



# SIERRA CLUB

ATLANTIC CHAPTER  
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June 6, 2022

VIA EMAIL

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**Re: Request for Modification of the Village of Bath WWTP SPDES Permit  
ID: NY-0021431 Pursuant to 6 NYCRR 621.13(b)**

Dear Mr. Walsh and Ms, Rubacha:

On behalf of our 45,000 members, the Sierra Club Atlantic Chapter respectfully requests modifications to the State Pollution Discharge Elimination System ("SPDES") permit for the Village of Bath Wastewater Treatment Plant ("Bath WWTP"), Permit ID: NY-0021431, to add treatment requirements for Per- and Polyfluoroalkyl Substances (PFAS) to the plant's treatment processes. New

conditions are necessary to address newly discovered material information regarding PFAS in the industrial wastes entering the Bath WWTP since the issuance of the existing permit.<sup>1</sup>

PFAS, or per- and polyfluoroalkyl substances, are a class of chemicals used across dozens of industries to make products resistant to water, stains and heat. Though the compounds are highly effective, they persist for years in the human body and are linked to cancer, kidney damage, birth defects, immune system impairment, liver damage and a range of other serious diseases at concentrations measured in parts per trillion. Most Americans have traces of PFAS in their blood.

Exposure to PFAS has adverse impacts on human health. PFOA and PFOS are the two most researched PFAS. Classified as “emerging contaminants” or “contaminants of emerging concern” by the EPA, these chemicals are not well researched but have been found to cause cancer or affect the liver, immune system, cholesterol levels, and thyroid. Additional research is necessary to determine the full scope of PFAS impacts.

Notice of proposed modifications to the Bath WWTP SPDES permit was given by the New York State Department of Environmental Conservation (DEC) in its Environmental Notice Bulletin on May 4, 2022.<sup>2</sup> These proposed modifications do not address our concerns. Therefore, pursuant to 6 NYCRR 621.13(b), we request that DEC modify the Bath WWTP SPDES permit to require that the plant begin to remove PFAS from incoming wastes received by the plant. This is necessary to prevent the plant from discharging PFAS-laden effluent into the Cohocton River, which is closely connected to a primary drinking water aquifer and from releasing PFAS-laden sewage sludge for land-spreading on local farms.

We support the recommendations regarding treatment for PFAS in the June 3, 2022 comment letter on the Bath WWTP made by EarthJustice on behalf of Seneca Lake Guardian and hereby incorporate that letter by reference.

### **I. Newly Discovered Material Information about PFAS in Wastes Entering the Bath WWTP**

New information has been discovered about high-levels of PFAS in leachate from the Hakes C&D Landfill in the Town of Campbell, Steuben County. This information is shown in the 2019 and 2020

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<sup>1</sup> 6 NYCRR 621.13(b) provides that: “The department may consider requests from any interested party for modification, suspension or revocation of permits based on reasons given in paragraphs (a)(1) through (6) of this section. Requests must be in writing, contain facts or reasons supporting the request and be sent to the regional permit administrator as listed in section 621.19 of this Part. The department must decide whether the request is justified and the action to be taken in response to the request. A brief response giving the reason(s) for the department’s decision must be sent to the party making the request.” This request is for the reason given in paragraph (a)(4) of 6 NYCRR 621.13, namely that there is: “newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit.”

<sup>2</sup> [https://www.dec.ny.gov/enb/20220504\\_reg8.html#846240000600001](https://www.dec.ny.gov/enb/20220504_reg8.html#846240000600001) .

annual reports for the Hakes landfill and discussed below.<sup>3</sup> We have filed a Freedom of Information Law (FOIL) request for the 2021 Hakes annual report, but have not yet received a copy. As of June 6, 2022, the 2021 report is not posted on the DECInfo Locator website.<sup>4</sup>

After discovering the PFAS test results for the Hakes landfill, our members checked the annual reports for other landfills in this region and did not find any PFAS results reported. We then filed FOIL requests for PFAS testing at all New York landfills and in February 2022 and March 2022 we received a number of test reports from 2018. Summaries of the test results for the Bath landfill, the Seneca Meadows landfill, the Ontario County landfill and the Hyland landfill are attached as Exhibits A, B, C and D. As discussed below, the test reports show that all these landfills have very high levels of levels of PFAS in their leachate.

This is a major concern for the Bath WWTP because the Bath WWTP accepts leachate waste from the Steuben County Department of Public Work's leachate pre-treatment plant at the Bath Landfill (Steuben LPTP). Steuben LPTP is a permitted industrial user of the Bath WWTP,<sup>5</sup> and pipes all its effluent directly to the Bath WWTP. The Steuben LPTP takes leachate from a number of landfills in this region including the Bath landfill, the Hakes landfill, the Seneca Meadows Landfill in Seneca County, the Ontario County Landfill in Ontario County and a number of closed landfills in Steuben County. The Hyland Landfill in Allegany County previously sent leachate to the Steuben LPTP, but may not do so currently. The treatment processes used by the Steuben LPTP do not include a process for removing PFAS from the wastes they receive.

It is even possible that the treatment processes used by Steuben LPTP increase the amount of PFAS in the wastes they receive.<sup>6</sup> The same may be true for the treatment processes used by the Bath WWTP. A new study by researchers at Western Michigan University found that landfill leachate is a major PFAS contributor to WWTPs and that **"municipal WWTPs effectively transform polyfluorinated precursors to measured PFAAs, causing effluent concentrations of total PFAS to be as much as 19 times greater than influent [emphasis added]."** The study found that "PFOA, PFHxA, PFPeA, PFBA, and PFBS

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<sup>3</sup> See

[https://www.dec.ny.gov/data/IF/Landfills/2020%20Landfill%20Annual%20Reports/R8/51LC0300\\_Hakes\\_cdd\\_R8\\_2020.2021-02-26.AR.pdf](https://www.dec.ny.gov/data/IF/Landfills/2020%20Landfill%20Annual%20Reports/R8/51LC0300_Hakes_cdd_R8_2020.2021-02-26.AR.pdf) and

[https://www.dec.ny.gov/data/IF/Landfills/2019%20Landfill%20Annual%20Reports/R8/51LC0300\\_Hakes\\_cdd\\_R8\\_2019.2020-02-20.AR.pdf](https://www.dec.ny.gov/data/IF/Landfills/2019%20Landfill%20Annual%20Reports/R8/51LC0300_Hakes_cdd_R8_2019.2020-02-20.AR.pdf) .

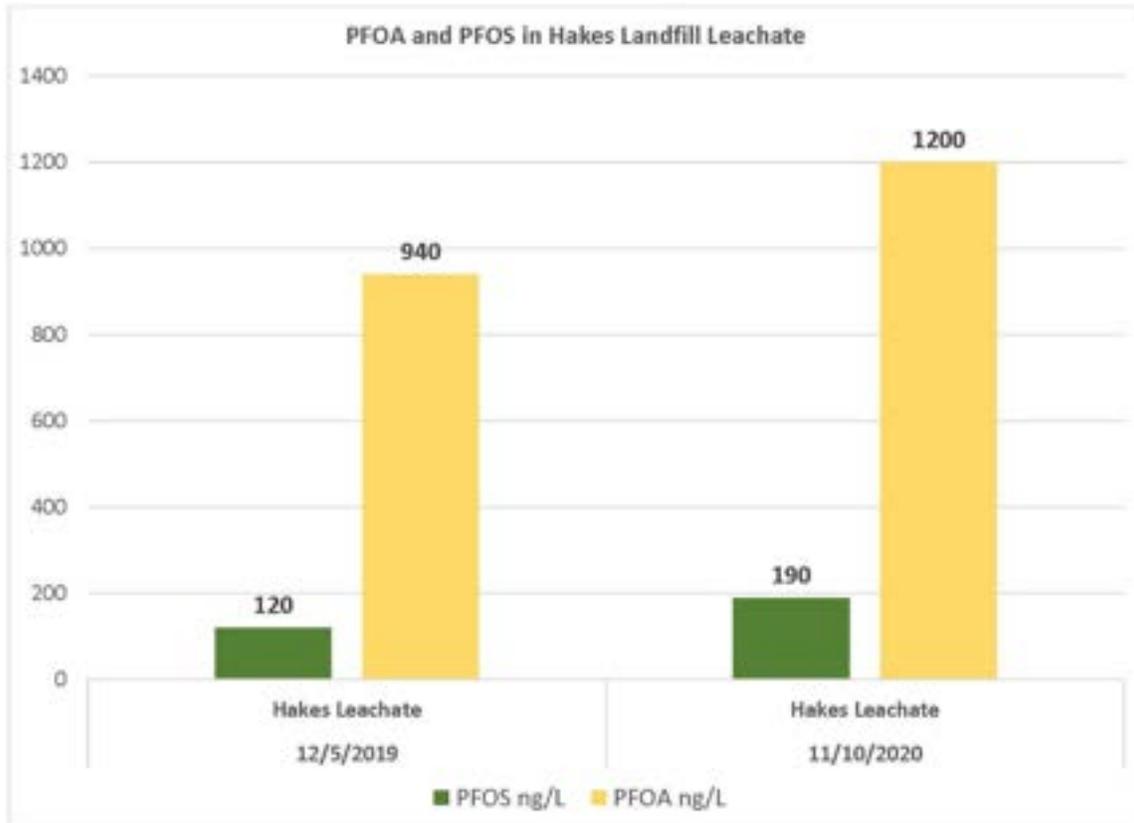
<sup>4</sup> <https://gisservices.dec.ny.gov/gis/dil/> .

<sup>5</sup> It is our understanding that, besides the pre-treatment plant, other permitted industrial users of the Bath WWTP include the Bath Veterans Authority Medical Center, Ira Davenport Hospital, Clark Specialty Bath Facility and Mercury Aircraft in Hammondsport. We submitted a FOIL request to DEC on June 2, 2022, for information regarding the significant industrial users of the Bath WWTP and are awaiting a response.

<sup>6</sup> Helmer, Ross & Reeves, Donald & Cassidy, Daniel. (2021). Per- and Polyfluorinated Alkyl Substances (PFAS) Cycling within Michigan: Contaminated Sites, Landfills and Wastewater Treatment Plants. Water Research. 210. 117983. 10.1016/j.watres.2021.117983, [https://www.researchgate.net/publication/357161860\\_Per-\\_and\\_Polyfluorinated\\_Alkyl\\_Substances\\_PFAS\\_Cycling\\_within\\_Michigan\\_Contaminated\\_Sites\\_Landfills\\_and\\_Wastewater\\_Treatment\\_Plants](https://www.researchgate.net/publication/357161860_Per-_and_Polyfluorinated_Alkyl_Substances_PFAS_Cycling_within_Michigan_Contaminated_Sites_Landfills_and_Wastewater_Treatment_Plants) ./

show the greatest net increases across WWTPs, ranging from 20% to nearly 2000% for the two WWTPs studied having the most complete datasets [emphasis added].”<sup>7</sup>

The PFAS tests results reported in the Hakes 2020 annual report compared to the Hakes 2019 annual report show that the levels of PFAS in leachate from the Hakes landfill have increased significantly from 2019 to 2020.



If the same is true for other landfills in the area, then the levels of PFAS in the leachate from other landfills sending leachate to the Steuben LPTP will be significantly increased from the levels shown in the 2018 PFAS test results we obtained through our FOIL request.

For these reasons, it is imperative that PFAS testing and PFAS treatment be required at the Bath WWTP. The Hakes data is particularly significant to operations at the Bath WWTP because Hakes sends all its leachate to the Steuben LPTP. The Hakes landfill has just undergone an expansion and is planning another expansion at this time,<sup>8</sup> so the amount of leachate coming from Hakes is increasing over time.

<sup>7</sup> Id.

<sup>8</sup> See the positive declaration, draft scope and public comment period for a proposed Hakes C&D Landfill expansion project announced in DEC’s Environmental Notice Bulletin (ENB) on September 15, 2021, [https://www.dec.ny.gov/enb/20210915\\_not8.html](https://www.dec.ny.gov/enb/20210915_not8.html).

The following page from the 2020 Hakes Landfill Annual Report shows very high levels of different types of PFAS in leachate samples from the Hakes landfill.<sup>9</sup> When the various PFAS concentrations listed below are summed, the total PFAS test results for the Hakes 11/2020 testing is 12,559 ng/L, which is equivalent to 12,559 ppt.

<b>ALS Group USA, Corp.</b> dba ALS Environmental		
Analytical Report		
<b>Client:</b>	Casella Waste Systems (Hampden ME)	<b>Service Request:</b> R2010670
<b>Project:</b>	Hakes C&D Landfill - Part 363 Parameters	<b>Date Collected:</b> 11/10/20 13:20
<b>Sample Matrix:</b>	Water	<b>Date Received:</b> 11/11/20 09:50
<b>Sample Name:</b>	LCS-1120	<b>Units:</b> ng/L
<b>Lab Code:</b>	R2010670-001	<b>Basis:</b> NA

**Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS**

**Analysis Method:** PFC/537M  
**Prep Method:** ALS SOP

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
<b>Perfluoroalkyl Sulfonic Acids (PFASs)</b>							
Perfluorobutane sulfonic acid (PFBS)	450	4.3	0.28	1	12/08/20 00:10	11/20/20	
Perfluorohexane sulfonic acid (PFHxS)	270	4.3	1.3	1	12/08/20 00:10	11/20/20	
Perfluoroheptane sulfonic acid (PFHpS)	11	4.3	0.44	1	12/08/20 00:10	11/20/20	
Perfluorooctane sulfonic acid (PFOS)	190	1.7	0.44	1	12/08/20 00:10	11/20/20	
Perfluorodecane sulfonic acid (PFDS)	0.71 J	4.3	0.30	1	12/08/20 00:10	11/20/20	
<b>Perfluoroalkyl Carboxylic Acids (PFCAs)</b>							
Perfluorobutanoic acid (PFBA)	1700 X	4.3	0.40	1	12/08/20 00:10	11/20/20	
Perfluoropentanoic acid (PFPeA)	3500 X	4.3	1.7	1	12/08/20 00:10	11/20/20	
Perfluorohexanoic acid (PFHxA)	3900 X	9.2	8.8	1	12/08/20 00:10	11/20/20	
Perfluoroheptanoic acid (PFHpA)	820	4.3	0.63	1	12/08/20 00:10	11/20/20	
Perfluorooctanoic acid (PFOA)	1200	1.7	0.35	1	12/08/20 00:10	11/20/20	
Perfluorononanoic acid (PFNA)	76	4.3	1.1	1	12/08/20 00:10	11/20/20	
Perfluorodecanoic acid (PFDA)	56	4.3	1.2	1	12/08/20 00:10	11/20/20	
Perfluoroundecanoic acid (PFUnDA)	6.1	4.3	1.5	1	12/08/20 00:10	11/20/20	
Perfluorododecanoic acid (PFDoDA)	2.9 J	4.3	1.3	1	12/08/20 00:10	11/20/20	
Perfluorotridecanoic acid (PFTrDA)	4.3 U	4.3	1.3	1	12/08/20 00:10	11/20/20	
Perfluorotetradecanoic acid (PFTeDA)	4.3 U	4.3	2.0	1	12/08/20 00:10	11/20/20	
<b>Perfluoroalkyl Sulfonamido Substances</b>							
Perfluorooctane sulfonamide (FOSA)	2.7 J	4.3	0.52	1	12/08/20 00:10	11/20/20	
N-Methyl perfluorooctane sulfonamidoacetic acid	64	4.3	1.4	1	12/08/20 00:10	11/20/20	
N-Ethyl perfluorooctane sulfonamidoacetic acid	27	4.3	0.50	1	12/08/20 00:10	11/20/20	
<b>n:2 Fluorotelomer Sulfonic Acids (n:2 FTSAs)</b>							
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	260	4.3	0.55	1	12/08/20 00:10	11/20/20	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	14	4.3	0.15	1	12/08/20 00:10	11/20/20	

The Hakes 2020 test results for PFOA (1200 ppt) and PFOS (190 ppt) are greatly in excess of DEC's draft guidance values of 6.7 ppt for PFOA and 2.7 ppt for PFOS.<sup>10</sup> The DEC proposed guidance

<sup>9</sup> See [https://www.dec.ny.gov/data/IF/Landfills/2020%20Landfill%20Annual%20Reports/R8/51LC0300\\_Hakes\\_cdd\\_R8\\_2020.2021-02-26.AR.pdf](https://www.dec.ny.gov/data/IF/Landfills/2020%20Landfill%20Annual%20Reports/R8/51LC0300_Hakes_cdd_R8_2020.2021-02-26.AR.pdf) .

<sup>10</sup> Draft Guidance Values to Advance New York State's Regulation of Emerging Contaminants PFOA, PFOS, and 1,4-Dioxane, released October 6, 2021, <https://www.dec.ny.gov/chemical/122803.html> .

values are shown in the following table.<sup>11</sup> The table also shows the New York State Department of Health (DOH) Maximum Contaminant Levels (MCLs) for finished drinking water, adopted in August 2020.

Chemical	DOH - Finished Drinking Water	DEC - Raw Water Source		
	Adopted MCLs	Human Health	Aquatic Life	
			Chronic	Acute
PFOA	10 ppt	6.7 ppt	N/A	N/A
PFOS	10 ppt	2.7 ppt	160 ppb (fresh) 41 ppb (saline)	710 ppb (fresh) 190 ppb (saline)
1,4-Dioxane	1 ppb	0.35 ppb	18,000 ppb (fresh) 7,000 ppb (saline)	160,000 ppb (fresh) 63,000 ppb (saline)

The 2018 test results reported for other landfills sending their leachate to the Steuben LPTP also show levels of PFOA, PFOS and 1,4-Dioxane far in excess of DEC’s proposed guidance values.<sup>12</sup> As noted above, the summary test results for the Bath landfill, the Seneca Meadows landfill, the Ontario County landfill and the Hyland landfill are attached as Exhibits A, B, C and D. .<sup>13</sup>

We have compared the Hakes results to the results shown in an article about PFAS testing in Maine Landfills.<sup>14</sup> The article contains the following table of testing results for Maine landfills. The PFAS test results shown appear to be for the sum of PFOA, PFOS, PFNA, PFHpA, PFHxS, and PFDA. The sum of these six chemicals is listed as a testing requirement in a letter sent by Maine DEP to Maine landfills requiring PFAS testing.<sup>15</sup> These six types of PFAS are also listed by Maine DEP as the six chemicals contained in Maine’s interim drinking water standard. See <https://www.maine.gov/dep/spills/topics/pfas/> . The Hakes total for these six types of PFAS is 2612 ppt, which is higher than any of the initial Maine results shown in the table.

<sup>11</sup> Id.

<sup>12</sup> See Exhibits A, B, C and D. We provide these summaries of the test results as exhibits because to our knowledge these test results are not publicly available, unlike the Hakes results which are contained in the Hakes annual reports and posted on the DECInfo Locator website.

<sup>13</sup> Id.

<sup>14</sup> <https://bangordailynews.com/2022/02/14/news/bangor/landfill-shows-maines-tough-pfas-problem-joam40zk0w/>

<sup>15</sup> [https://www.maine.gov/dep/spills/topics/pfas/leach\\_testing\\_requirement\\_pkg.pdf](https://www.maine.gov/dep/spills/topics/pfas/leach_testing_requirement_pkg.pdf) .

## Forever chemicals in Maine landfills' runoff

Maine's landfills are testing their runoff for six types of PFAS

Search for town or landfill

Facility name and type	Town	PFAS concentration (parts per trillion)	Sample date	Sample collection location	Notes
LEWISTON, CITY OF	LEWISTON	25.9	11/3/2021	MH-6U	Secure Landfill
LEWISTON, CITY OF	LEWISTON	299	11/3/2021	MH-6L	Secure Landfill
LEWISTON, CITY OF	LEWISTON	680	11/3/2021	MH-14	Combined
MIDCOAST SOLID WASTE CORPORATION (DEMO)	ROCKPORT	1001	11/4/2021	LT	
ND PAPER LLC (SPECIAL WASTE)	MEXICO				No response
PINE TREE LANDFILL (SPECIAL WASTE)	HAMPDEN	2110	12/7/2021	Leachate tank	
PIXELLE ANDROSCOGGIN LLC (SPECIAL WASTE)	JAY				Sampled, waiting for results
ROCKLAND, CITY OF (DEMO)	ROCKLAND	301	11/2/2021	Q2S	
ROCKLAND, CITY OF (DEMO)	ROCKLAND	1360	11/2/2021	Q2NB	
SANFORD SEWERAGE	SANFORD	1701	11/10/2021		

Source: Maine Department of Environmental Protection

Test results are current as of Feb. 10 | Maine's safe drinking water threshold for PFAS is 20 parts per trillion

A recent news article summarizes some of the high amounts of PFAS in landfill leachate collected at Seneca Meadows, Ontario County, Hyland and Hakes.<sup>16</sup> The article by Peter Mantius contains a table of PFAS test results:<sup>17</sup>

**The highest PFAS readings at Finger Lakes region landfills (ppt)**  
(NYS limit for PFOA and PFOS in drinking water: 10 ppt)

	Seneca Meadows	Ontario County	Hyland	Hakes
PFBS:	15,200	PFOA: 3,270	PFBA: 3,170	PFHxA: 3,900
PFHxA:	5,370	PFHxA: 3,040	PFHxA: 3,050	PFPeA: 3,500
PFBA:	4,520	PFBS: 2,750	PFOA: 2,510	PFBA: 1,700
PFBA:	4,520	PFBA: 2,560	PFBS: 2,150	PFOA: 1,200
PFOA:	4,160	PFPeA: 2,130	PFPeA: 1,310	PFHpA: 820

Sources: TestAmerica data from 2018 and Hakes C&D Landfill annual reports from 2019, 2020.

The presence of these high levels of PFAS in the leachate test results of landfills whose leachate is being sent or has been sent to the Steuben LPTP, then discharged by the pre-treatment plant to the Bath WWTP is of great concern because the Bath WWTP discharges its effluent into the Cohocton River.

The Lower Cohocton River aquifer, over which Bath is located, is one of three primary aquifers on the Cohocton River and one of 18 primary aquifers in New York. DEC classifies the Corning Area, Lower Cohocton River and Upper Cohocton River aquifers as “primary aquifers,” meaning they are highly productive aquifers that are being used as sources of water supply by major public water supply systems. See 1990 DEC Division of Water Technical and Operational Guidance Document, on Primary and Principal Aquifer Determinations, TOGS 2.1.3 (hereinafter cited as “TOGS 2.1.3”).

The sewage sludge from the Bath WWTP is discharged to Leo Dickson & Sons Landspreading Sites and Farm pursuant to its DEC solid waste management permit, ID# 8-4699-00012/00001, expiration date 9/30/2024. The table of approved waste sources listed in the permit includes the Bath WWTP:

<sup>16</sup> See Leachate From Landfills Is Contaminated With PFAS Chemicals at Hundreds of Times State’s Drinking Water Limit, Peter Mantius, *Waterfront Online*, March 18, 2022, <https://www.fingerlakes1.com/2022/03/18/leachate-from-landfills-is-contaminated-with-pfas-chemicals-at-hundreds-of-times-the-states-drinking-water-limit/#:~:text=Samples%20from%20the%20Ontario%20County,10%20ppt%20drinking%20water%20limit>.

<sup>17</sup> A clarification of the Seneca Meadows test results shown in the table was subsequently posted. See <https://waterfrontonline.blog/corrections-and-clarifications/>. The clarification stated that “Each year, SMI sends roughly 70 million gallons of leachate, leachate concentrate and purified leachate — known as permeate — to several different treatment sites. The PFAS contamination levels of the shipped liquids are vastly different. SMI says all leachate liquids now sent to the Seneca Falls wastewater treatment plant have been purified through a reverse osmosis process. Based on 2018 testing data, SMI’s permeate showed negligible levels of PFAS contamination (several hundred times less than the leachate and leachate concentrate).” It is not clear from this explanation what the PFAS concentrations might be for the leachate being sent to Steuben County leachate pre-treatment plant. More information is obviously needed.

**ATTACHMENT A**

**Approved Waste Sources**

1) Stabilized biosolids generated from the following sources may be accepted for land application contingent on meeting the requirements of this permit.

- Addison, NY Village of: WWTP
- Bath, NY Village of: WWTP
- Canisteo, NY Village of: WWTP
- Castile NY Village of: WWTP
- Cayuga Heights NY Village of: WWTP
- Conesus Lake County Sewer District, NY WWTP
- Dryden, NY Village of: WWTP
- Knoxville, PA Borough of: WWTP
- Montour Falls, NY Village of: WWTP
- Nelson Township, PA: WWTP
- Alfred, NY Village of: WWTP
- Dansville, NY Village of: WWTP
- Dundee, NY Village of: WWTP
- Eikland Borough, PA: WWTP
- Lawrence Borough Authority, PA: WWTP
- Perry, NY Village of: WWTP
- Sabinsville, PA Village of: WWTP
- Trumansburg, NY Village of: WWTP
- Owego, NY Town of: WWTP
- Warsaw, NY Village of: WWTP
- Watkins Glen, NY Village of: WWTP
- Waverly, NY Village of: WWTP
- Wayland, NY Village of: WWTP
- Westfield, PA Borough of: WWTP
- Whitney Point, NY Town of WWTP
- Nunda, NY Village of: WWTP
- Portville, NY Village of: WWTP
- Hornell, NY City of: WWTP Backwash  
Collection Lagoon Sludge

2) Food Processing Waste Generated at:

- LePrino Foods - Waverly, PA
- Dietrichs Foods (Dairy Farmers of America) - Middlebury Center, PA
- Upstate (formally Kraft Foods) - Campbell, NY
- Kraft Foods - Lowville, NY
- Kraft Foods - Avon, NY
- Quest - Kerry Bio Science in Norwich NY
- Rejected raw milk load - independent haulers loads rejected by Kraft in Campbell

According to a recent Environmental Working Group report, once PFAS-contaminated sludge is applied as a fertilizer, the chemicals can build up in food crops, feed crops such as corn and hay, and the animals that eat these feed crops. According to EWG, several farmers have been forced to euthanize their farm animals due to high levels of PFAS in farm products.<sup>18</sup>

<sup>18</sup> 'Forever chemicals' may taint nearly 20 million cropland acres, Jared Hayes, Environmental Working Group, April 14, 2022, <https://www.ewg.org/news-insights/news/2022/04/ewg-forever-chemicals-may-taint-nearly-20-million-cropland-acres> .

June 6, 2022

The problems with PFAS in sewage sludge have become of great concern in Maine. “Maine is at the forefront of this because we’ve seen first-hand the damage that sludge causes to farms,” said Patrick MacRoy, deputy director of the non-profit Defend Our Health Maine.<sup>19</sup>

The prevention of the release of toxic PFAS sludge by the Bath WWTP onto local farmland where it can be taken up by crops and animals is another reason for requiring that the Bath WWTP be required to install a treatment process to remove PFAS from wastes coming into the plant.

## CONCLUSION

With toxic PFAS-laden wastes coming into the Bath WWTP, it is imperative that conditions requiring treatment for PFAS be added to the plant’s SPDES permit to protect regional drinking water quality, protect against PFAS being absorbed into agricultural crops and animals and preserve human and ecosystem health.

Respectfully submitted,



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<sup>19</sup> Maine bans use of sewage sludge on farms to reduce risk of PFAS poisoning, Tom Perkins, The Guardian, May 12, 2022, <https://www.theguardian.com/environment/2022/may/12/maine-bans-sewage-sludge-fertilizer-farms-pfas-poisoning>

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## EXHIBITS

Exhibit A – Bath Landfill 2018 PFAS Test Results from Client Sample Results, TestAmerica Job ID: 480-132545-1, Client: New York State D.E.C., Project/Site: Bath Sanitary LF Region 8, Date Samples Collected: 03/13/18.

Exhibit B – Seneca Meadows Landfill 2018 PFAS Test Results from Client Sample Results, TestAmerica Job ID: 480-132499-1, Client: New York State D.E.C., Project/Site: Seneca Meadows LF - Region 8, Date Samples Collected: 03/12/18.

Exhibit C – Ontario Landfill 2018 PFAS Test Results from Client Sample Results, TestAmerica Job ID: 480-132645-1, Client: New York State D.E.C., Project/Site: Ontario Sanitary LF - Region 8, Date Samples Collected: 03/14/18.

Exhibit D – Hyland Landfill 2018 PFAS Test Results from Detection Summary, TestAmerica Job ID: 480-133255-1, Client: New York State D.E.C., Project/Site: Hyland Landfill Region 9, Date Samples Collected: Not Shown, Date of Report 04/10/18.

# **Exhibit A**

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Bath Sanitary LF Region 8

TestAmerica Job ID: 480-132545-1

**Client Sample ID: BATH LF CELL 3 20180313**

**Lab Sample ID: 480-132545-1**

Date Collected: 03/13/18 10:40

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	76	E	2.0	1.0	ug/L		03/15/18 07:37	03/20/18 02:36	1
<b>Isotope Dilution</b>									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	36		15 - 110				03/15/18 07:37	03/20/18 02:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1600		39.2	6.85	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluoropentanoic acid (PFPeA)	618		39.2	9.60	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorohexanoic acid (PFHxA)	1030		39.2	11.4	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluoroheptanoic acid (PFHpA)	176		39.2	4.90	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorooctanoic acid (PFOA)	308		39.2	16.6	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorononanoic acid (PFNA)	19.1	J	39.2	5.29	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorodecanoic acid (PFDA)	7.68	J	39.2	6.07	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluoroundecanoic acid (PFUnA)	21.5	U	39.2	21.5	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorododecanoic acid (PFDoA)	10.8	U	39.2	10.8	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorotridecanoic Acid (PFTriA)	25.5	U	39.2	25.5	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorotetradecanoic acid (PFTeA)	5.68	U	39.2	5.68	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorobutanesulfonic acid (PFBS)	248		39.2	3.92	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorohexanesulfonic acid (PFHxS)	158	B	39.2	3.33	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluoroheptanesulfonic Acid (PFHpS)	3.72	U	39.2	3.72	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorooctanesulfonic acid (PFOS)	65.6		39.2	10.6	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorodecanesulfonic acid (PFDS)	6.27	U	39.2	6.27	ng/L		03/27/18 13:19	03/31/18 06:05	20
Perfluorooctane Sulfonamide (FOSA)	6.85	U	39.2	6.85	ng/L		03/27/18 13:19	03/31/18 06:05	20
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	60.7	U	392	60.7	ng/L		03/27/18 13:19	03/31/18 06:05	20
6:2FTS	195	J	392	39.2	ng/L		03/27/18 13:19	03/31/18 06:05	20
<b>Isotope Dilution</b>									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	13	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C5 PFPeA	53	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C2 PFHxA	75	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C4-PFHpA	91	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C4 PFOA	106	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C5 PFNA	115	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C2 PFDA	111	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C2 PFUnA	83	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C2 PFDoA	34	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C2-PFTeDA	10	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C3-PFBS	80	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
18O2 PFHxS	95	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C4 PFOS	93	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
13C8 FOSA	89	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
d3-NMeFOSAA	148	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20
M2-6:2FTS	404	*	25 - 150				03/27/18 13:19	03/31/18 06:05	20

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Bath Sanitary LF Region 8

TestAmerica Job ID: 480-132545-1

## Client Sample ID: BATH LF CELL 3 20180313

## Lab Sample ID: 480-132545-1

Date Collected: 03/13/18 10:40

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethyl perfluorooctane	186	U	1960	186	ng/L		03/27/18 13:19	03/30/18 15:16	100
sulfonamidoacetic acid (NEtFOSAA)									
8:2FTS	196	U	1960	196	ng/L		03/27/18 13:19	03/30/18 15:16	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98	*	25 - 150				03/27/18 13:19	03/30/18 15:16	100
M2-8:2FTS	215	*	25 - 150				03/27/18 13:19	03/30/18 15:16	100

## Client Sample ID: BATH LF CELL 1 20180313

## Lab Sample ID: 480-132545-2

Date Collected: 03/13/18 11:00

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	64	E	2.0	1.0	ug/L		03/15/18 07:37	03/20/18 03:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	40		15 - 110				03/15/18 07:37	03/20/18 03:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	1070		40.3	9.88	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorohexanoic acid (PFHxA)	1680		40.3	11.7	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluoroheptanoic acid (PFHpA)	426		40.3	5.04	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorooctanoic acid (PFOA)	733		40.3	17.1	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorononanoic acid (PFNA)	54.1		40.3	5.44	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorodecanoic acid (PFDA)	20.3	J	40.3	6.25	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluoroundecanoic acid (PFUnA)	22.2	U	40.3	22.2	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorododecanoic acid (PFDoA)	11.1	U	40.3	11.1	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorotridecanoic Acid (PFTriA)	26.2	U	40.3	26.2	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorotetradecanoic acid (PFTeA)	5.84	U	40.3	5.84	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorobutanesulfonic acid (PFBS)	489		40.3	4.03	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorohexanesulfonic acid (PFHxS)	409	B	40.3	3.43	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluoroheptanesulfonic Acid (PFHpS)	3.83	U	40.3	3.83	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorooctanesulfonic acid (PFOS)	259		40.3	10.9	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorodecanesulfonic acid (PFDS)	6.45	U	40.3	6.45	ng/L		03/27/18 13:19	03/31/18 06:13	20
Perfluorooctane Sulfonamide (FOSA)	7.05	U	40.3	7.05	ng/L		03/27/18 13:19	03/31/18 06:13	20
6:2FTS	356	J	403	40.3	ng/L		03/27/18 13:19	03/31/18 06:13	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	57	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C2 PFHxA	72	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C4-PFHpA	90	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C4 PFOA	107	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C5 PFNA	117	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C2 PFDA	128	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C2 PFUnA	119	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C2 PFDoA	80	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20
13C2-PFTeDA	24	*	25 - 150				03/27/18 13:19	03/31/18 06:13	20

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Bath Sanitary LF Region 8

TestAmerica Job ID: 480-132545-1

**Client Sample ID: BATH LF CELL 1 20180313**

**Lab Sample ID: 480-132545-2**

Date Collected: 03/13/18 11:00

Matrix: Water

Date Received: 03/14/18 10:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	157	*	25 - 150	03/27/18 13:19	03/31/18 06:13	20
18O2 PFHxS	101	*	25 - 150	03/27/18 13:19	03/31/18 06:13	20
13C4 PFOS	102	*	25 - 150	03/27/18 13:19	03/31/18 06:13	20
13C8 FOSA	93	*	25 - 150	03/27/18 13:19	03/31/18 06:13	20
M2-6:2FTS	308	*	25 - 150	03/27/18 13:19	03/31/18 06:13	20

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2120	D	202	35.3	ng/L		03/27/18 13:19	03/30/18 15:24	100
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	312	U	2020	312	ng/L		03/27/18 13:19	03/30/18 15:24	100
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	191	U	2020	191	ng/L		03/27/18 13:19	03/30/18 15:24	100
8:2FTS	202	U	2020	202	ng/L		03/27/18 13:19	03/30/18 15:24	100

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	25	*	25 - 150	03/27/18 13:19	03/30/18 15:24	100
d3-NMeFOSAA	105	*	25 - 150	03/27/18 13:19	03/30/18 15:24	100
d5-NEtFOSAA	106	*	25 - 150	03/27/18 13:19	03/30/18 15:24	100
M2-8:2FTS	198	*	25 - 150	03/27/18 13:19	03/30/18 15:24	100

**Client Sample ID: BATH LF LEACHATE TANK 20180313**

**Lab Sample ID: 480-132545-3**

Date Collected: 03/13/18 11:20

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	63	E	2.0	1.0	ug/L		03/15/18 07:37	03/20/18 03:24	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	36		15 - 110	03/15/18 07:37	03/20/18 03:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	944		40.1	7.01	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluoropentanoic acid (PFPeA)	517		40.1	9.82	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorohexanoic acid (PFHxA)	910		40.1	11.6	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluoroheptanoic acid (PFHpA)	223		40.1	5.01	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorooctanoic acid (PFOA)	417		40.1	17.0	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorononanoic acid (PFNA)	23.2	J	40.1	5.41	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorodecanoic acid (PFDA)	8.23	J	40.1	6.21	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluoroundecanoic acid (PFUnA)	22.0	U	40.1	22.0	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorododecanoic acid (PFDoA)	11.0	U	40.1	11.0	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorotridecanoic Acid (PFTriA)	26.1	U	40.1	26.1	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorotetradecanoic acid (PFTeA)	5.81	U	40.1	5.81	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorobutanesulfonic acid (PFBS)	470		40.1	4.01	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorohexanesulfonic acid (PFHxS)	268	B	40.1	3.41	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluoroheptanesulfonic Acid (PFHpS)	3.81	U	40.1	3.81	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorooctanesulfonic acid (PFOS)	109		40.1	10.8	ng/L		03/27/18 13:19	03/31/18 06:21	20

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Bath Sanitary LF Region 8

TestAmerica Job ID: 480-132545-1

**Client Sample ID: BATH LF LEACHATE TANK 20180313**

**Lab Sample ID: 480-132545-3**

Date Collected: 03/13/18 11:20

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	6.41	U	40.1	6.41	ng/L		03/27/18 13:19	03/31/18 06:21	20
Perfluorooctane Sulfonamide (FOSA)	7.01	U	40.1	7.01	ng/L		03/27/18 13:19	03/31/18 06:21	20
<b>6:2FTS</b>	<b>163</b>	<b>J</b>	401	40.1	ng/L		03/27/18 13:19	03/31/18 06:21	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	28	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C5 PFPeA	66	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C2 PFHxA	76	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C4-PFHpA	85	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C4 PFOA	104	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C5 PFNA	110	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C2 PFDA	120	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C2 PFUnA	108	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C2 PFDoA	67	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C2-PFTeDA	17	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C3-PFBS	121	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
18O2 PFHxS	97	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C4 PFOS	94	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
13C8 FOSA	91	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20
M2-6:2FTS	304	*	25 - 150				03/27/18 13:19	03/31/18 06:21	20

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	311	U	2000	311	ng/L		03/27/18 13:19	03/30/18 15:32	100
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	190	U	2000	190	ng/L		03/27/18 13:19	03/30/18 15:32	100
8:2FTS	200	U	2000	200	ng/L		03/27/18 13:19	03/30/18 15:32	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	120	*	25 - 150				03/27/18 13:19	03/30/18 15:32	100
d5-NEtFOSAA	117	*	25 - 150				03/27/18 13:19	03/30/18 15:32	100
M2-8:2FTS	139	*	25 - 150				03/27/18 13:19	03/30/18 15:32	100

**Client Sample ID: BATH TP INFLUENT 20180313**

**Lab Sample ID: 480-132545-4**

Date Collected: 03/13/18 10:00

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,4-Dioxane</b>	<b>87</b>	<b>E</b>	2.0	1.0	ug/L		03/15/18 07:37	03/20/18 03:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	39		15 - 110				03/15/18 07:37	03/20/18 03:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1240		40.5	7.09	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluoropentanoic acid (PFPeA)	472		40.5	9.92	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorohexanoic acid (PFHxA)	981		40.5	11.7	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluoroheptanoic acid (PFHpA)	266		40.5	5.06	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorooctanoic acid (PFOA)	622		40.5	17.2	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorononanoic acid (PFNA)	36.9	J	40.5	5.47	ng/L		03/27/18 13:19	03/31/18 06:29	20

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Bath Sanitary LF Region 8

TestAmerica Job ID: 480-132545-1

**Client Sample ID: BATH TP INFLUENT 20180313**

**Lab Sample ID: 480-132545-4**

Date Collected: 03/13/18 10:00

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorodecanoic acid (PFDA)</b>	<b>33.4</b>	<b>J</b>	40.5	6.28	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluoroundecanoic acid (PFUnA)	22.3	U	40.5	22.3	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorododecanoic acid (PFDoA)	11.1	U	40.5	11.1	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorotridecanoic Acid (PFTriA)	26.3	U	40.5	26.3	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorotetradecanoic acid (PFTeA)	5.87	U	40.5	5.87	ng/L		03/27/18 13:19	03/31/18 06:29	20
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>1460</b>		40.5	4.05	ng/L		03/27/18 13:19	03/31/18 06:29	20
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>220</b>	<b>B</b>	40.5	3.44	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluoroheptanesulfonic Acid (PFHpS)	3.85	U	40.5	3.85	ng/L		03/27/18 13:19	03/31/18 06:29	20
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>115</b>		40.5	10.9	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorodecanesulfonic acid (PFDS)	6.48	U	40.5	6.48	ng/L		03/27/18 13:19	03/31/18 06:29	20
Perfluorooctane Sulfonamide (FOSA)	7.09	U	40.5	7.09	ng/L		03/27/18 13:19	03/31/18 06:29	20
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	62.8	U	405	62.8	ng/L		03/27/18 13:19	03/31/18 06:29	20
<b>6:2FTS</b>	<b>111</b>	<b>J</b>	405	40.5	ng/L		03/27/18 13:19	03/31/18 06:29	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	18	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C5 PFPeA	68	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C2 PFHxA	77	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C4-PFHpA	85	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C4 PFOA	99	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C5 PFNA	106	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C2 PFDA	109	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C2 PFUnA	91	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C2 PFDoA	52	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C2-PFTeDA	15	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C3-PFBS	109	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
18O2 PFHxS	86	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C4 PFOS	88	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
13C8 FOSA	86	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
d3-NMeFOSAA	150	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20
M2-6:2FTS	324	*	25 - 150	03/27/18 13:19	03/31/18 06:29	20

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	192	U	2030	192	ng/L		03/27/18 13:19	03/30/18 15:40	100
8:2FTS	203	U	2030	203	ng/L		03/27/18 13:19	03/30/18 15:40	100
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
d5-NEtFOSAA	118	*	25 - 150	03/27/18 13:19	03/30/18 15:40	100			
M2-8:2FTS	159	*	25 - 150	03/27/18 13:19	03/30/18 15:40	100			

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Bath Sanitary LF Region 8

TestAmerica Job ID: 480-132545-1

**Client Sample ID: BATH TP DISCHARGE 20180313**

**Lab Sample ID: 480-132545-5**

Date Collected: 03/13/18 09:50

Matrix: Water

Date Received: 03/14/18 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	8.5		2.0	1.0	ug/L		03/15/18 07:37	03/20/18 04:12	1
<b>Isotope Dilution</b>									
	%Recovery	Qualifier	Limits						
1,4-Dioxane-d8	32		15 - 110						
				Prepared	Analyzed	Dil Fac			
				03/15/18 07:37	03/20/18 04:12	1			

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	330		1.96	0.48	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluoroheptanoic acid (PFHpA)	169		1.96	0.24	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorooctanoic acid (PFOA)	391		1.96	0.83	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorononanoic acid (PFNA)	28.1		1.96	0.26	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorodecanoic acid (PFDA)	51.8		1.96	0.30	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluoroundecanoic acid (PFUnA)	1.61	J	1.96	1.08	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorododecanoic acid (PFDoA)	0.86	J	1.96	0.54	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorohexanesulfonic acid (PFHxS)	139	B	1.96	0.17	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.34		1.96	0.19	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorooctanesulfonic acid (PFOS)	45.1		1.96	0.53	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31	ng/L		03/27/18 13:19	03/31/18 07:47	1
Perfluorooctane Sulfonamide (FOSA)	0.83	J	1.96	0.34	ng/L		03/27/18 13:19	03/31/18 07:47	1
<b>Isotope Dilution</b>									
	%Recovery	Qualifier	Limits						
13C5 PFPeA	48		25 - 150						
13C2 PFHxA	70		25 - 150						
13C4-PFHpA	82		25 - 150						
13C4 PFOA	99		25 - 150						
13C5 PFNA	119		25 - 150						
13C2 PFDA	131		25 - 150						
13C2 PFUnA	126		25 - 150						
13C2 PFDoA	102		25 - 150						
13C2-PFTeDA	54		25 - 150						
13C3-PFBS	104		25 - 150						
18O2 PFHxS	120		25 - 150						
13C4 PFOS	134		25 - 150						
13C8 FOSA	94		25 - 150						

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	425	D	19.6	3.42	ng/L		03/27/18 13:19	03/31/18 06:36	10
Perfluorohexanoic acid (PFHxA)	623	D	19.6	5.67	ng/L		03/27/18 13:19	03/31/18 06:36	10
Perfluorobutanesulfonic acid (PFBS)	535	D	19.6	1.96	ng/L		03/27/18 13:19	03/31/18 06:36	10
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	30.3	U	196	30.3	ng/L		03/27/18 13:19	03/31/18 06:36	10
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	18.6	U	196	18.6	ng/L		03/27/18 13:19	03/31/18 06:36	10
6:2FTS	1030	D	196	19.6	ng/L		03/27/18 13:19	03/31/18 06:36	10

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.

TestAmerica Job ID: 480-132545-1

Project/Site: Bath Sanitary LF Region 8

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	43	*	25 - 150	03/27/18 13:19	03/31/18 06:36	10
13C2 PFHxA	74	*	25 - 150	03/27/18 13:19	03/31/18 06:36	10
13C3-PFBS	82	*	25 - 150	03/27/18 13:19	03/31/18 06:36	10
d3-NMeFOSAA	169	*	25 - 150	03/27/18 13:19	03/31/18 06:36	10
d5-NEtFOSAA	165	*	25 - 150	03/27/18 13:19	03/31/18 06:36	10
M2-6:2FTS	337	*	25 - 150	03/27/18 13:19	03/31/18 06:36	10

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL2**

<i>Analyte</i>	<i>Result</i>	<i>Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
8:2FTS	196	U	1960	196	ng/L		03/27/18 13:19	03/30/18 15:47	100

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
M2-8:2FTS	222	*	25 - 150	03/27/18 13:19	03/30/18 15:47	100



## **Exhibit B**

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Seneca Meadows LF - Region 8

TestAmerica Job ID: 480-132499-1

**Client Sample ID: SENECA MEADOWS STAGE 7-8 20180312**

**Lab Sample ID: 480-132499-1**

**Date Collected: 03/12/18 13:00**

**Matrix: Water**

**Date Received: 03/13/18 10:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	70	E	2.0	1.0	ug/L		03/14/18 14:09	03/19/18 23:21	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane-d8	39		15 - 110				03/14/18 14:09	03/19/18 23:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	235		20.0	4.90	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorohexanoic acid (PFHxA)	1800		20.0	5.80	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluoroheptanoic acid (PFHpA)	215		20.0	2.50	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorooctanoic acid (PFOA)	331		20.0	8.50	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorononanoic acid (PFNA)	23.4		20.0	2.70	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorodecanoic acid (PFDA)	9.07	J	20.0	3.10	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluoroundecanoic acid (PFUnA)	11.0	U	20.0	11.0	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorododecanoic acid (PFDoA)	5.50	U	20.0	5.50	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorotridecanoic Acid (PFTriA)	13.0	U	20.0	13.0	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorotetradecanoic acid (PFTeA)	2.90	U	20.0	2.90	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorobutanesulfonic acid (PFBS)	464		20.0	2.00	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorohexanesulfonic acid (PFHxS)	180	B	20.0	1.70	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	U	20.0	1.90	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorooctanesulfonic acid (PFOS)	110		20.0	5.40	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorodecanesulfonic acid (PFDS)	3.20	U	20.0	3.20	ng/L		03/26/18 16:46	03/27/18 12:05	1
Perfluorooctane Sulfonamide (FOSA)	3.50	U	20.0	3.50	ng/L		03/26/18 16:46	03/27/18 12:05	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	31.0	U	200	31.0	ng/L		03/26/18 16:46	03/27/18 12:05	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	19.0	U	200	19.0	ng/L		03/26/18 16:46	03/27/18 12:05	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFPeA	39		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C2 PFHxA	52		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C4-PFHxA	72		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C4 PFOA	81		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C5 PFNA	112		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C2 PFDA	125		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C2 PFUnA	106		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C2 PFDoA	70		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C2-PFTeDA	21	*	25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C3-PFBS	72		25 - 150				03/26/18 16:46	03/27/18 12:05	1
18O2 PFHxS	104		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C4 PFOS	115		25 - 150				03/26/18 16:46	03/27/18 12:05	1
13C8 FOSA	106		25 - 150				03/26/18 16:46	03/27/18 12:05	1
d3-NMeFOSAA	149		25 - 150				03/26/18 16:46	03/27/18 12:05	1
d5-NEtFOSAA	143		25 - 150				03/26/18 16:46	03/27/18 12:05	1

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1200	D B	200	35.0	ng/L		03/26/18 16:46	03/27/18 16:39	10
6:2FTS	216	J D	2000	200	ng/L		03/26/18 16:46	03/27/18 16:39	10

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Seneca Meadows LF - Region 8

TestAmerica Job ID: 480-132499-1

**Client Sample ID: SENECA MEADOWS STAGE 7-8 20180312**

**Lab Sample ID: 480-132499-1**

Date Collected: 03/12/18 13:00

Matrix: Water

Date Received: 03/13/18 10:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2FTS	200	U	2000	200	ng/L		03/26/18 16:46	03/27/18 16:39	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFBA	36	*	25 - 150				03/26/18 16:46	03/27/18 16:39	10
M2-6:2FTS	275	*	25 - 150				03/26/18 16:46	03/27/18 16:39	10
M2-8:2FTS	125	*	25 - 150				03/26/18 16:46	03/27/18 16:39	10

**Client Sample ID: SENECA MEADOWS SOUTHEAST1 20180312**

**Lab Sample ID: 480-132499-2**

Date Collected: 03/12/18 13:20

Matrix: Water

Date Received: 03/13/18 10:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	310	E	2.0	1.0	ug/L		03/14/18 14:09	03/19/18 23:45	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	38		15 - 110				03/14/18 14:09	03/19/18 23:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	1060		20.0	4.90	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorohexanoic acid (PFHxA)	3200		20.0	5.80	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluoroheptanoic acid (PFHpA)	949		20.0	2.50	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorooctanoic acid (PFOA)	2480		20.0	8.50	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorononanoic acid (PFNA)	140		20.0	2.70	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorodecanoic acid (PFDA)	49.9		20.0	3.10	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluoroundecanoic acid (PFUnA)	11.0	U	20.0	11.0	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorododecanoic acid (PFDoA)	5.50	U	20.0	5.50	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorotridecanoic Acid (PFTriA)	13.0	U	20.0	13.0	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorotetradecanoic acid (PFTeA)	2.90	U	20.0	2.90	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorohexanesulfonic acid (PFHxS)	464	B	20.0	1.70	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	U	20.0	1.90	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorooctanesulfonic acid (PFOS)	189		20.0	5.40	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorodecanesulfonic acid (PFDS)	3.20	U	20.0	3.20	ng/L		03/26/18 16:46	03/27/18 12:13	1
Perfluorooctane Sulfonamide (FOSA)	3.50	U	20.0	3.50	ng/L		03/26/18 16:46	03/27/18 12:13	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.9	J	200	31.0	ng/L		03/26/18 16:46	03/27/18 12:13	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	19.0	U	200	19.0	ng/L		03/26/18 16:46	03/27/18 12:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<sup>13</sup> C5 PFPeA	45		25 - 150				03/26/18 16:46	03/27/18 12:13	1
<sup>13</sup> C2 PFHxA	65		25 - 150				03/26/18 16:46	03/27/18 12:13	1
<sup>13</sup> C4-PFHpA	80		25 - 150				03/26/18 16:46	03/27/18 12:13	1
<sup>13</sup> C4 PFOA	72		25 - 150				03/26/18 16:46	03/27/18 12:13	1
<sup>13</sup> C5 PFNA	115		25 - 150				03/26/18 16:46	03/27/18 12:13	1
<sup>13</sup> C2 PFDA	131		25 - 150				03/26/18 16:46	03/27/18 12:13	1
<sup>13</sup> C2 PFUnA	118		25 - 150				03/26/18 16:46	03/27/18 12:13	1

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Seneca Meadows LF - Region 8

TestAmerica Job ID: 480-132499-1

**Client Sample ID: SENECA MEADOWS SOUTHEAST1  
20180312**

**Lab Sample ID: 480-132499-2**

**Date Collected: 03/12/18 13:20**

**Matrix: Water**

**Date Received: 03/13/18 10:45**

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	90		25 - 150	03/26/18 16:46	03/27/18 12:13	1
13C2-PFTeDA	46		25 - 150	03/26/18 16:46	03/27/18 12:13	1
18O2 PFHxS	117		25 - 150	03/26/18 16:46	03/27/18 12:13	1
13C4 PFOS	132		25 - 150	03/26/18 16:46	03/27/18 12:13	1
13C8 FOSA	116		25 - 150	03/26/18 16:46	03/27/18 12:13	1
d3-NMeFOSAA	147		25 - 150	03/26/18 16:46	03/27/18 12:13	1
d5-NEtFOSAA	151 *		25 - 150	03/26/18 16:46	03/27/18 12:13	1

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2890	D B	200	35.0	ng/L		03/26/18 16:46	03/27/18 16:47	10
Perfluorobutanesulfonic acid (PFBS)	9190	D	200	20.0	ng/L		03/26/18 16:46	03/27/18 16:47	10
6:2FTS	299	J D	2000	200	ng/L		03/26/18 16:46	03/27/18 16:47	10
8:2FTS	200	U	2000	200	ng/L		03/26/18 16:46	03/27/18 16:47	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	36 *		25 - 150	03/26/18 16:46	03/27/18 16:47	10
13C3-PFBS	78 *		25 - 150	03/26/18 16:46	03/27/18 16:47	10
M2-6:2FTS	239 *		25 - 150	03/26/18 16:46	03/27/18 16:47	10
M2-8:2FTS	104 *		25 - 150	03/26/18 16:46	03/27/18 16:47	10

**Client Sample ID: SENECA MEADOWS RAWLEACHATE  
20180312**

**Lab Sample ID: 480-132499-3**

**Date Collected: 03/12/18 12:45**

**Matrix: Water**

**Date Received: 03/13/18 10:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	220	E	2.0	1.0	ug/L		03/14/18 14:09	03/20/18 00:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	32		15 - 110	03/14/18 14:09	03/20/18 00:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	582		20.0	4.90	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorohexanoic acid (PFHxA)	2150		20.0	5.80	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluoroheptanoic acid (PFHpA)	491		20.0	2.50	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorooctanoic acid (PFOA)	1690		20.0	8.50	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorononanoic acid (PFNA)	94.3		20.0	2.70	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorodecanoic acid (PFDA)	66.4		20.0	3.10	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluoroundecanoic acid (PFUnA)	11.0	U	20.0	11.0	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorododecanoic acid (PFDoA)	5.50	U	20.0	5.50	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorotridecanoic Acid (PFTriA)	13.0	U	20.0	13.0	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorotetradecanoic acid (PFTeA)	2.90	U	20.0	2.90	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorohexanesulfonic acid (PFHxS)	447	B	20.0	1.70	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	U	20.0	1.90	ng/L		03/26/18 16:46	03/27/18 12:21	1

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Seneca Meadows LF - Region 8

TestAmerica Job ID: 480-132499-1

**Client Sample ID: SENECA MEADOWS RAWLEACHATE  
20180312**

**Lab Sample ID: 480-132499-3**

Date Collected: 03/12/18 12:45

Matrix: Water

Date Received: 03/13/18 10:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>173</b>		20.0	5.40	ng/L		03/26/18 16:46	03/27/18 12:21	1
Perfluorodecanesulfonic acid (PFDS)	3.20	U	20.0	3.20	ng/L		03/26/18 16:46	03/27/18 12:21	1
<b>Perfluorooctane Sulfonamide (FOSA)</b>	<b>3.90</b>	<b>J</b>	20.0	3.50	ng/L		03/26/18 16:46	03/27/18 12:21	1
<b>N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)</b>	<b>78.5</b>	<b>J</b>	200	31.0	ng/L		03/26/18 16:46	03/27/18 12:21	1
<b>N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)</b>	<b>73.2</b>	<b>J</b>	200	19.0	ng/L		03/26/18 16:46	03/27/18 12:21	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C5 PFPeA	46		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C2 PFHxA	64		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C4-PFHpA	78		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C4 PFOA	74		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C5 PFNA	110		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C2 PFDA	131		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C2 PFUnA	117		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C2 PFDoA	94		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C2-PFTeDA	34		25 - 150				03/26/18 16:46	03/27/18 12:21	1
18O2 PFHxS	109		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C4 PFOS	130		25 - 150				03/26/18 16:46	03/27/18 12:21	1
13C8 FOSA	115		25 - 150				03/26/18 16:46	03/27/18 12:21	1
d3-NMeFOSAA	145		25 - 150				03/26/18 16:46	03/27/18 12:21	1
d5-NEtFOSAA	147		25 - 150				03/26/18 16:46	03/27/18 12:21	1

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>1770</b>	<b>D B</b>	200	35.0	ng/L		03/26/18 16:46	03/27/18 16:55	10
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>5010</b>	<b>D</b>	200	20.0	ng/L		03/26/18 16:46	03/27/18 16:55	10
<b>6:2FTS</b>	<b>218</b>	<b>J D</b>	2000	200	ng/L		03/26/18 16:46	03/27/18 16:55	10
8:2FTS	200	U	2000	200	ng/L		03/26/18 16:46	03/27/18 16:55	10
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	39	*	25 - 150				03/26/18 16:46	03/27/18 16:55	10
13C3-PFBS	76	*	25 - 150				03/26/18 16:46	03/27/18 16:55	10
M2-6:2FTS	227	*	25 - 150				03/26/18 16:46	03/27/18 16:55	10
M2-8:2FTS	111	*	25 - 150				03/26/18 16:46	03/27/18 16:55	10

**Client Sample ID: SENECA MEADOWS CONCENTRATE  
20180312**

**Lab Sample ID: 480-132499-4**

Date Collected: 03/12/18 12:25

Matrix: Water

Date Received: 03/13/18 10:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,4-Dioxane</b>	<b>530</b>	<b>E</b>	2.0	1.0	ug/L		03/14/18 14:09	03/20/18 00:33	1

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Seneca Meadows LF - Region 8

TestAmerica Job ID: 480-132499-1

**Client Sample ID: SENECA MEADOWS CONCENTRATE  
20180312**

**Lab Sample ID: 480-132499-4**

**Date Collected: 03/12/18 12:25**

**Matrix: Water**

**Date Received: 03/13/18 10:45**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane-d8	41		15 - 110				03/14/18 14:09	03/20/18 00:33	1
<b>Method: 537 (modified) - Fluorinated Alkyl Substances</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	1440		20.0	4.90	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluoroheptanoic acid (PFHpA)	1270		20.0	2.50	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorononanoic acid (PFNA)	515		20.0	2.70	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorodecanoic acid (PFDA)	414		20.0	3.10	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluoroundecanoic acid (PFUnA)	34.1		20.0	11.0	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorododecanoic acid (PFDoA)	11.7	J	20.0	5.50	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorotridecanoic Acid (PFTriA)	13.0	U	20.0	13.0	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorotetradecanoic acid (PFTeA)	2.90	U	20.0	2.90	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorohexanesulfonic acid (PFHxS)	1150	B	20.0	1.70	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	5.35	J	20.0	1.90	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorooctanesulfonic acid (PFOS)	984		20.0	5.40	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorodecanesulfonic acid (PFDS)	3.30	J	20.0	3.20	ng/L		03/26/18 16:46	03/27/18 12:29	1
Perfluorooctane Sulfonamide (FOSA)	41.3		20.0	3.50	ng/L		03/26/18 16:46	03/27/18 12:29	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	333		200	31.0	ng/L		03/26/18 16:46	03/27/18 12:29	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	317		200	19.0	ng/L		03/26/18 16:46	03/27/18 12:29	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFPeA	33		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C4-PFHpA	75		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C5 PFNA	112		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C2 PFDA	151	*	25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C2 PFUnA	136		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C2 PFDoA	91		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C2-PFTeDA	22	*	25 - 150				03/26/18 16:46	03/27/18 12:29	1
18O2 PFHxS	119		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C4 PFOS	138		25 - 150				03/26/18 16:46	03/27/18 12:29	1
13C8 FOSA	113		25 - 150				03/26/18 16:46	03/27/18 12:29	1
d3-NMeFOSAA	170	*	25 - 150				03/26/18 16:46	03/27/18 12:29	1
d5-NEtFOSAA	177	*	25 - 150				03/26/18 16:46	03/27/18 12:29	1

<b>Method: 537 (modified) - Fluorinated Alkyl Substances - DL</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	5370	D	200	58.0	ng/L		03/26/18 16:46	03/27/18 17:03	10
Perfluorooctanoic acid (PFOA)	4160	D	200	85.0	ng/L		03/26/18 16:46	03/27/18 17:03	10
Perfluorobutanesulfonic acid (PFBS)	15200	D	200	20.0	ng/L		03/26/18 16:46	03/27/18 17:03	10
6:2FTS	570	J D	2000	200	ng/L		03/26/18 16:46	03/27/18 17:03	10
8:2FTS	216	J D	2000	200	ng/L		03/26/18 16:46	03/27/18 17:03	10

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Seneca Meadows LF - Region 8

TestAmerica Job ID: 480-132499-1

**Client Sample ID: SENECA MEADOWS CONCENTRATE 20180312**

**Lab Sample ID: 480-132499-4**

Date Collected: 03/12/18 12:25

Matrix: Water

Date Received: 03/13/18 10:45

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	57	*	25 - 150	03/26/18 16:46	03/27/18 17:03	10
13C4 PFOA	71	*	25 - 150	03/26/18 16:46	03/27/18 17:03	10
13C3-PFBS	58	*	25 - 150	03/26/18 16:46	03/27/18 17:03	10
M2-6:2FTS	257	*	25 - 150	03/26/18 16:46	03/27/18 17:03	10
M2-8:2FTS	147	*	25 - 150	03/26/18 16:46	03/27/18 17:03	10

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL2**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4520	D B	2000	350	ng/L		03/26/18 16:46	03/27/18 11:42	100

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	44	*	25 - 150	03/26/18 16:46	03/27/18 11:42	100

**Client Sample ID: SENECA MEADOWS PERMEATE 20180312**

**Lab Sample ID: 480-132499-5**

Date Collected: 03/12/18 12:35

Matrix: Water

Date Received: 03/13/18 10:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.21		0.20	0.10	ug/L		03/14/18 14:09	03/20/18 00:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	27		15 - 110	03/14/18 14:09	03/20/18 00:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.46	J B	1.80	0.31	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluoropentanoic acid (PFPeA)	0.44	U	1.80	0.44	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorohexanoic acid (PFHxA)	0.52	U	1.80	0.52	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluoroheptanoic acid (PFHpA)	0.22	U	1.80	0.22	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorooctanoic acid (PFOA)	0.76	U	1.80	0.76	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorononanoic acid (PFNA)	0.24	U	1.80	0.24	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorodecanoic acid (PFDA)	0.28	U	1.80	0.28	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluoroundecanoic acid (PFUnA)	0.99	U	1.80	0.99	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorododecanoic acid (PFDoA)	0.49	U	1.80	0.49	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorotridecanoic Acid (PFTriA)	1.17	U	1.80	1.17	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorotetradecanoic acid (PFTeA)	0.26	U	1.80	0.26	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorobutanesulfonic acid (PFBS)	0.18	U	1.80	0.18	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorohexanesulfonic acid (PFHxS)	0.25	J B	1.80	0.15	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.17	U	1.80	0.17	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorooctanesulfonic acid (PFOS)	0.49	U	1.80	0.49	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorodecanesulfonic acid (PFDS)	0.29	U	1.80	0.29	ng/L		03/26/18 16:46	03/27/18 11:10	1
Perfluorooctane Sulfonamide (FOSA)	0.31	U	1.80	0.31	ng/L		03/26/18 16:46	03/27/18 11:10	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.79	U	18.0	2.79	ng/L		03/26/18 16:46	03/27/18 11:10	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.71	U	18.0	1.71	ng/L		03/26/18 16:46	03/27/18 11:10	1
6:2FTS	1.80	U	18.0	1.80	ng/L		03/26/18 16:46	03/27/18 11:10	1
8:2FTS	1.80	U	18.0	1.80	ng/L		03/26/18 16:46	03/27/18 11:10	1

TestAmerica Buffalo

## **Exhibit C**

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Ontario Sanitary LF - Region 8

TestAmerica Job ID: 480-132645-1

**Client Sample ID: ONTARIO COUNTY STAGE 120180314**

**Lab Sample ID: 480-132645-1**

**Date Collected: 03/14/18 10:04**

**Matrix: Water**

**Date Received: 03/15/18 09:50**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,4-Dioxane</b>	<b>91</b>	<b>E</b>	2.0	1.0	ug/L		03/16/18 14:18	03/21/18 04:39	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane-d8	41		15 - 110				03/16/18 14:18	03/21/18 04:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>2130</b>	<b>D</b>	39.9	9.77	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>3040</b>	<b>D</b>	39.9	11.6	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>1140</b>	<b>D</b>	39.9	4.98	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorooctanoic acid (PFOA)</b>	<b>3270</b>	<b>D</b>	39.9	16.9	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorononanoic acid (PFNA)</b>	<b>256</b>	<b>D</b>	39.9	5.38	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorodecanoic acid (PFDA)</b>	<b>586</b>	<b>D</b>	39.9	6.18	ng/L		03/27/18 13:19	04/03/18 17:08	20
Perfluoroundecanoic acid (PFUnA)	21.9	U	39.9	21.9	ng/L		03/27/18 13:19	04/03/18 17:08	20
Perfluorododecanoic acid (PFDoA)	11.0	U	39.9	11.0	ng/L		03/27/18 13:19	04/03/18 17:08	20
Perfluorotridecanoic Acid (PFTriA)	25.9	U	39.9	25.9	ng/L		03/27/18 13:19	04/03/18 17:08	20
Perfluorotetradecanoic acid (PFTeA)	5.78	U	39.9	5.78	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>492</b>	<b>D</b>	39.9	3.99	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>342</b>	<b>D B</b>	39.9	3.39	ng/L		03/27/18 13:19	04/03/18 17:08	20
Perfluoroheptanesulfonic Acid (PFHpS)	3.79	U	39.9	3.79	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>442</b>	<b>D</b>	39.9	10.8	ng/L		03/27/18 13:19	04/03/18 17:08	20
Perfluorodecanesulfonic acid (PFDS)	6.38	U	39.9	6.38	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>Perfluorooctane Sulfonamide (FOSA)</b>	<b>17.8</b>	<b>J D</b>	39.9	6.98	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)</b>	<b>62.2</b>	<b>J D</b>	399	61.8	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)</b>	<b>218</b>	<b>J D</b>	399	37.9	ng/L		03/27/18 13:19	04/03/18 17:08	20
<b>6:2FTS</b>	<b>1830</b>	<b>D</b>	399	39.9	ng/L		03/27/18 13:19	04/03/18 17:08	20
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFPeA	58	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C2 PFHxA	74	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C4-PFHpA	88	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C4 PFOA	99	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C5 PFNA	116	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C2 PFDA	116	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C2 PFUnA	94	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C2 PFDoA	54	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C2-PFTeDA	11	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C3-PFBS	91	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
18O2 PFHxS	100	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C4 PFOS	99	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
13C8 FOSA	103	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
d3-NMeFOSAA	144	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
d5-NEtFOSAA	142	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20
M2-6:2FTS	453	*	25 - 150				03/27/18 13:19	04/03/18 17:08	20

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Ontario Sanitary LF - Region 8

TestAmerica Job ID: 480-132645-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>2310</b>	<b>D</b>	199	34.9	ng/L		03/27/18 13:19	03/30/18 16:03	100
8:2FTS	199	U	1990	199	ng/L		03/27/18 13:19	03/30/18 16:03	100
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	25	*	25 - 150				03/27/18 13:19	03/30/18 16:03	100
M2-8:2FTS	117	*	25 - 150				03/27/18 13:19	03/30/18 16:03	100

**Client Sample ID: ONTARIO COUNTY STAGE 1X-B1 20180314**

**Lab Sample ID: 480-132645-2**

Date Collected: 03/14/18 11:10

Matrix: Water

Date Received: 03/15/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,4-Dioxane</b>	<b>28</b>	<b>E</b>	2.0	1.0	ug/L		03/16/18 14:18	03/21/18 05:03	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,4-Dioxane-d8	45		15 - 110				03/16/18 14:18	03/21/18 05:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>311</b>		2.04	0.50	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>151</b>		2.04	0.26	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>285</b>		2.04	0.87	ng/L		03/27/18 13:47	03/31/18 08:26	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.04	0.56	ng/L		03/27/18 13:47	03/31/18 08:26	1
Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.04	1.33	ng/L		03/27/18 13:47	03/31/18 08:26	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.04	0.30	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>154</b>		2.04	0.20	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>143</b>	<b>B</b>	2.04	0.17	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>Perfluorooctane Sulfonamide (FOSA)</b>	<b>1.99</b>	<b>J</b>	2.04	0.36	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>6:2FTS</b>	<b>210</b>		20.4	2.04	ng/L		03/27/18 13:47	03/31/18 08:26	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C5 PFPeA	27		25 - 150				03/27/18 13:47	03/31/18 08:26	1
13C4-PFHpA	80		25 - 150				03/27/18 13:47	03/31/18 08:26	1
13C4 PFOA	97		25 - 150				03/27/18 13:47	03/31/18 08:26	1
13C2 PFDoA	74		25 - 150				03/27/18 13:47	03/31/18 08:26	1
13C2-PFTeDA	28		25 - 150				03/27/18 13:47	03/31/18 08:26	1
13C3-PFBS	103		25 - 150				03/27/18 13:47	03/31/18 08:26	1
18O2 PFHxS	138		25 - 150				03/27/18 13:47	03/31/18 08:26	1
13C8 FOSA	130		25 - 150				03/27/18 13:47	03/31/18 08:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>932</b>	<b>D</b>	20.4	3.58	ng/L		03/27/18 13:47	03/31/18 07:00	10
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>843</b>	<b>D</b>	20.4	5.93	ng/L		03/27/18 13:47	03/31/18 07:00	10
<b>Perfluorononanoic acid (PFNA)</b>	<b>15.4</b>	<b>J D</b>	20.4	2.76	ng/L		03/27/18 13:47	03/31/18 07:00	10
<b>Perfluorodecanoic acid (PFDA)</b>	<b>8.46</b>	<b>J D</b>	20.4	3.17	ng/L		03/27/18 13:47	03/31/18 07:00	10
Perfluoroundecanoic acid (PFUnA)	11.2	U	20.4	11.2	ng/L		03/27/18 13:47	03/31/18 07:00	10
Perfluoroheptanesulfonic Acid (PFHpS)	1.94	U	20.4	1.94	ng/L		03/27/18 13:47	03/31/18 07:00	10
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>65.8</b>	<b>D</b>	20.4	5.52	ng/L		03/27/18 13:47	03/31/18 07:00	10
Perfluorodecanesulfonic acid (PFDS)	3.27	U	20.4	3.27	ng/L		03/27/18 13:47	03/31/18 07:00	10
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	31.7	U	204	31.7	ng/L		03/27/18 13:47	03/31/18 07:00	10

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Ontario Sanitary LF - Region 8

TestAmerica Job ID: 480-132645-1

**Client Sample ID: ONTARIO COUNTY STAGE 1X-B1 20180314**

**Lab Sample ID: 480-132645-2**

Date Collected: 03/14/18 11:10

Matrix: Water

Date Received: 03/15/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	19.4	U	204	19.4	ng/L		03/27/18 13:47	03/31/18 07:00	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	10	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
13C2 PFHxA	71	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
13C5 PFNA	110	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
13C2 PFDA	106	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
13C2 PFUnA	78	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
13C4 PFOS	93	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
d3-NMeFOSAA	121	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
d5-NEtFOSAA	115	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10
M2-6:2FTS	326	*	25 - 150				03/27/18 13:47	03/31/18 07:00	10

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL2**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2FTS	204	U	2040	204	ng/L		03/27/18 13:47	03/30/18 16:11	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
M2-8:2FTS	119	*	25 - 150				03/27/18 13:47	03/30/18 16:11	100

**Client Sample ID: ONTARIO COUNTY LAGOON 20180314**

**Lab Sample ID: 480-132645-3**

Date Collected: 03/14/18 12:00

Matrix: Water

Date Received: 03/15/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	110	E	2.0	1.0	ug/L		03/16/18 14:18	03/21/18 05:27	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	35		15 - 110				03/16/18 14:18	03/21/18 05:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2560		40.6	7.11	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluoropentanoic acid (PFPeA)	948		40.6	9.95	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorohexanoic acid (PFHxA)	2510		40.6	11.8	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluoroheptanoic acid (PFHpA)	501		40.6	5.08	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorooctanoic acid (PFOA)	1990		40.6	17.3	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorononanoic acid (PFNA)	113		40.6	5.48	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorodecanoic acid (PFDA)	119		40.6	6.30	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluoroundecanoic acid (PFUnA)	22.3	U	40.6	22.3	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorododecanoic acid (PFDoA)	11.2	U	40.6	11.2	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorotridecanoic Acid (PFTriA)	26.4	U	40.6	26.4	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorotetradecanoic acid (PFTeA)	5.89	U	40.6	5.89	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorobutanesulfonic acid (PFBS)	2750		40.6	4.06	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorohexanesulfonic acid (PFHxS)	576	B	40.6	3.45	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluoroheptanesulfonic Acid (PFHpS)	17.0	J	40.6	3.86	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorooctanesulfonic acid (PFOS)	459		40.6	11.0	ng/L		03/27/18 13:47	03/31/18 07:08	20
Perfluorodecanesulfonic acid (PFDS)	6.50	U	40.6	6.50	ng/L		03/27/18 13:47	03/31/18 07:08	20

TestAmerica Buffalo

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: Ontario Sanitary LF - Region 8

TestAmerica Job ID: 480-132645-1

**Client Sample ID: ONTARIO COUNTY LAGOON 20180314**

**Lab Sample ID: 480-132645-3**

Date Collected: 03/14/18 12:00

Matrix: Water

Date Received: 03/15/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctane Sulfonamide (FOSA)	9.05	J	40.6	7.11	ng/L		03/27/18 13:47	03/31/18 07:08	20
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	137	J	406	63.0	ng/L		03/27/18 13:47	03/31/18 07:08	20
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	84.7	J	406	38.6	ng/L		03/27/18 13:47	03/31/18 07:08	20
6:2FTS	457		406	40.6	ng/L		03/27/18 13:47	03/31/18 07:08	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	6	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C5 PFPeA	38	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C2 PFHxA	65	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C4-PFHpA	90	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C4 PFOA	98	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C5 PFNA	103	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C2 PFDA	107	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C2 PFUnA	85	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C2 PFDoA	48	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C2-PFTeDA	10	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C3-PFBS	126	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
18O2 PFHxS	99	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C4 PFOS	95	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
13C8 FOSA	94	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
d3-NMeFOSAA	133	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
d5-NEtFOSAA	138	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20
M2-6:2FTS	336	*	25 - 150				03/27/18 13:47	03/31/18 07:08	20

**Method: 537 (modified) - Fluorinated Alkyl Substances - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2FTS	203	U	2030	203	ng/L		03/27/18 13:47	03/30/18 16:19	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
M2-8:2FTS	120	*	25 - 150				03/27/18 13:47	03/30/18 16:19	100

## **Exhibit D**

# Detection Summary

Client: New York State D.E.C.  
Project/Site: Hyland Landfill Region 9

TestAmerica Job ID: 480-133255-1

**Client Sample ID: R9-032818-C1**

**Lab Sample ID: 480-133255-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	120	E	2.0	1.0	ug/L	1		8270D SIM ID	Total/NA
Perfluorobutanoic acid (PFBA)	3170		20.3	3.55	ng/L	10		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1310		20.3	4.97	ng/L	10		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3050		20.3	5.89	ng/L	10		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	968		20.3	2.54	ng/L	10		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2510	B	20.3	8.63	ng/L	10		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	92.3		20.3	2.74	ng/L	10		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	120		20.3	3.15	ng/L	10		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	41.3		20.3	11.2	ng/L	10		537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	35.9		20.3	5.58	ng/L	10		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1830		20.3	2.03	ng/L	10		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	747	B	20.3	1.73	ng/L	10		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	7.41	J	20.3	1.93	ng/L	10		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	326		20.3	5.48	ng/L	10		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	13.3	J	20.3	3.55	ng/L	10		537 (modified)	Total/NA
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	352		203	31.5	ng/L	10		537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	302		203	19.3	ng/L	10		537 (modified)	Total/NA
6:2FTS	234		203	20.3	ng/L	10		537 (modified)	Total/NA
8:2FTS	82.8	J	203	20.3	ng/L	10		537 (modified)	Total/NA

**Client Sample ID: R9-032818-POND**

**Lab Sample ID: 480-133255-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	69	E	2.0	1.0	ug/L	1		8270D SIM ID	Total/NA
Perfluorobutanoic acid (PFBA)	2320		19.8	3.47	ng/L	10		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	426		19.8	4.86	ng/L	10		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1550		19.8	5.76	ng/L	10		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	304		19.8	2.48	ng/L	10		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	895	B	19.8	8.44	ng/L	10		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	59.4		19.8	2.68	ng/L	10		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	140		19.8	3.08	ng/L	10		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	14.7	J	19.8	10.9	ng/L	10		537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	16.1	J	19.8	5.46	ng/L	10		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2150		19.8	1.98	ng/L	10		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	312	B	19.8	1.69	ng/L	10		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	5.44	J	19.8	1.89	ng/L	10		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	193		19.8	5.36	ng/L	10		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	16.5	J	19.8	3.47	ng/L	10		537 (modified)	Total/NA
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	213		198	30.8	ng/L	10		537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	93.4	J	198	18.9	ng/L	10		537 (modified)	Total/NA
6:2FTS	209		198	19.8	ng/L	10		537 (modified)	Total/NA
8:2FTS	37.1	J	198	19.8	ng/L	10		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.