:00*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-2(5)

Date Collected: 04/05/19 09:15
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-13

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.3**	**J B**	2.0	0.35	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluoropentanoic acid (PFPeA)	**1.0**	**J**	2.0	0.48	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorohexanoic acid (PFHxA)	**0.78**	**J**	2.0	0.57	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluoroheptanoic acid (PFHpA)	**0.74**	**J**	2.0	0.25	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorooctanoic acid (PFOA)	**2.0**		2.0	0.84	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorononanoic acid (PFNA)	**5.9**		2.0	0.27	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorodecanoic acid (PFDA)	**3.5**		2.0	0.31	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluoroundecanoic acid (PFUnA)	**5.7**		2.0	1.1	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorododecanoic acid (PFDoA)	**9.0**		2.0	0.54	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorotridecanoic acid (PFTriA)	**7.3**		2.0	1.3	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorotetradecanoic acid (PFTeA)	**3.0**	**B**	2.0	0.29	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorobutanesulfonic acid (PFBS)	**0.31**	**J**	2.0	0.20	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorohexanesulfonic acid (PFHxS)	**0.53**	**J B**	2.0	0.17	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**J**	2.0	0.53	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/11/19 05:35	04/12/19 23:10	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/11/19 05:35	04/12/19 23:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/11/19 05:35	04/12/19 23:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/11/19 05:35	04/12/19 23:10	1
6:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 23:10	1
8:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 23:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C5 PFPeA	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C2 PFHxA	*100*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C4 PFHpA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C4 PFOA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C5 PFNA	*108*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C2 PFDA	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C2 PFUnA	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C2 PFDoA	*97*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C2 PFTeDA	*77*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C3 PFBS	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
18O2 PFHxS	*95*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C4 PFOS	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
13C8 FOSA	*104*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
d3-NMeFOSAA	*110*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
d5-NEtFOSAA	*113*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
M2-6:2 FTS	*121*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*
M2-8:2 FTS	*138*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:10*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-2(14)

Date Collected: 04/05/19 09:25
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-14

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.5**	**J B**	2.0	0.34	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluoropentanoic acid (PFPeA)	**0.88**	**J**	2.0	0.48	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorohexanoic acid (PFHxA)	**0.77**	**J**	2.0	0.57	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluoroheptanoic acid (PFHpA)	**0.56**	**J**	2.0	0.25	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorooctanoic acid (PFOA)	**2.1**		2.0	0.83	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorononanoic acid (PFNA)	**0.33**	**J**	2.0	0.27	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorotetradecanoic acid (PFTeA)	**0.31**	**J I B**	2.0	0.28	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorobutanesulfonic acid (PFBS)	**0.32**	**J**	2.0	0.20	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorohexanesulfonic acid (PFHxS)	**0.50**	**J B**	2.0	0.17	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorooctanesulfonic acid (PFOS)	**0.88**	**J I**	2.0	0.53	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		04/11/19 05:35	04/12/19 23:20	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.34	ng/L		04/11/19 05:35	04/12/19 23:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.0	ng/L		04/11/19 05:35	04/12/19 23:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/11/19 05:35	04/12/19 23:20	1
6:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 23:20	1
8:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 23:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*82*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C5 PFPeA	*95*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C2 PFHxA	*99*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C4 PFHpA	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C4 PFOA	*97*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C5 PFNA	*110*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C2 PFDA	*110*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C2 PFUnA	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C2 PFDoA	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C2 PFTeDA	*79*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C3 PFBS	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
18O2 PFHxS	*99*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C4 PFOS	*103*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
13C8 FOSA	*107*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
d3-NMeFOSAA	*110*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
d5-NEtFOSAA	*113*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
M2-6:2 FTS	*117*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*
M2-8:2 FTS	*129*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:20*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-1(5)
Date Collected: 04/05/19 11:00
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-15
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.7**	**J B**	2.0	0.35	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluoropentanoic acid (PFPeA)	**0.95**	**J**	2.0	0.49	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorohexanoic acid (PFHxA)	**0.75**	**J**	2.0	0.58	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluoroheptanoic acid (PFHpA)	**0.70**	**J**	2.0	0.25	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorooctanoic acid (PFOA)	**1.9**	**J**	2.0	0.85	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorotetradecanoic acid (PFTeA)	**0.34**	**J I B**	2.0	0.29	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorobutanesulfonic acid (PFBS)	**0.37**	**J**	2.0	0.20	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorohexanesulfonic acid (PFHxS)	**0.48**	**J I B**	2.0	0.17	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorooctanesulfonic acid (PFOS)	**0.72**	**J**	2.0	0.54	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/11/19 05:35	04/12/19 23:29	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/11/19 05:35	04/12/19 23:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/11/19 05:35	04/12/19 23:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/11/19 05:35	04/12/19 23:29	1
6:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 23:29	1
8:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 23:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C5 PFPeA	*103*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C2 PFHxA	*103*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C4 PFHpA	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C4 PFOA	*103*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C5 PFNA	*118*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C2 PFDA	*120*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C2 PFUnA	*110*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C2 PFDoA	*106*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C3 PFBS	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
18O2 PFHxS	*105*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C4 PFOS	*108*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
13C8 FOSA	*115*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
d3-NMeFOSAA	*119*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
d5-NEtFOSAA	*123*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
M2-6:2 FTS	*136*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*
M2-8:2 FTS	*142*		*25 - 150*	*04/11/19 05:35*	*04/12/19 23:29*	*1*

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-1(20)
Date Collected: 04/05/19 11:10
Date Received: 04/06/19 01:00

Lab Sample ID: 480-151471-16
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.6**	**J B**	2.0	0.35	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluoropentanoic acid (PFPeA)	**0.75**	**J**	2.0	0.49	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluoroheptanoic acid (PFHpA)	**0.47**	**J**	2.0	0.25	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorooctanoic acid (PFOA)	**1.6**	**J**	2.0	0.85	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorotetradecanoic acid (PFTeA)	**0.29**	**J B**	2.0	0.29	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorobutanesulfonic acid (PFBS)	**0.25**	**J**	2.0	0.20	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorohexanesulfonic acid (PFHxS)	**0.42**	**J B**	2.0	0.17	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorooctanesulfonic acid (PFOS)	**0.64**	**J**	2.0	0.54	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/11/19 05:35	04/16/19 16:51	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/11/19 05:35	04/16/19 16:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/11/19 05:35	04/16/19 16:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/11/19 05:35	04/16/19 16:51	1
6:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/16/19 16:51	1
8:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/16/19 16:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*82*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C5 PFPeA	*100*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C2 PFHxA	*98*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C4 PFHpA	*102*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C4 PFOA	*96*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C5 PFNA	*108*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C2 PFDA	*114*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C2 PFUnA	*110*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C2 PFDoA	*105*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C2 PFTeDA	*82*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C3 PFBS	*99*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
18O2 PFHxS	*99*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C4 PFOS	*106*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
13C8 FOSA	*105*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
d3-NMeFOSAA	*105*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
d5-NEtFOSAA	*108*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
M2-6:2 FTS	*119*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*
M2-8:2 FTS	*134*		*25 - 150*	*04/11/19 05:35*	*04/16/19 16:51*	*1*

Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
480-151471-8	TR-SED-1	81	94	86	92	92	89	97	103
480-151471-8 MS	TR-SED-1	82	93	86	95	93	90	98	100
480-151471-8 MSD	TR-SED-1	81	87	84	91	92	86	94	101
480-151471-9	TR-SED-2	90	93	88	96	87	96	96	95
480-151471-10	TR-SED-3	60	71	63	74	79	77	81	82
480-151471-11	TR-SED-DUP-1	74	86	79	84	88	81	90	93
LCS 320-287004/2-A	Lab Control Sample	82	86	86	93	91	97	101	93
MB 320-287004/1-A	Method Blank	92	96	89	98	94	100	102	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	13C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3-NMeFOSA (25-150)	d5-NEtFOSA (25-150)
480-151471-8	TR-SED-1	87	47	103	91	88	80	83	116
480-151471-8 MS	TR-SED-1	88	82	93	89	84	78	90	111
480-151471-8 MSD	TR-SED-1	85	65	95	86	84	77	82	105
480-151471-9	TR-SED-2	88	85	94	85	84	84	86	102
480-151471-10	TR-SED-3	76	75	76	70	75	60	65	77
480-151471-11	TR-SED-DUP-1	81	68	90	82	77	71	77	101
LCS 320-287004/2-A	Lab Control Sample	97	92	91	86	97	92	101	107
MB 320-287004/1-A	Method Blank	97	91	90	95	93	90	104	106

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)						
480-151471-8	TR-SED-1	192 *	181 *						
480-151471-8 MS	TR-SED-1	184 *	191 *						
480-151471-8 MSD	TR-SED-1	170 *	148						
480-151471-9	TR-SED-2	107	132						
480-151471-10	TR-SED-3	147	131						
480-151471-11	TR-SED-DUP-1	185 *	154 *						
LCS 320-287004/2-A	Lab Control Sample	101	102						
MB 320-287004/1-A	Method Blank	107	113						

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
13C3-PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2 FTS

Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

M282FTS = M2-8:2 FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
480-151471-1	TR-RB-SED BOWLS	94	95	92	100	97	101	112	118
480-151471-2	TR-RB-TUBING1	92	98	95	100	105	106	109	103
480-151471-3	TR-RB-SED SAMPLER	94	93	95	96	100	101	118	118
480-151471-4	TR-RB-SED SAMPLER 2	102	106	108	107	105	114	120	123
480-151471-5	TR-RB-GLOVES	95	93	94	97	97	98	106	108
480-151471-6	TR-SW-DUP-1	71	88	87	96	100	106	110	102
480-151471-7	TR-SW-3(11.5)	72	89	83	94	100	107	108	100
480-151471-12	TR-SW-3(5)	72	88	84	94	100	104	107	103
480-151471-13	TR-SW-2(5)	77	101	100	102	102	108	105	105
480-151471-14	TR-SW-2(14)	82	95	99	101	97	110	110	105
480-151471-15	TR-SW-1(5)	86	103	103	105	103	118	120	110
480-151471-15 MS	TR-SW-1(5)	84	105	106	100	103	114	114	108
480-151471-15 MSD	TR-SW-1(5)	89	110	103	108	106	117	114	110
480-151471-16	TR-SW-1(20)	82	100	98	102	96	108	114	110
LCS 320-287119/2-A	Lab Control Sample	97	100	99	103	100	106	107	105
LCS 320-287552/2-A	Lab Control Sample	102	107	102	106	104	115	115	109
LCSD 320-287119/3-A	Lab Control Sample Dup	97	101	99	102	102	108	108	101
MB 320-287119/1-A	Method Blank	93	97	98	101	101	107	105	101
MB 320-287552/1-A	Method Blank	99	102	93	99	102	104	115	108

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	13C3-PFBS	PFHxS	PFOS	PFOSA	I-NMeFOSA	5-NEtFOSA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
480-151471-1	TR-RB-SED BOWLS	124	111	96	96	97	91	77	100
480-151471-2	TR-RB-TUBING1	98	102	98	101	96	85	99	103
480-151471-3	TR-RB-SED SAMPLER	130	120	96	98	94	91	83	107
480-151471-4	TR-RB-SED SAMPLER 2	117	117	108	107	108	115	92	131
480-151471-5	TR-RB-GLOVES	126	129	96	95	92	90	98	97
480-151471-6	TR-SW-DUP-1	95	93	90	93	94	92	98	98
480-151471-7	TR-SW-3(11.5)	97	93	93	95	95	91	96	98
480-151471-12	TR-SW-3(5)	101	96	91	96	94	92	97	95
480-151471-13	TR-SW-2(5)	97	77	101	95	105	104	110	113
480-151471-14	TR-SW-2(14)	101	79	101	99	103	107	110	113
480-151471-15	TR-SW-1(5)	106	85	101	105	108	115	119	123
480-151471-15 MS	TR-SW-1(5)	106	84	107	100	107	109	110	110
480-151471-15 MSD	TR-SW-1(5)	105	86	107	97	111	113	118	122
480-151471-16	TR-SW-1(20)	105	82	99	99	106	105	105	108
LCS 320-287119/2-A	Lab Control Sample	101	102	98	99	99	92	106	99
LCS 320-287552/2-A	Lab Control Sample	111	106	103	109	110	116	119	123
LCSD 320-287119/3-A	Lab Control Sample Dup	102	108	100	101	100	94	102	105
MB 320-287119/1-A	Method Blank	99	101	95	97	96	89	98	104
MB 320-287552/1-A	Method Blank	102	96	100	101	103	102	109	118

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M262FTS	M282FTS						
Lab Sample ID	Client Sample ID	(25-150)	(25-150)						
480-151471-1	TR-RB-SED BOWLS	111	122						
480-151471-2	TR-RB-TUBING1	109	108						
480-151471-3	TR-RB-SED SAMPLER	121	133						
480-151471-4	TR-RB-SED SAMPLER 2	135	179 *						

Isotope Dilution Summary

Client: New York State D.E.C.
Job ID: 480-151471-1
Project/Site: HOOSICK FALLS Rt 22 #1510556
SDG: Tomhannock Reservoir

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

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)									
		M262FTS	M282FTS								
Lab Sample ID	Client Sample ID	(25-150)	(25-150)								
480-151471-5	TR-RB-GLOVES	115	110								
480-151471-6	TR-SW-DUP-1	114	120								
480-151471-7	TR-SW-3(11.5)	120	117								
480-151471-12	TR-SW-3(5)	115	117								
480-151471-13	TR-SW-2(5)	121	138								
480-151471-14	TR-SW-2(14)	117	129								
480-151471-15	TR-SW-1(5)	136	142								
480-151471-15 MS	TR-SW-1(5)	133	137								
480-151471-15 MSD	TR-SW-1(5)	122	150								
480-151471-16	TR-SW-1(20)	119	134								
LCS 320-287119/2-A	Lab Control Sample	111	112								
LCS 320-287552/2-A	Lab Control Sample	119	126								
LCSD 320-287119/3-A	Lab Control Sample Dup	112	111								
MB 320-287119/1-A	Method Blank	110	107								
MB 320-287552/1-A	Method Blank	121	144								

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
13C3-PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-287004/1-A
Matrix: Solid
Analysis Batch: 287732

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 287004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.0432	J	0.20	0.028	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
6:2 FTS	ND		2.0	0.15	ug/Kg		04/09/19 08:31	04/12/19 08:16	1
8:2 FTS	ND		2.0	0.25	ug/Kg		04/09/19 08:31	04/12/19 08:16	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C5 PFPeA	*96*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C2 PFHxA	*89*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C4 PFHpA	*98*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C4 PFOA	*94*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C5 PFNA	*100*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C2 PFDA	*102*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C2 PFUnA	*101*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C2 PFDoA	*97*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C2 PFTeDA	*91*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C3 PFBS	*90*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
18O2 PFHxS	*95*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C4 PFOS	*93*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
13C8 FOSA	*90*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
d5-NEtFOSAA	*106*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
M2-6:2 FTS	*107*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*
M2-8:2 FTS	*113*		*25 - 150*	*04/09/19 08:31*	*04/12/19 08:16*	*1*

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

Lab Sample ID: LCS 320-287004/2-A
Matrix: Solid
Analysis Batch: 288802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 287004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	2.00	2.14		ug/Kg		107	81 - 133
Perfluoropentanoic acid (PFPeA)	2.00	2.07		ug/Kg		103	79 - 120
Perfluorohexanoic acid (PFHxA)	2.00	2.05		ug/Kg		102	75 - 125
Perfluoroheptanoic acid (PFHpA)	2.00	2.11		ug/Kg		106	76 - 124
Perfluorooctanoic acid (PFOA)	2.00	2.11		ug/Kg		106	76 - 121
Perfluorononanoic acid (PFNA)	2.00	2.06		ug/Kg		103	74 - 126
Perfluorodecanoic acid (PFDA)	2.00	2.02		ug/Kg		101	74 - 124
Perfluoroundecanoic acid (PFUnA)	2.00	2.14		ug/Kg		107	74 - 114
Perfluorododecanoic acid (PFDoA)	2.00	2.03		ug/Kg		102	75 - 123
Perfluorotridecanoic acid (PFTriA)	2.00	2.00		ug/Kg		100	43 - 116
Perfluorotetradecanoic acid (PFTeA)	2.00	1.94		ug/Kg		97	22 - 129
Perfluorobutanesulfonic acid (PFBS)	1.77	1.85		ug/Kg		105	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.79		ug/Kg		98	75 - 121
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	1.90		ug/Kg		100	78 - 146
Perfluorooctanesulfonic acid (PFOS)	1.86	1.83		ug/Kg		98	69 - 131
Perfluorodecanesulfonic acid (PFDS)	1.93	1.87		ug/Kg		97	54 - 113
Perfluorooctanesulfonamide (FOSA)	2.00	2.11		ug/Kg		105	62 - 135
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.00		ug/Kg		100	65 - 135
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.93	J	ug/Kg		97	65 - 135
6:2 FTS	1.90	2.52		ug/Kg		133	65 - 135
8:2 FTS	1.92	1.99	J	ug/Kg		104	65 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*82*		*25 - 150*
13C5 PFPeA	*86*		*25 - 150*
13C2 PFHxA	*86*		*25 - 150*
13C4 PFHpA	*93*		*25 - 150*
13C4 PFOA	*91*		*25 - 150*
13C5 PFNA	*97*		*25 - 150*
13C2 PFDA	*101*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*97*		*25 - 150*
13C2 PFTeDA	*92*		*25 - 150*
13C3 PFBS	*91*		*25 - 150*
18O2 PFHxS	*86*		*25 - 150*
13C4 PFOS	*97*		*25 - 150*
13C8 FOSA	*92*		*25 - 150*
d3-NMeFOSAA	*101*		*25 - 150*
d5-NEtFOSAA	*107*		*25 - 150*

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

Lab Sample ID: LCS 320-287004/2-A
Matrix: Solid
Analysis Batch: 288802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 287004

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-6:2 FTS	101		25 - 150
M2-8:2 FTS	102		25 - 150

Lab Sample ID: 480-151471-8 MS
Matrix: Solid
Analysis Batch: 287732

Client Sample ID: TR-SED-1
Prep Type: Total/NA
Prep Batch: 287004

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	1.6	B	7.05	8.51		ug/Kg	☼	99	81 - 133
Perfluoropentanoic acid (PFPeA)	ND		7.05	6.37		ug/Kg	☼	90	79 - 120
Perfluorohexanoic acid (PFHxA)	ND		7.05	7.26		ug/Kg	☼	103	75 - 125
Perfluoroheptanoic acid (PFHpA)	ND		7.05	6.65		ug/Kg	☼	94	76 - 124
Perfluorooctanoic acid (PFOA)	ND		7.05	6.50		ug/Kg	☼	92	76 - 121
Perfluorononanoic acid (PFNA)	ND		7.05	6.88		ug/Kg	☼	98	74 - 126
Perfluorodecanoic acid (PFDA)	ND		7.05	7.80		ug/Kg	☼	111	74 - 124
Perfluoroundecanoic acid (PFUnA)	ND	F1	7.05	9.04	F1	ug/Kg	☼	128	74 - 114
Perfluorododecanoic acid (PFDoA)	ND		7.05	6.90		ug/Kg	☼	98	75 - 123
Perfluorotridecanoic acid (PFTriA)	ND		7.05	7.26		ug/Kg	☼	103	43 - 116
Perfluorotetradecanoic acid (PFTeA)	ND		7.05	6.91		ug/Kg	☼	98	22 - 129
Perfluorobutanesulfonic acid (PFBS)	ND		6.23	6.47		ug/Kg	☼	104	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	ND		6.41	6.21		ug/Kg	☼	97	75 - 121
Perfluoroheptanesulfonic Acid (PFHpS)	ND		6.71	7.62		ug/Kg	☼	114	78 - 146
Perfluorooctanesulfonic acid (PFOS)	ND		6.54	6.57		ug/Kg	☼	101	69 - 131
Perfluorodecanesulfonic acid (PFDS)	ND		6.79	7.04		ug/Kg	☼	104	54 - 113
Perfluorooctanesulfonamide (FOSA)	ND		7.05	6.94		ug/Kg	☼	99	62 - 135
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		7.05	7.50		ug/Kg	☼	106	65 - 135
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		7.05	7.04		ug/Kg	☼	100	65 - 135
6:2 FTS	ND		6.68	6.64	J	ug/Kg	☼	99	65 - 135
8:2 FTS	ND		6.75	6.35	J	ug/Kg	☼	94	65 - 135

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFBA	82		25 - 150
13C5 PFPeA	93		25 - 150
13C2 PFHxA	86		25 - 150
13C4 PFHpA	95		25 - 150
13C4 PFOA	93		25 - 150
13C5 PFNA	90		25 - 150
13C2 PFDA	98		25 - 150
13C2 PFUnA	100		25 - 150
13C2 PFDoA	88		25 - 150

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

Lab Sample ID: 480-151471-8 MS
Matrix: Solid
Analysis Batch: 287732

Client Sample ID: TR-SED-1
Prep Type: Total/NA
Prep Batch: 287004

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2 PFTeDA	82		25 - 150
13C3 PFBS	93		25 - 150
18O2 PFHxS	89		25 - 150
13C4 PFOS	84		25 - 150
13C8 FOSA	78		25 - 150
d3-NMeFOSAA	90		25 - 150
d5-NEtFOSAA	111		25 - 150
M2-6:2 FTS	184	*	25 - 150
M2-8:2 FTS	191	*	25 - 150

Lab Sample ID: 480-151471-8 MSD
Matrix: Solid
Analysis Batch: 287732

Client Sample ID: TR-SED-1
Prep Type: Total/NA
Prep Batch: 287004

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	1.6	B	6.89	8.58		ug/Kg	☼	102	81 - 133	1	30
Perfluoropentanoic acid (PFPeA)	ND		6.89	6.60		ug/Kg	☼	96	79 - 120	3	30
Perfluorohexanoic acid (PFHxA)	ND		6.89	6.71		ug/Kg	☼	97	75 - 125	8	30
Perfluoroheptanoic acid (PFHpA)	ND		6.89	6.88		ug/Kg	☼	100	76 - 124	3	30
Perfluorooctanoic acid (PFOA)	ND		6.89	6.62		ug/Kg	☼	96	76 - 121	2	30
Perfluorononanoic acid (PFNA)	ND		6.89	7.05		ug/Kg	☼	102	74 - 126	3	30
Perfluorodecanoic acid (PFDA)	ND		6.89	7.08		ug/Kg	☼	103	74 - 124	10	30
Perfluoroundecanoic acid (PFUnA)	ND	F1	6.89	7.79		ug/Kg	☼	113	74 - 114	15	30
Perfluorododecanoic acid (PFDoA)	ND		6.89	6.54		ug/Kg	☼	95	75 - 123	5	30
Perfluorotridecanoic acid (PFTriA)	ND		6.89	6.09		ug/Kg	☼	88	43 - 116	18	30
Perfluorotetradecanoic acid (PFTeA)	ND		6.89	6.37		ug/Kg	☼	92	22 - 129	8	30
Perfluorobutanesulfonic acid (PFBS)	ND		6.09	6.05		ug/Kg	☼	99	73 - 142	7	30
Perfluorohexanesulfonic acid (PFHxS)	ND		6.27	6.35		ug/Kg	☼	101	75 - 121	2	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		6.55	7.14		ug/Kg	☼	109	78 - 146	7	30
Perfluorooctanesulfonic acid (PFOS)	ND		6.39	6.44		ug/Kg	☼	101	69 - 131	2	30
Perfluorodecanesulfonic acid (PFDS)	ND		6.64	6.47		ug/Kg	☼	98	54 - 113	8	30
Perfluorooctanesulfonamide (FOSA)	ND		6.89	6.92		ug/Kg	☼	101	62 - 135	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		6.89	6.69	J	ug/Kg	☼	97	65 - 135	11	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		6.89	7.03		ug/Kg	☼	102	65 - 135	0	30
6:2 FTS	ND		6.53	6.72	J	ug/Kg	☼	103	65 - 135	1	30
8:2 FTS	ND		6.60	6.75	J	ug/Kg	☼	102	65 - 135	6	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C4 PFBA	81		25 - 150
13C5 PFPeA	87		25 - 150

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

Lab Sample ID: 480-151471-8 MSD
Matrix: Solid
Analysis Batch: 287732

Client Sample ID: TR-SED-1
Prep Type: Total/NA
Prep Batch: 287004

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2 PFHxA	84		25 - 150
13C4 PFHpA	91		25 - 150
13C4 PFOA	92		25 - 150
13C5 PFNA	86		25 - 150
13C2 PFDA	94		25 - 150
13C2 PFUnA	101		25 - 150
13C2 PFDoA	85		25 - 150
13C2 PFTeDA	65		25 - 150
13C3 PFBS	95		25 - 150
18O2 PFHxS	86		25 - 150
13C4 PFOS	84		25 - 150
13C8 FOSA	77		25 - 150
d3-NMeFOSAA	82		25 - 150
d5-NEtFOSAA	105		25 - 150
M2-6:2 FTS	170	*	25 - 150
M2-8:2 FTS	148		25 - 150

Lab Sample ID: MB 320-287119/1-A
Matrix: Water
Analysis Batch: 288020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 287119

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.05	J	2.0	0.35	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorohexanesulfonic acid (PFHxS)	0.350	J	2.0	0.17	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/09/19 12:49	04/13/19 20:06	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/09/19 12:49	04/13/19 20:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/09/19 12:49	04/13/19 20:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/09/19 12:49	04/13/19 20:06	1
6:2 FTS	ND		20	2.0	ng/L		04/09/19 12:49	04/13/19 20:06	1
8:2 FTS	ND		20	2.0	ng/L		04/09/19 12:49	04/13/19 20:06	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C5 PFPeA	97		25 - 150	04/09/19 12:49	04/13/19 20:06	1

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

Lab Sample ID: MB 320-287119/1-A
Matrix: Water
Analysis Batch: 288020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 287119

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	98		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C4 PFHpA	101		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C4 PFOA	101		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C5 PFNA	107		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C2 PFDA	105		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C2 PFUnA	101		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C2 PFDoA	99		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C2 PFTeDA	101		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C3 PFBS	95		25 - 150	04/09/19 12:49	04/13/19 20:06	1
18O2 PFHxS	97		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C4 PFOS	96		25 - 150	04/09/19 12:49	04/13/19 20:06	1
13C8 FOSA	89		25 - 150	04/09/19 12:49	04/13/19 20:06	1
d3-NMeFOSAA	98		25 - 150	04/09/19 12:49	04/13/19 20:06	1
d5-NEtFOSAA	104		25 - 150	04/09/19 12:49	04/13/19 20:06	1
M2-6:2 FTS	110		25 - 150	04/09/19 12:49	04/13/19 20:06	1
M2-8:2 FTS	107		25 - 150	04/09/19 12:49	04/13/19 20:06	1

Lab Sample ID: LCS 320-287119/2-A
Matrix: Water
Analysis Batch: 288020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 287119

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	41.9		ng/L		105	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	38.9		ng/L		97	66 - 126
Perfluorohexanoic acid (PFHxA)	40.0	39.5		ng/L		99	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	40.1		ng/L		100	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	41.2		ng/L		103	64 - 124
Perfluorononanoic acid (PFNA)	40.0	40.2		ng/L		100	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	38.4		ng/L		96	69 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	37.4		ng/L		94	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	40.2		ng/L		101	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	40.6		ng/L		102	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	38.8		ng/L		97	68 - 128
Perfluorobutanesulfonic acid (PFBS)	35.4	35.2		ng/L		99	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.4		ng/L		94	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.4		ng/L		103	68 - 128
Perfluorooctanesulfonic acid (PFOS)	37.1	36.7		ng/L		99	67 - 127
Perfluorodecanesulfonic acid (PFDS)	38.6	38.7		ng/L		100	68 - 128
Perfluorooctanesulfonamide (FOSA)	40.0	41.3		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	36.9		ng/L		92	67 - 127

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

Lab Sample ID: LCS 320-287119/2-A
Matrix: Water
Analysis Batch: 288020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 287119

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	37.5		ng/L		94	65 - 125		
6:2 FTS			37.9	39.6		ng/L		104	66 - 126		
8:2 FTS			38.3	38.7		ng/L		101	67 - 127		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*97*		*25 - 150*
13C5 PFPeA	*100*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*103*		*25 - 150*
13C4 PFOA	*100*		*25 - 150*
13C5 PFNA	*106*		*25 - 150*
13C2 PFDA	*107*		*25 - 150*
13C2 PFUnA	*105*		*25 - 150*
13C2 PFDoA	*101*		*25 - 150*
13C2 PFTeDA	*102*		*25 - 150*
13C3 PFBS	*98*		*25 - 150*
18O2 PFHxS	*99*		*25 - 150*
13C4 PFOS	*99*		*25 - 150*
13C8 FOSA	*92*		*25 - 150*
d3-NMeFOSAA	*106*		*25 - 150*
d5-NEtFOSAA	*99*		*25 - 150*
M2-6:2 FTS	*111*		*25 - 150*
M2-8:2 FTS	*112*		*25 - 150*

Lab Sample ID: LCSD 320-287119/3-A
Matrix: Water
Analysis Batch: 288020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 287119

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	42.4		ng/L		106	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)			40.0	38.4		ng/L		96	66 - 126	1	30
Perfluorohexanoic acid (PFHxA)			40.0	38.7		ng/L		97	66 - 126	2	30
Perfluoroheptanoic acid (PFHpA)			40.0	40.7		ng/L		102	66 - 126	2	30
Perfluorooctanoic acid (PFOA)			40.0	40.0		ng/L		100	64 - 124	3	30
Perfluorononanoic acid (PFNA)			40.0	38.7		ng/L		97	68 - 128	4	30
Perfluorodecanoic acid (PFDA)			40.0	39.2		ng/L		98	69 - 129	2	30
Perfluoroundecanoic acid (PFUnA)			40.0	38.5		ng/L		96	60 - 120	3	30
Perfluorododecanoic acid (PFDoA)			40.0	40.2		ng/L		101	71 - 131	0	30
Perfluorotridecanoic acid (PFTriA)			40.0	40.7		ng/L		102	72 - 132	0	30
Perfluorotetradecanoic acid (PFTeA)			40.0	37.7		ng/L		94	68 - 128	3	30
Perfluorobutanesulfonic acid (PFBS)			35.4	35.6		ng/L		101	73 - 133	1	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	33.3		ng/L		91	63 - 123	3	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	39.6		ng/L		104	68 - 128	1	30

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

Lab Sample ID: LCSD 320-287119/3-A
Matrix: Water
Analysis Batch: 288020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 287119

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)			37.1	36.6		ng/L		99	67 - 127	0	30
Perfluorodecanesulfonic acid (PFDS)			38.6	39.3		ng/L		102	68 - 128	2	30
Perfluorooctanesulfonamide (FOSA)			40.0	41.9		ng/L		105	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	38.0		ng/L		95	67 - 127	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	37.8		ng/L		95	65 - 125	1	30
6:2 FTS			37.9	39.0		ng/L		103	66 - 126	2	30
8:2 FTS			38.3	39.1		ng/L		102	67 - 127	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*97*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*102*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*108*		*25 - 150*
13C2 PFDA	*108*		*25 - 150*
13C2 PFUnA	*101*		*25 - 150*
13C2 PFDoA	*102*		*25 - 150*
13C2 PFTeDA	*108*		*25 - 150*
13C3 PFBS	*100*		*25 - 150*
18O2 PFHxS	*101*		*25 - 150*
13C4 PFOS	*100*		*25 - 150*
13C8 FOSA	*94*		*25 - 150*
d3-NMeFOSAA	*102*		*25 - 150*
d5-NEtFOSAA	*105*		*25 - 150*
M2-6:2 FTS	*112*		*25 - 150*
M2-8:2 FTS	*111*		*25 - 150*

Lab Sample ID: MB 320-287552/1-A
Matrix: Water
Analysis Batch: 287957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 287552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.620	J	2.0	0.35	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorotetradecanoic acid (PFTeA)	0.463	J	2.0	0.29	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		04/11/19 05:35	04/12/19 22:13	1

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

Lab Sample ID: MB 320-287552/1-A
Matrix: Water
Analysis Batch: 287957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 287552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	0.325	J	2.0	0.17	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/11/19 05:35	04/12/19 22:13	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		04/11/19 05:35	04/12/19 22:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		04/11/19 05:35	04/12/19 22:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		04/11/19 05:35	04/12/19 22:13	1
6:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 22:13	1
8:2 FTS	ND		20	2.0	ng/L		04/11/19 05:35	04/12/19 22:13	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C5 PFPeA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C2 PFHxA	*93*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C4 PFHpA	*99*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C4 PFOA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C5 PFNA	*104*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C2 PFDA	*115*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C2 PFUnA	*108*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C2 PFDoA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C2 PFTeDA	*96*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C3 PFBS	*100*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
18O2 PFHxS	*101*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C4 PFOS	*103*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
13C8 FOSA	*102*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
d3-NMeFOSAA	*109*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
d5-NEtFOSAA	*118*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
M2-6:2 FTS	*121*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*
M2-8:2 FTS	*144*		*25 - 150*	*04/11/19 05:35*	*04/12/19 22:13*	*1*

Lab Sample ID: LCS 320-287552/2-A
Matrix: Water
Analysis Batch: 287957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 287552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	41.9		ng/L		105	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	37.9		ng/L		95	66 - 126
Perfluorohexanoic acid (PFHxA)	40.0	40.9		ng/L		102	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	40.0		ng/L		100	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	40.1		ng/L		100	64 - 124
Perfluorononanoic acid (PFNA)	40.0	40.4		ng/L		101	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	41.8		ng/L		104	69 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	40.9		ng/L		102	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	41.3		ng/L		103	71 - 131

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

Lab Sample ID: LCS 320-287552/2-A
Matrix: Water
Analysis Batch: 287957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 287552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorotridecanoic acid (PFTriA)	40.0	41.7		ng/L		104	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	38.6		ng/L		96	68 - 128
Perfluorobutanesulfonic acid (PFBS)	35.4	37.3		ng/L		106	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.0		ng/L		93	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.3		ng/L		101	68 - 128
Perfluorooctanesulfonic acid (PFOS)	37.1	37.5		ng/L		101	67 - 127
Perfluorodecanesulfonic acid (PFDS)	38.6	39.2		ng/L		102	68 - 128
Perfluorooctanesulfonamide (FOSA)	40.0	38.9		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	36.4		ng/L		91	67 - 127
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	35.4		ng/L		88	65 - 125
6:2 FTS	37.9	34.7		ng/L		92	66 - 126
8:2 FTS	38.3	38.9		ng/L		101	67 - 127

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*25 - 150*
13C5 PFPeA	*107*		*25 - 150*
13C2 PFHxA	*102*		*25 - 150*
13C4 PFHpA	*106*		*25 - 150*
13C4 PFOA	*104*		*25 - 150*
13C5 PFNA	*115*		*25 - 150*
13C2 PFDA	*115*		*25 - 150*
13C2 PFUnA	*109*		*25 - 150*
13C2 PFDoA	*111*		*25 - 150*
13C2 PFTeDA	*106*		*25 - 150*
13C3 PFBS	*103*		*25 - 150*
18O2 PFHxS	*109*		*25 - 150*
13C4 PFOS	*110*		*25 - 150*
13C8 FOSA	*116*		*25 - 150*
d3-NMeFOSAA	*119*		*25 - 150*
d5-NEtFOSAA	*123*		*25 - 150*
M2-6:2 FTS	*119*		*25 - 150*
M2-8:2 FTS	*126*		*25 - 150*

Lab Sample ID: 480-151471-15 MS
Matrix: Water
Analysis Batch: 288537

Client Sample ID: TR-SW-1(5)
Prep Type: Total/NA
Prep Batch: 287552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	1.7	J B	38.8	39.8		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	0.95	J	38.8	38.0		ng/L		96	66 - 126
Perfluorohexanoic acid (PFHxA)	0.75	J	38.8	37.6		ng/L		95	66 - 126

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

Lab Sample ID: 480-151471-15 MS
Matrix: Water
Analysis Batch: 288537

Client Sample ID: TR-SW-1(5)
Prep Type: Total/NA
Prep Batch: 287552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA)	0.70	J	38.8	39.5		ng/L		100	66 - 126
Perfluorooctanoic acid (PFOA)	1.9	J	38.8	38.0		ng/L		93	64 - 124
Perfluorononanoic acid (PFNA)	ND		38.8	38.2		ng/L		99	68 - 128
Perfluorodecanoic acid (PFDA)	ND		38.8	36.8		ng/L		95	69 - 129
Perfluoroundecanoic acid (PFUnA)	ND		38.8	40.2		ng/L		104	60 - 120
Perfluorododecanoic acid (PFDoA)	ND		38.8	36.3		ng/L		94	71 - 131
Perfluorotridecanoic acid (PFTriA)	ND		38.8	34.7		ng/L		90	72 - 132
Perfluorotetradecanoic acid (PFTeA)	0.34	J I B	38.8	37.6		ng/L		96	68 - 128
Perfluorobutanesulfonic acid (PFBS)	0.37	J	34.3	33.1		ng/L		96	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	0.48	J I B	35.3	33.9		ng/L		95	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	ND		36.9	38.1		ng/L		103	68 - 128
Perfluorooctanesulfonic acid (PFOS)	0.72	J	36.0	36.5		ng/L		100	67 - 127
Perfluorodecanesulfonic acid (PFDS)	ND		37.4	35.3		ng/L		94	68 - 128
Perfluorooctanesulfonamide (FOSA)	ND		38.8	37.8		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		38.8	36.5		ng/L		94	67 - 127
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		38.8	35.5		ng/L		92	65 - 125
6:2 FTS	ND		36.8	33.8		ng/L		92	66 - 126
8:2 FTS	ND		37.1	37.3		ng/L		100	67 - 127

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*84*		*25 - 150*
13C5 PFPeA	*105*		*25 - 150*
13C2 PFHxA	*106*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*114*		*25 - 150*
13C2 PFDA	*114*		*25 - 150*
13C2 PFUnA	*108*		*25 - 150*
13C2 PFDoA	*106*		*25 - 150*
13C2 PFTeDA	*84*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*100*		*25 - 150*
13C4 PFOS	*107*		*25 - 150*
13C8 FOSA	*109*		*25 - 150*
d3-NMeFOSAA	*110*		*25 - 150*
d5-NEtFOSAA	*110*		*25 - 150*
M2-6:2 FTS	*133*		*25 - 150*
M2-8:2 FTS	*137*		*25 - 150*

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

Lab Sample ID: 480-151471-15 MSD
Matrix: Water
Analysis Batch: 287957

Client Sample ID: TR-SW-1(5)
Prep Type: Total/NA
Prep Batch: 287552

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	1.7	J B	40.0	41.7		ng/L		100	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	0.95	J	40.0	37.9		ng/L		92	66 - 126	3	30
Perfluorohexanoic acid (PFHxA)	0.75	J	40.0	41.6		ng/L		102	66 - 126	8	30
Perfluoroheptanoic acid (PFHpA)	0.70	J	40.0	38.2		ng/L		94	66 - 126	6	30
Perfluorooctanoic acid (PFOA)	1.9	J	40.0	39.7		ng/L		95	64 - 124	1	30
Perfluorononanoic acid (PFNA)	ND		40.0	41.0		ng/L		102	68 - 128	11	30
Perfluorodecanoic acid (PFDA)	ND		40.0	41.6		ng/L		104	69 - 129	5	30
Perfluoroundecanoic acid (PFUnA)	ND		40.0	39.0		ng/L		98	60 - 120	1	30
Perfluorododecanoic acid (PFDoA)	ND		40.0	44.2		ng/L		111	71 - 131	14	30
Perfluorotridecanoic acid (PFTriA)	ND		40.0	45.5		ng/L		114	72 - 132	18	30
Perfluorotetradecanoic acid (PFTeA)	0.34	J I B	40.0	43.9		ng/L		109	68 - 128	15	30
Perfluorobutanesulfonic acid (PFBS)	0.37	J	35.3	35.3		ng/L		99	73 - 133	0	30
Perfluorohexanesulfonic acid (PFHxS)	0.48	J I B	36.4	35.8		ng/L		97	63 - 123	10	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		38.1	36.8		ng/L		97	68 - 128	4	30
Perfluorooctanesulfonic acid (PFOS)	0.72	J	37.1	35.4		ng/L		93	67 - 127	3	30
Perfluorodecanesulfonic acid (PFDS)	ND		38.5	32.3		ng/L		84	68 - 128	4	30
Perfluorooctanesulfonamide (FOSA)	ND		40.0	37.4		ng/L		94	70 - 130	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		40.0	35.3		ng/L		88	67 - 127	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		40.0	35.0		ng/L		87	65 - 125	2	30
6:2 FTS	ND		37.9	38.1		ng/L		101	66 - 126	13	30
8:2 FTS	ND		38.3	35.3		ng/L		92	67 - 127	3	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*89*		*25 - 150*
13C5 PFPeA	*110*		*25 - 150*
13C2 PFHxA	*103*		*25 - 150*
13C4 PFHpA	*108*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*117*		*25 - 150*
13C2 PFDA	*114*		*25 - 150*
13C2 PFUnA	*110*		*25 - 150*
13C2 PFDoA	*105*		*25 - 150*
13C2 PFTeDA	*86*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*97*		*25 - 150*
13C4 PFOS	*111*		*25 - 150*
13C8 FOSA	*113*		*25 - 150*
d3-NMeFOSAA	*118*		*25 - 150*
d5-NEtFOSAA	*122*		*25 - 150*

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

Lab Sample ID: 480-151471-15 MSD
Matrix: Water
Analysis Batch: 287957

Client Sample ID: TR-SW-1(5)
Prep Type: Total/NA
Prep Batch: 287552

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
M2-6:2 FTS	*122*		*25 - 150*
M2-8:2 FTS	*150*		*25 - 150*

Method: 9045D - pH

Lab Sample ID: LCS 200-141848/5
Matrix: Solid
Analysis Batch: 141848

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	6.0		SU		100	99.2 - 100.9 71

Lab Sample ID: 480-151471-8 DU
Matrix: Solid
Analysis Batch: 141848

Client Sample ID: TR-SED-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.3	HF	6.3	HF	SU		0.2	5
Temperature	21°	HF	21°	HF	Degrees C		NaN	10

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-141921/5
Matrix: Solid
Analysis Batch: 141921

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1000	380	mg/Kg			04/11/19 15:19	1

Lab Sample ID: LCS 200-141921/6
Matrix: Solid
Analysis Batch: 141921

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	9260	9763		mg/Kg		105	75 - 125

Lab Sample ID: 480-151471-8 MS
Matrix: Solid
Analysis Batch: 141921

Client Sample ID: TR-SED-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	30100	^	37200	59010		mg/Kg		78	75 - 125

Lab Sample ID: 480-151471-8 MSD
Matrix: Solid
Analysis Batch: 141921

Client Sample ID: TR-SED-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	30100	^	35700	60530		mg/Kg		85	75 - 125	3	20

LCMS

Prep Batch: 287004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-8	TR-SED-1	Total/NA	Solid	SHAKE	
480-151471-9	TR-SED-2	Total/NA	Solid	SHAKE	
480-151471-10	TR-SED-3	Total/NA	Solid	SHAKE	
480-151471-11	TR-SED-DUP-1	Total/NA	Solid	SHAKE	
MB 320-287004/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-287004/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
480-151471-8 MS	TR-SED-1	Total/NA	Solid	SHAKE	
480-151471-8 MSD	TR-SED-1	Total/NA	Solid	SHAKE	

Prep Batch: 287119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-1	TR-RB-SED BOWLS	Total/NA	Water	3535	
480-151471-2	TR-RB-TUBING1	Total/NA	Water	3535	
480-151471-3	TR-RB-SED SAMPLER	Total/NA	Water	3535	
480-151471-5	TR-RB-GLOVES	Total/NA	Water	3535	
480-151471-6	TR-SW-DUP-1	Total/NA	Water	3535	
480-151471-7	TR-SW-3(11.5)	Total/NA	Water	3535	
480-151471-12	TR-SW-3(5)	Total/NA	Water	3535	
MB 320-287119/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-287119/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-287119/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Prep Batch: 287552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-4	TR-RB-SED SAMPLER 2	Total/NA	Water	3535	
480-151471-13	TR-SW-2(5)	Total/NA	Water	3535	
480-151471-14	TR-SW-2(14)	Total/NA	Water	3535	
480-151471-15	TR-SW-1(5)	Total/NA	Water	3535	
480-151471-16	TR-SW-1(20)	Total/NA	Water	3535	
MB 320-287552/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-287552/2-A	Lab Control Sample	Total/NA	Water	3535	
480-151471-15 MS	TR-SW-1(5)	Total/NA	Water	3535	
480-151471-15 MSD	TR-SW-1(5)	Total/NA	Water	3535	

Analysis Batch: 287732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-8	TR-SED-1	Total/NA	Solid	537 (modified)	287004
480-151471-9	TR-SED-2	Total/NA	Solid	537 (modified)	287004
480-151471-11	TR-SED-DUP-1	Total/NA	Solid	537 (modified)	287004
MB 320-287004/1-A	Method Blank	Total/NA	Solid	537 (modified)	287004
480-151471-8 MS	TR-SED-1	Total/NA	Solid	537 (modified)	287004
480-151471-8 MSD	TR-SED-1	Total/NA	Solid	537 (modified)	287004

Analysis Batch: 287957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-4	TR-RB-SED SAMPLER 2	Total/NA	Water	537 (modified)	287552
480-151471-13	TR-SW-2(5)	Total/NA	Water	537 (modified)	287552
480-151471-14	TR-SW-2(14)	Total/NA	Water	537 (modified)	287552
480-151471-15	TR-SW-1(5)	Total/NA	Water	537 (modified)	287552
MB 320-287552/1-A	Method Blank	Total/NA	Water	537 (modified)	287552
LCS 320-287552/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	287552

LCMS (Continued)

Analysis Batch: 287957 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-15 MSD	TR-SW-1(5)	Total/NA	Water	537 (modified)	287552

Analysis Batch: 288020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-1	TR-RB-SED BOWLS	Total/NA	Water	537 (modified)	287119
480-151471-2	TR-RB-TUBING1	Total/NA	Water	537 (modified)	287119
480-151471-3	TR-RB-SED SAMPLER	Total/NA	Water	537 (modified)	287119
480-151471-5	TR-RB-GLOVES	Total/NA	Water	537 (modified)	287119
480-151471-6	TR-SW-DUP-1	Total/NA	Water	537 (modified)	287119
480-151471-7	TR-SW-3(11.5)	Total/NA	Water	537 (modified)	287119
480-151471-12	TR-SW-3(5)	Total/NA	Water	537 (modified)	287119
MB 320-287119/1-A	Method Blank	Total/NA	Water	537 (modified)	287119
LCS 320-287119/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	287119
LCSD 320-287119/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	287119

Analysis Batch: 288537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-16	TR-SW-1(20)	Total/NA	Water	537 (modified)	287552
480-151471-15 MS	TR-SW-1(5)	Total/NA	Water	537 (modified)	287552

Analysis Batch: 288802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-10	TR-SED-3	Total/NA	Solid	537 (modified)	287004
LCS 320-287004/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	287004

General Chemistry

Analysis Batch: 141848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-8	TR-SED-1	Total/NA	Solid	9045D	
480-151471-10	TR-SED-3	Total/NA	Solid	9045D	
480-151471-11	TR-SED-DUP-1	Total/NA	Solid	9045D	
LCS 200-141848/5	Lab Control Sample	Total/NA	Solid	9045D	
480-151471-8 DU	TR-SED-1	Total/NA	Solid	9045D	

Analysis Batch: 141921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-8	TR-SED-1	Total/NA	Solid	Lloyd Kahn	
480-151471-10	TR-SED-3	Total/NA	Solid	Lloyd Kahn	
480-151471-11	TR-SED-DUP-1	Total/NA	Solid	Lloyd Kahn	
MB 200-141921/5	Method Blank	Total/NA	Solid	Lloyd Kahn	
LCS 200-141921/6	Lab Control Sample	Total/NA	Solid	Lloyd Kahn	
480-151471-8 MS	TR-SED-1	Total/NA	Solid	Lloyd Kahn	
480-151471-8 MSD	TR-SED-1	Total/NA	Solid	Lloyd Kahn	

Analysis Batch: 287973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-8	TR-SED-1	Total/NA	Solid	D 2216	
480-151471-9	TR-SED-2	Total/NA	Solid	D 2216	
480-151471-10	TR-SED-3	Total/NA	Solid	D 2216	
480-151471-11	TR-SED-DUP-1	Total/NA	Solid	D 2216	

General Chemistry (Continued)

Analysis Batch: 287973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-151471-8 DU	TR-SED-1	Total/NA	Solid	D 2216	

Lab Chronicle

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-RB-SED BOWLS
Lab Sample ID: 480-151471-1

Date Collected: 04/03/19 08:20
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 20:35	JRB	TAL SAC

Client Sample ID: TR-RB-TUBING1
Lab Sample ID: 480-151471-2

Date Collected: 04/03/19 08:10
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 20:44	JRB	TAL SAC

Client Sample ID: TR-RB-SED SAMPLER
Lab Sample ID: 480-151471-3

Date Collected: 04/03/19 11:55
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 20:54	JRB	TAL SAC

Client Sample ID: TR-RB-SED SAMPLER 2
Lab Sample ID: 480-151471-4

Date Collected: 04/05/19 12:30
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287552	04/11/19 05:35	MYV	TAL SAC
Total/NA	Analysis	537 (modified)		1	287957	04/12/19 23:01	AAR	TAL SAC

Client Sample ID: TR-RB-GLOVES
Lab Sample ID: 480-151471-5

Date Collected: 04/03/19 08:15
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 21:03	JRB	TAL SAC

Client Sample ID: TR-SW-DUP-1
Lab Sample ID: 480-151471-6

Date Collected: 04/03/19 00:00
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 21:13	JRB	TAL SAC

Client Sample ID: TR-SW-3(11.5)

Lab Sample ID: 480-151471-7

Date Collected: 04/03/19 10:25
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 21:51	JRB	TAL SAC

Client Sample ID: TR-SED-1

Lab Sample ID: 480-151471-8

Date Collected: 04/05/19 11:20
Matrix: Solid
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	141848	04/10/19 13:57	MJZ	TAL BUR
Total/NA	Analysis	D 2216		1	287973	04/12/19 15:45	JMD	TAL SAC
Total/NA	Analysis	Lloyd Kahn		1	141921	04/11/19 17:16	MJZ	TAL BUR

Client Sample ID: TR-SED-1

Lab Sample ID: 480-151471-8

Date Collected: 04/05/19 11:20
Matrix: Solid
Date Received: 04/06/19 01:00
Percent Solids: 27.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			287004	04/09/19 08:31	KJP	TAL SAC
Total/NA	Analysis	537 (modified)		1	287732	04/12/19 10:20	AAR	TAL SAC

Client Sample ID: TR-SED-2

Lab Sample ID: 480-151471-9

Date Collected: 04/05/19 10:00
Matrix: Solid
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	287973	04/12/19 15:45	JMD	TAL SAC

Client Sample ID: TR-SED-2

Lab Sample ID: 480-151471-9

Date Collected: 04/05/19 10:00
Matrix: Solid
Date Received: 04/06/19 01:00
Percent Solids: 77.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			287004	04/09/19 08:31	KJP	TAL SAC
Total/NA	Analysis	537 (modified)		1	287732	04/12/19 10:48	AAR	TAL SAC

Client Sample ID: TR-SED-3

Lab Sample ID: 480-151471-10

Date Collected: 04/05/19 12:45
Matrix: Solid
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	141848	04/10/19 14:02	MJZ	TAL BUR
Total/NA	Analysis	D 2216		1	287973	04/12/19 15:45	JMD	TAL SAC
Total/NA	Analysis	Lloyd Kahn		1	141921	04/11/19 17:32	MJZ	TAL BUR

Client Sample ID: TR-SED-3

Lab Sample ID: 480-151471-10

Date Collected: 04/05/19 12:45
Matrix: Solid
Date Received: 04/06/19 01:00
Percent Solids: 27.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			287004	04/09/19 08:31	KJP	TAL SAC
Total/NA	Analysis	537 (modified)		1	288802	04/17/19 15:23	S1M	TAL SAC

Client Sample ID: TR-SED-DUP-1

Lab Sample ID: 480-151471-11

Date Collected: 04/05/19 00:00
Matrix: Solid
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	141848	04/10/19 14:05	MJZ	TAL BUR
Total/NA	Analysis	D 2216		1	287973	04/12/19 15:45	JMD	TAL SAC
Total/NA	Analysis	Lloyd Kahn		1	141921	04/11/19 17:37	MJZ	TAL BUR

Client Sample ID: TR-SED-DUP-1

Lab Sample ID: 480-151471-11

Date Collected: 04/05/19 00:00
Matrix: Solid
Date Received: 04/06/19 01:00
Percent Solids: 31.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			287004	04/09/19 08:31	KJP	TAL SAC
Total/NA	Analysis	537 (modified)		1	287732	04/12/19 11:07	AAR	TAL SAC

Client Sample ID: TR-SW-3(5)

Lab Sample ID: 480-151471-12

Date Collected: 04/03/19 10:30
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287119	04/09/19 12:49	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	288020	04/13/19 22:00	JRB	TAL SAC

Client Sample ID: TR-SW-2(5)

Lab Sample ID: 480-151471-13

Date Collected: 04/05/19 09:15
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287552	04/11/19 05:35	MYV	TAL SAC
Total/NA	Analysis	537 (modified)		1	287957	04/12/19 23:10	AAR	TAL SAC

Client Sample ID: TR-SW-2(14)

Lab Sample ID: 480-151471-14

Date Collected: 04/05/19 09:25
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287552	04/11/19 05:35	MYV	TAL SAC
Total/NA	Analysis	537 (modified)		1	287957	04/12/19 23:20	AAR	TAL SAC

Lab Chronicle

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Client Sample ID: TR-SW-1(5)

Lab Sample ID: 480-151471-15

Date Collected: 04/05/19 11:00
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287552	04/11/19 05:35	MYV	TAL SAC
Total/NA	Analysis	537 (modified)		1	287957	04/12/19 23:29	AAR	TAL SAC

Client Sample ID: TR-SW-1(20)

Lab Sample ID: 480-151471-16

Date Collected: 04/05/19 11:10
Matrix: Water
Date Received: 04/06/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287552	04/11/19 05:35	MYV	TAL SAC
Total/NA	Analysis	537 (modified)		1	288537	04/16/19 16:51	CBW	TAL SAC

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Laboratory: Eurofins TestAmerica, Buffalo

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-20

Laboratory: Eurofins TestAmerica, Burlington

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10391	04-01-20

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

Analysis Method	Prep Method	Matrix	Analyte
9045D		Solid	pH
9045D		Solid	Temperature

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11666	04-01-20

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

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

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11666	04-01-20

537 (modified)	SHAKE	Solid	Perfluorobutanoic acid (PFBA)
537 (modified)	SHAKE	Solid	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	SHAKE	Solid	Perfluorodecanoic acid (PFDA)
537 (modified)	SHAKE	Solid	Perfluorododecanoic acid (PFDoA)
537 (modified)	SHAKE	Solid	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	SHAKE	Solid	Perfluoroheptanoic acid (PFHpA)
537 (modified)	SHAKE	Solid	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	SHAKE	Solid	Perfluorohexanoic acid (PFHxA)
537 (modified)	SHAKE	Solid	Perfluorononanoic acid (PFNA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonamide (FOSA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	SHAKE	Solid	Perfluorooctanoic acid (PFOA)
537 (modified)	SHAKE	Solid	Perfluoropentanoic acid (PFPeA)
537 (modified)	SHAKE	Solid	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	SHAKE	Solid	Perfluorotridecanoic acid (PFTriA)
537 (modified)	SHAKE	Solid	Perfluoroundecanoic acid (PFUnA)
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
9045D	pH	SW846	TAL BUR
D 2216	Percent Moisture	ASTM	TAL SAC
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

Protocol References:

ASTM = ASTM International

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 BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: New York State D.E.C.
Project/Site: HOOSICK FALLS Rt 22 #1510556

Job ID: 480-151471-1
SDG: Tomhannock Reservoir

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-151471-1	TR-RB-SED BOWLS	Water	04/03/19 08:20	04/06/19 01:00
480-151471-2	TR-RB-TUBING1	Water	04/03/19 08:10	04/06/19 01:00
480-151471-3	TR-RB-SED SAMPLER	Water	04/03/19 11:55	04/06/19 01:00
480-151471-4	TR-RB-SED SAMPLER 2	Water	04/05/19 12:30	04/06/19 01:00
480-151471-5	TR-RB-GLOVES	Water	04/03/19 08:15	04/06/19 01:00
480-151471-6	TR-SW-DUP-1	Water	04/03/19 00:00	04/06/19 01:00
480-151471-7	TR-SW-3(11.5)	Water	04/03/19 10:25	04/06/19 01:00
480-151471-8	TR-SED-1	Solid	04/05/19 11:20	04/06/19 01:00
480-151471-9	TR-SED-2	Solid	04/05/19 10:00	04/06/19 01:00
480-151471-10	TR-SED-3	Solid	04/05/19 12:45	04/06/19 01:00
480-151471-11	TR-SED-DUP-1	Solid	04/05/19 00:00	04/06/19 01:00
480-151471-12	TR-SW-3(5)	Water	04/03/19 10:30	04/06/19 01:00
480-151471-13	TR-SW-2(5)	Water	04/05/19 09:15	04/06/19 01:00
480-151471-14	TR-SW-2(14)	Water	04/05/19 09:25	04/06/19 01:00
480-151471-15	TR-SW-1(5)	Water	04/05/19 11:00	04/06/19 01:00
480-151471-16	TR-SW-1(20)	Water	04/05/19 11:10	04/06/19 01:00

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone (916) 373-5600 Fax (916) 372-1059

Albany #224

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: J. Duquette	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128403-28998.1
Client Contact: Ms. Katie Bidwell	Phone: 518 709 8487	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 2
Company: ARCADIS U.S. Inc				Job #:
Address: 855 Route 146 Suite 210	Due Date Requested:			
City: Clifton Park	TAT Requested (days): Std			
State, Zip: NY, 12065				
Phone: 518-402-9813(Tel)	PO #: Callout ID 136490			
Email: katie.bidwell@arcadis-us.com	WO #:			
Project Name: HOOSICK FALLS Rt 22 #1510556	Project #: 48019304			
Site: Tomhannock Reservoir	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, M - Hexane, N - None, O - AsNaO2, ...4S, ...O3, ...2O3, ...4, ...lodecahydrate, ...ne, ...-5, ...(specify)

480-151471 Chain of Custody

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 Analytes)	PFC_IDA - PFAS, Standard List	~~Moisture - Moisture~~	9045D, Lloyd_Kahn	Total Number of con	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
TR-RB-SED Bowls	4/3/19	0820	G	Water			X				2	
TR-RB-Tubing1	4/3/19	0810		Water			X				2	
TR-RB-SED Sampler	4/3/19	1155		Water			X				2	
TR-RB-SED Sampler 2	4/5/19	1230		Water			X				2	
TR-RB-Gloves	4/3/19	0815		Water			X				2	
TR-SW-Dup-1	4/3/19	—		Water			X				2	
TR-SW-3(11.5')	4/3/19	1025		Water			X				2	
TR-SED-1	4/5/19	1120		Solid	X		X		X	X	6	MS/MSD
TR-SED-2	4/5/19	1000		Solid			X				1	PFAS Only due to volume
TR-SED-3	4/5/19	1245		Solid			X		X	X	3	
TR-SED-Dup-1	4/5/19	—		Solid			X		X	X	3	

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
J. Duquette	4/5/19 / 1415	Arcadis	Karl Zadra	4-5-19 1415	TA
Karl Zadra	4-5-19 1700	TA	[illegible]	04/06/19 0100	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.2 #1

Ver: 01/16/2019

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone (916) 373-5600 Fax (916) 372-1059

Albany
#224

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: J. Duquette	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128403-28998.1
Client Contact: Ms. Katie Bidwell	Phone: 518 709 8487	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 2
Company: ARCADIS U.S. Inc				Job #:

Address: 855 Route 146 Suite 210	Due Date Requested:	Analysis Requested
City: Clifton Park	TAT Requested (days): Std.	
State, Zip: NY, 12065		
Phone: 518-402-9813(Tel)	PO #: Callout ID 136490	
Email: katie.bidwell@arcadis-us.com	WO #:	
Project Name: HOOSICK FALLS Rt 22 #1510556	Project #: 48019304	
Site: Tomhannock Reservoir	SSOW#:	

Preservation Codes:

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

Other:

Sample Identification	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 Analytes)	PFC_IDA - PFAS, Standard List	Moisture - Moisture	9045D, Lloyd_Kahn	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
TR-SW-3(5')	4/3/19	1030	G	Water			X				2	
TR-SW-2(5')	4/5/19	0915		Water			X				2	
TR-SW-2(14')	4/5/19	0925		Water			X				2	
TR-SW-1(5')	4/5/19	1100		Water		X	X				6	MS/MSD
TR-SW-1(20')	4/5/19	1110		Water			X				2	
				Water								
				Water								
				Solid								
				Solid								
				Solid								
				Solid								

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
J. Duquette	4/5/19 1415	Arcadis	Karl Linder	4-5-19 1415	TA
Karl Linder	4-5-19 1700	TA		04/06/19 0100	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.2 #1

Ver: 01/16/2019

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

Chain of Custody Record

480-151471 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stone, Judy L	COC No: 480-48772.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: judy.stone@testamericainc.com	State of Origin: New York	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York	Job #: 480-151471-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 4/17/2019		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: HOOSICK FALLS Rt 22 #1510556	Project #: 48019304		
Site:	SSOW#:		

Analysis Requested

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:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Lloyd_Kahn/ Routine Lloyd Kahn	9045D/ pH	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
TR-SED-1 (480-151471-8)	4/5/19	11:20 Eastern		Solid			X	X	1	, Record/report temp when pH is taken.
TR-SED-1 (480-151471-8MS)	4/5/19	11:20 Eastern	MS	Solid			X	X	1	, Record/report temp when pH is taken.
TR-SED-1 (480-151471-8MSD)	4/5/19	11:20 Eastern	MSD	Solid			X	X	1	, Record/report temp when pH is taken.
TR-SED-3 (480-151471-10)	4/5/19	12:45 Eastern		Solid			X	X	2	, Record/report temp when pH is taken.
TR-SED-DUP-1 (480-151471-11)	4/5/19	Eastern		Solid			X	X	2	, Record/report temp when pH is taken.

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

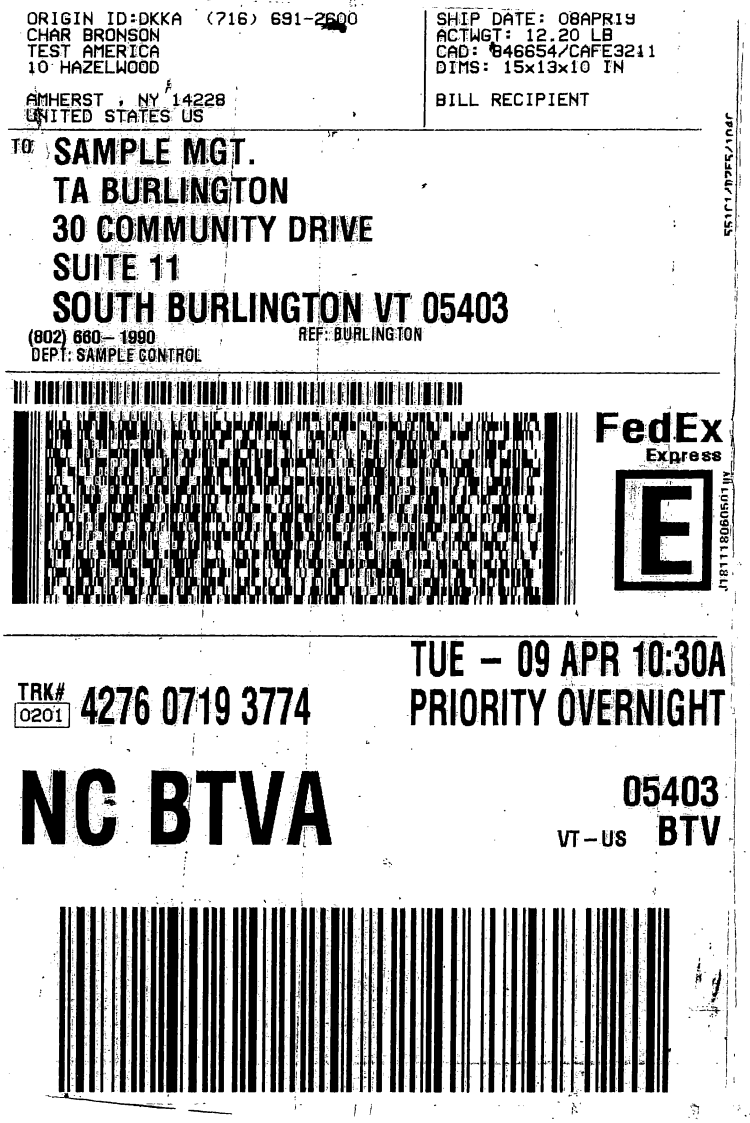
Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4-8-19 1435	TAB		4/9/19 10:22	TA Buf
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☒ Yes △ No	Custody Seal No.: 610147	Cooler Temperature(s) °C and Other Remarks: 1.8

Ver: 01/16/2019



ORIGIN ID:DKKA (716) 691-2600
CHAR BRONSON
TEST AMERICA
10 HAZELWOOD

AMHERST , NY 14228
UNITED STATES US

SHIP DATE: 08APR19
ACTWGT: 12.20 LB
CAD: 846654/CAFE3211
DIMS: 15x13x10 IN

BILL RECIPIENT

TO SAMPLE MGT.
TA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: BURLINGTON
DEPT: SAMPLE CONTROL

FedEx Express

TRK# 0201 4276 0719 3774

TUE - 09 APR 10:30A
PRIORITY OVERNIGHT

NC BTVA

05403
VT-US BTV

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone (916) 373-5600 Fax (916) 372-1059

Albany #224

Chain of Custody Record

TestAmerica

Client Information	Sampler: J. Duquette	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128403-28998.1
Client Contact: Ms. Katie Bidwell	Phone: 518 709 8487	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 2
Company: ARCADIS U.S. Inc				Job #:
Address: 855 Route 146 Suite 210	Due Date Requested:			
City: Clifton Park	TAT Requested (days): Std			
State, Zip: NY, 12065				
Phone: 518-402-9813(Tel)	PO #: Callout ID 136490			
Email: katie.bidwell@arcadis-us.com	WO #:			
Project Name: HOOSICK FALLS Rt 22 #1510556	Project #: 48019304			
Site: Tomhannock Reservoir	SSOW#:			

480-151471 Chain of Custody

Analysis Requested

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:

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 Analytes)	PFC_IDA - PFAS, Standard List	~~Moisture - Moisture~~ pH	9045D, Lloyd_Kahn	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
TR-RB-SED Bowls	4/3/19	~~0820~~	G	Water			X				2	
TR-RB-Tubing1	4/3/19	0810		Water			X				2	
TR-RB-SED Sampler	4/3/19	1155		Water			X				2	
TR-RB-SED Sampler 2	4/5/19	1230		Water			X				2	
TR-RB-Gloves	4/3/19	0815		Water			X				2	
TR-SW-Dup-1	4/3/19	—		Water			X				2	
TR-SW-3(11.5')	4/3/19	1025		Water			X				2	
TR-SED-1	4/5/19	1120		Solid	X	X	X		X	X	6	MS/MSD
TR-SED-2	4/5/19	1000		Solid			X				1	PFAS Only due to volume
TR-SED-3	4/5/19	1245		Solid			X		X	X	3	
TR-SED-Dup-1	4/5/19	—		Solid			X		X	X	3	

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
J. Duquette	4/5/19 / 1415	Arcadis	Karl Locher	4-5-19 1415	TA
Karl Locher	4-5-19 1700	TA		4/6/19 920	TA-SAC

Custody Seals Intact: ☑ Yes ☐ No
Custody Seal No.: seal
Cooler Temperature(s) °C and Other Remarks: 0.7°C 0.3°C

Ver: 01/16/2019

Albany #224

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone (916) 373-5600 Fax (916) 372-1059

Chain of Custody Record

TestAmerica

Client Information	Sampler: J. Duquette	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128403-28998.1
Client Contact: Ms. Katie Bidwell	Phone: 518 709 8487	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 2
Company: ARCADIS U.S. Inc				Job #:
Address: 855 Route 146 Suite 210	Due Date Requested:			
City: Clifton Park	TAT Requested (days): Std.			
State, Zip: NY, 12065				
Phone: 518-402-9813(Tel)	PO #: Callout ID 136490			
Email: katie.bidwell@arcadis-us.com	WO #:			
Project Name: HOOSICK FALLS Rt 22 #1510556	Project #: 48019304			
Site: Tomhannock Reservoir	SSOW#:			

Analysis Requested

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:

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 Analytes)	PFC_IDA - PFAS, Standard List	Moisture - Moisture	9045D, Lloyd_Kahn	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
TR-SW-3(5')	4/3/19	1030	G	Water			X				2	
TR-SW-2(5')	4/5/19	0915		Water			X				2	
TR-SW-2(14')	4/5/19	0925		Water			X				2	
TR-SW-1(5')	4/5/19	1100		Water		X	X				6	MS/MSD
TR-SW-1(20')	4/5/19	1110		Water			X				2	
				Water								
				Water								
				Solid								
				Solid								
				Solid								
				Solid								

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
1	J. Duquette	4/5/19 1415	Arcadis	Karl Lauder	4-5-19 1415	TA
2	Karl Lauder	4-5-19 1700	TA		4/6/19 920	TA-SAC
3						

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.: Seal
Cooler Temperature(s) °C and Other Remarks: 0.7°C 0.3°C

Ver: 01/16/2019

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Sample Receiving Notes

480-151471 Field Sheet

Job:

Tracking # 4635 9989 4949 SO / PO / FO / 2-Day / SAT / Ground / UPS / Courier / Drop Off / GSO / OnTrac / Goldstreak / USPS / Other

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes:

Therm. ID: AK-2 / AK-3 / AK-5 / AK-7 / HACCP / Other (-1.0°C)

Ice Wet Gel Other

Cooler Custody Seal: Seal

Sample Custody Seal:

Cooler ID: 1 of 2

Temp: Observed 0.7°C Corrected 0.7°C

From: Temp Blank ☑ Sample ☐

NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace(1/3 bottle[1])?	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Cooler compromised/tampered with?	☐	☑	☐
Samples compromised/tampered with?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Sample containers have legible labels?	☑	☐	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided.	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Zero headspace?[2]	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐
Sample temp OK?	☑	☐	☐
Sample out of temp?	☐	☑	☐

Initials: MAN Date: 4/6/19

[1]For a 250mL polyethylene container, filled no higher than the 200mL mark on the bottle.
[2]Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4").

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Sample Receiving Notes

Job: _____

Tracking # 4635 9989 4950 SC / PC / FO / 2-Day / SAT / Ground / UPS / Courier / Drop Off / GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes: _____

Therm. ID: AK-2 / AK-3 / AK-5 / AK-7 / HACCP / Other____ (-1.0°C)

Ice ____ Wet ____ Gel ____ Other ____

Cooler Custody Seal: Seal

Sample Custody Seal: _____

Cooler ID: 2 of 2

Temp: Observed 0.3°C Corrected 0.3°C

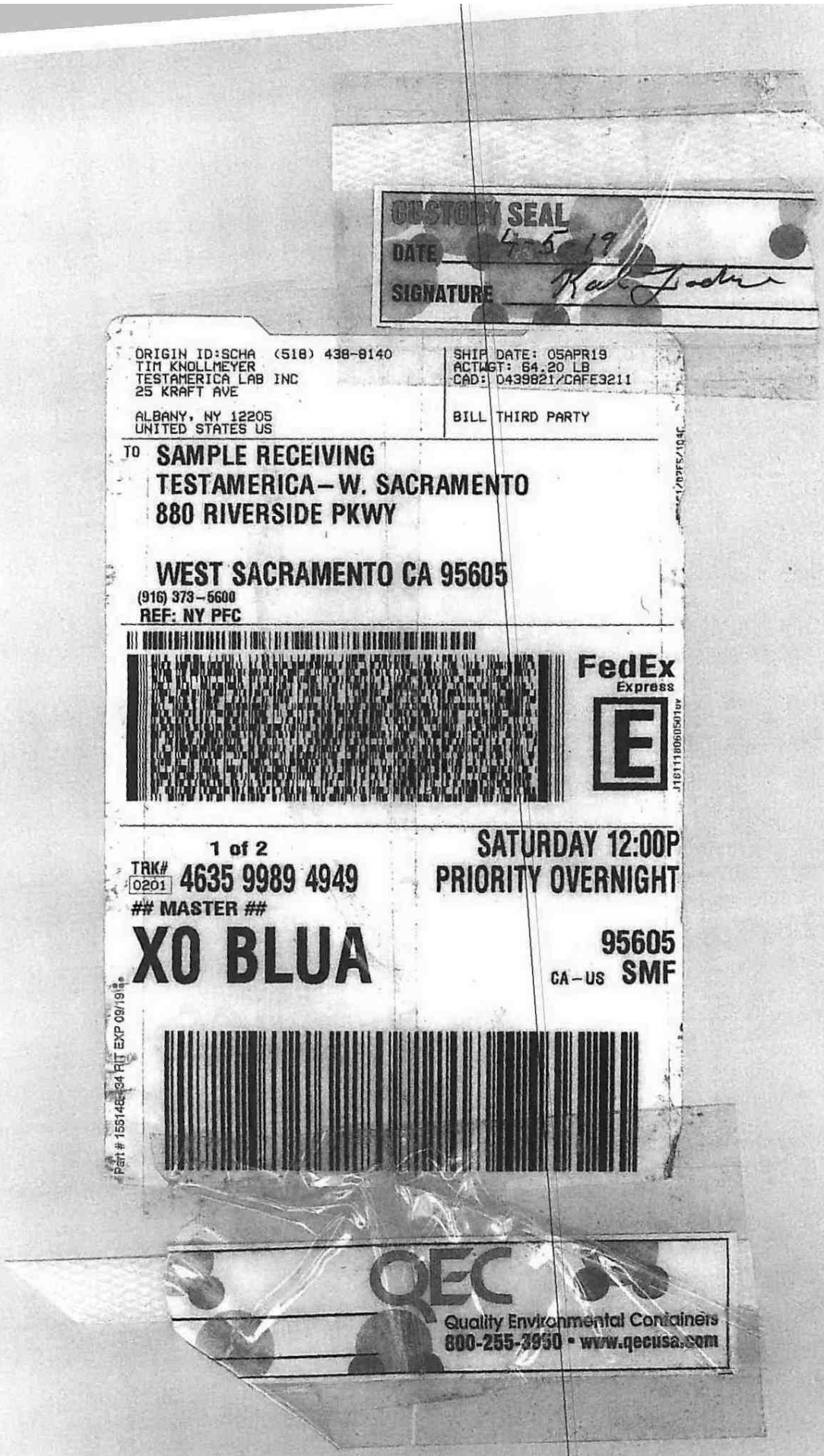
From: Temp Blank ☑ Sample ☐

NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace(1/3 bottle[1])?	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Cooler compromised/tampered with?	☐	☑	☐
Samples compromised/tampered with?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Sample containers have legible labels?	☑	☐	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided.	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Zero headspace?[2]	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐
Sample temp OK?	☑	☐	☐
Sample out of temp?	☐	☑	☐

Initials: MAN Date: 4/6/19

[1]For a 250mL polyethylene container, filled no higher than the 200mL mark on the bottle.
[2]Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4").


CUSTODY SEAL
DATE 4-5-19
SIGNATURE
ORIGIN ID:SCHA (518) 438-8140
TIM KNOLLMEYER
TESTAMERICA LAB INC
25 KRAFT AVE
ALBANY, NY 12205
UNITED STATES US
SHIP DATE: 05APR19
ACTWGT: 64.20 LB
CAD: 0439821/CAFE3211
BILL THIRD PARTY
TO SAMPLE RECEIVING
TESTAMERICA-W. SACRAMENTO
880 RIVERSIDE PKWY
WEST SACRAMENTO CA 95605
(916) 373-5600
REF: NY PFC
FedEx
Express
1 of 2
TRK# 0201 4635 9989 4949
MASTER
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO BLUA
95605
CA-US SMF
Part # 155146-34 RIT EXP 09/19
QEC
Quality Environmental Containers
800-255-3930 • www.qecusa.com

ORIGIN ID:SCHA (518) 438-8140
TIM KNOLLMEYER
TESTAMERICA LAB INC
25 KRAFT AVE

ALBANY, NY 12205
UNITED STATES US

SHIP DATE: 05APR19
ACTWGT: 64.20 LB
CAD: 0439821/CAFE3211

BILL THIRD PARTY

TO SAMPLE RECEIVING
TESTAMERICA-W. SACRAMENTO
880 RIVERSIDE PKWY

WEST SACRAMENTO CA 95605
(916) 373-5600
REF: NY PFC

FedEx Express

2 of 2
MPS# 0263 4635 9989 4950
Mstr# 4635 9989 4949

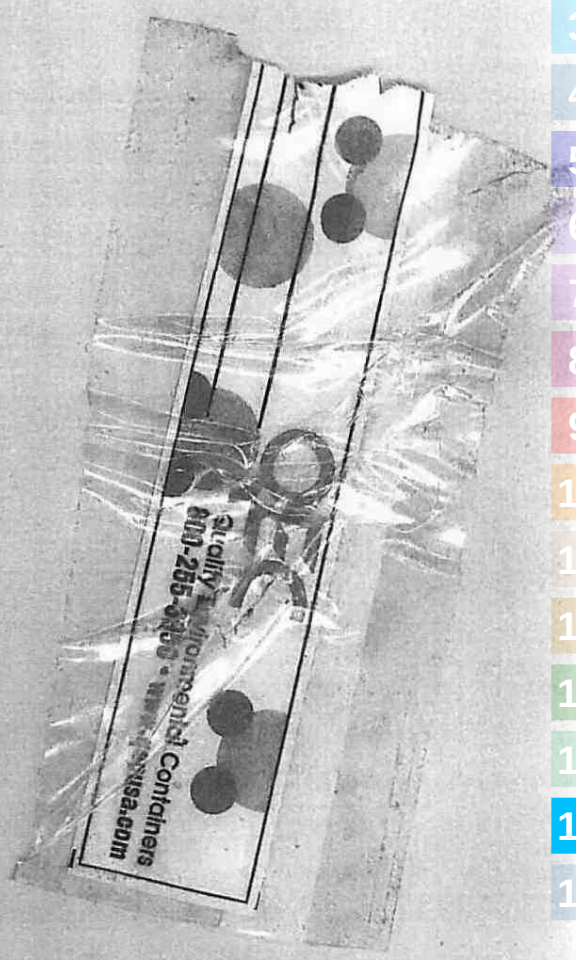
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO BLUA

95605
CA-US SMF

Part # 156...464 RIT EXP 09/19



Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-151471-1
SDG Number: Tomhannock Reservoir

Login Number: 151471
List Number: 1
Creator: Harper, Marcus D

List Source: Eurofins TestAmerica, Buffalo

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

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-151471-1
SDG Number: Tomhannock Reservoir

Login Number: 151471
List Number: 3
Creator: McNabb, Robert W

List Source: Eurofins TestAmerica, Burlington
List Creation: 04/09/19 11:09 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	610147
Sample custody seals, if present, are 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	1.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-151471-1
SDG Number: Tomhannock Reservoir

Login Number: 151471
List Number: 2
Creator: Her, David A

List Source: Eurofins TestAmerica, Sacramento
List Creation: 04/08/19 09:46 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are 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	0.7c 0.3c
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.	N/A	
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	