

October 1, 2019
LKB Project No. 2019-0059

Arsheen Ehtesham
New York City Department of Parks and Recreation
Environmental Remediation Unit
Olmsted Center, Flushing Meadows, Corona Park
Flushing, NY 11368

Re: Brookfield Avenue Landfill (DEC Site No. 2-43-006)
2019 Emerging Contaminant Groundwater Monitoring Results

Dear Ms. Ehtesham,

This letter-style report contains the 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS) monitoring results for the Brookfield Avenue Landfill (BAL) site. This additional monitoring was requested by the New York State Department of Environmental Conservation (NYSDEC) in a November 9, 2018 letter to the New York City Department of Parks and Recreation (DPR), as part of its ongoing state-wide assessment of emerging contaminant concentrations in groundwater. The letter also requested that a work plan be prepared and submitted to the NYSDEC for approval prior to being implemented.

The Final Work Plan (Work Plan) was submitted to the NYSDEC on January 4, 2019, and was subsequently approved by the NYSDEC. The monitoring was performed in March 2019, in conjunction with the BAL annual post-closure groundwater monitoring round. The Work Plan called for the collection of samples from eight of the site's 23 long-term monitoring wells. The selected wells identified in the table below are screened in the uppermost aquifer (Upper Glacial) and located upgradient and downgradient of both landfill cells (West and East). A total of three wells are located in the West Cell and five wells in the East Cell. The locations of the wells relative to the water-table elevation in March 2019 are shown in Figure 1.

Well Number	Location
LTMW-8	Upgradient of West Cell
LTMW-1	Downgradient of West Cell, located in groundwater discharge area
LTMW-3	Downgradient of West Cell
LTMW-10	Upgradient of East Cell
LTMW-12	Downgradient of East Cell
LTMW-15	Downgradient of East Cell
LTMW-16	Downgradient of East Cell
LTMW-18ug	Downgradient of East Cell

The samples were collected by Brookfield Construction Associates (BCA), the DPR Operation, Maintenance and Monitoring (OM&M) contractor for the site and their laboratory subcontractor Accredited Analytical Resources, LLC of Carteret, NJ (AAR). AAR performed the 1,4-dioxane analyses, but is not state-certified to perform PFAS analyses. Therefore, AAR subcontracted the PFAS analyses to Eurofins QC Laboratories, Inc. in Horsham, PA, which in turn subcontracted them to its affiliate Eurofins Lancaster Laboratories Environmental, LLC in Lancaster, PA, which is state-certified to perform PFAS analyses. The 1,4-dioxane and PFAS sample results are summarized in Table 1. The laboratory analytical reports are provided in Attachment 1. The key findings and conclusions are summarized below.

The monitoring data was validated along with the remaining post-closure groundwater monitoring data in accordance with the requirements of the BAL OU1 Post-Closure Monitoring, Sampling and Analysis Plan. The Data Usability Summary Report was included in the BAL Annual Post-Closure Operation, Maintenance and Monitoring Report for the period April 1, 2018 to March 31, 2019.

1,4-Dioxane Results

Monitoring for 1,4-dioxane was performed in accordance with the Work Plan with the following exception: two additional wells not included in the Work Plan (LTMW-4 and LTMW-6) were also sampled for 1,4 dioxane. The Work Plan Quality Assurance/Quality Control (QA/QC) samples for blind duplicate and the matrix spike/matrix spike duplicate (MS/MSD) were collected from wells LTMW-6 and LTMW-4, respectively. The noted deviations from the Work Plan do not significantly impact the findings, and provide 1,4-dioxane results for two additional wells, which are located sidegradient to the West Cell of the BAL. In addition, since the approval of the Work Plan, the New York State Department of Health (NYSDOH) proposed a 1-ug/L standard for 1,4-dioxane in drinking water (which has been accepted by the NYSDEC as their internal guidance value). Since the Work Plan stated that should the available, applicable guidance and health advisory levels change prior to reporting, the results should be compared to the new standards or guidance values. Therefore, Table 1 includes a comparison to the current NYSDOH proposed drinking water standard.

As shown in Table 1, 1,4-dioxane was only detected in five of the 10 wells sampled for this parameter, in three West Cell wells and two East Cell wells, including both upgradient wells. Two of the three West Cell well detections (Upgradient LTMW-8, 106 micrograms per Liter (ug/L) and Downgradient LTMW-1, 114 ug/L) were much higher in concentration than other three detections (0.335 to 13.6 ug/L). The higher 1,4-dioxane concentrations detected in LTMW-8 and LTMW-1 are attributed to an off-site, upgradient source based on their spatial distribution and high degree of comparability. 1,4-dioxane was only detected at trace levels (0.335 ug/L) in the other downgradient West Cell well sampled (LTMW-3) and was not detected in the two additional sidegradient West Cell wells sampled (LTMW-4 and LTMW-6). This is attributed to the fact that these three West Cell wells are not located directly downgradient of the upgradient source (see Figure 1).

In the East Cell wells, 1,4-dioxane was detected at a relatively low concentration in the upgradient well (LTMW-10, 0.748 ug/L) and at a somewhat higher concentration in one of the four downgradient wells (LTMW-18ug, 13.6 ug/L). It was not detected in the other three downgradient East Cell wells.

Regarding the QA/QC-related samples, 1,4-dioxane was not detected in the two field blanks or in the duplicate sample from LTMW-6. The MS/MSD percent recoveries for 1,4-dioxane were within the acceptable range.

Based on the occurrence and distribution of 1,4-dioxane in the 10 wells sampled for this parameter, the West Cell, which is the oldest portion of the site, is not a significant source of 1,4-dioxane releases to groundwater, despite the fact that relatively high concentrations were detected in the upgradient well and one of the two downgradient wells sampled; and the newer East Cell is only a relatively minor source of localized 1,4-dioxane releases to groundwater based on the fact that it was only detected in one of the four downgradient wells, at a concentration somewhat higher than in the upgradient well.

While there are currently no official standards for 1,4-dioxane in water, the BAL 1,4-dioxane results were compared to the recently proposed NYSDOH standard for drinking water of a 1-ug/L, and the United States Environmental Protection Agency (USEPA) screening level for tap water of 0.46-ug/L. Three of the five 1,4-dioxane detections, including the West Cell upgradient well, are higher than both of these values while the 1,4-dioxane detections in the East Cell upgradient well was higher than the USEPA screening level for tap water but lower than the NYSDOH recently proposed standard for drinking water. The magnitudes of the exceedances varied over two orders of magnitude, but the two highest-magnitude exceedances are not site-related and attributed instead to an off-site source upgradient of the West Cell.

PFAS Results

Monitoring for PFAS was performed in accordance with the Work Plan with the following exceptions: (i) an additional field blank was collected and analyzed for (i.e., two instead of one); (ii) the blind duplicate and the MS/MSD sample for PFAS were collected from LTMW-3 on March 14, 2019, whereas the original sample from this well was collected on March 11, 2019; and (iii) seven of the target analytes were not able to be reported due to a laboratory documentation error. The noted deviations from the Work Plan do not significantly impact the findings as further discussed in the paragraphs below. In addition, since the approval of the Work Plan, the NYSDOH proposed a 10-ng/L standard for drinking water for perfluorooctanoic acid (PFOA) and perfluoro-octanesulfonate (PFOS). Since the Work Plan stated that should the available, applicable guidance and health advisory levels change prior to reporting, the results should be compared to the new standards or guidance values. Therefore, Table 1 includes a comparison to the current NYSDOH proposed drinking water standards.

The samples were analyzed for PFAS using Method 537 instead of Modified Method 537 and due to differences between the analyte lists of the two laboratory methods, results are not available for seven of the target analytes. However, since results are available for the 14 other analytes, including the only two for which a federal health advisory and a proposed state drinking water standard exist, and the groundwater beneath the site is naturally saline and therefore non-potable, the available results should be sufficient to assess overall PFAS concentrations in groundwater at the site. Specifically, although AAR provided Eurofins QC Laboratories, Inc. with a copy of the Full PFAS Target Analyte List in the NYSDEC's July 2018 document titled "Groundwater Sampling for Emerging Contaminants", Eurofins QC Laboratories, Inc. incorrectly logged the samples in as drinking water samples before transferring them to Eurofins Lancaster Laboratories Environmental, LLC for analysis, and did not include the Full PFAS Target Analyte List with the samples. Consequently, Eurofins Lancaster Laboratories, LLC analyzed the samples as drinking water samples by Method 537 instead of as groundwater samples by

Modified Method 537. Due to differences between the analyte lists of the two laboratory methods, results are not available for seven of the target analytes. Reprocessing of the laboratory data files to obtain results for the missing analytes was requested and explored but determined not to be possible because spikes for the missing parameters were not included in the Method 537 analyses.

As shown in Table 1, PFAS were detected in seven of the eight wells sampled for these parameters, including both upgradient wells. Similar to the 1,4-dioxane results, total PFAS concentrations in West Cell wells LTMW-8 (858 nanograms per Liter (ng/L)) and LTMW-1 (1,109 ng/L), located upgradient and downgradient, respectively, were much higher than in the other five wells, and also exhibited a high degree of comparability. The total PFAS concentration in the other downgradient West Cell well (LTMW-3, 4.2 J ng/L) was due to low, estimated concentrations of just three analytes, which is also similar to the 1,4-dioxane result for this well. In accordance with the Work Plan requirements, West Cell sidegradient wells LTMW-4 and LTMW-6 were not sampled for PFAS. In the East Cell wells, PFAS were primarily detected in the same two wells in which 1,4-dioxane was detected (Upgradient LTMW-10 and Downgradient LTMW-18ug), at comparable total concentrations of 43.2 J ng/L and 40.4 ng/L, respectively. Total PFAS concentrations in the other downgradient East Cell wells were limited to low, estimated concentrations of 2.7 ng/L and 0.89 ng/L, in two of the three wells.

Regarding the QA/QC-related samples, PFAS were not detected in the field blanks. Although the sample and blind duplicate from LTMW-3 were collected on different days, the results overall are relatively similar and the observed differences are primarily attributed to temporal variation in groundwater quality. The MS/MSD percent recoveries for PFAS were within acceptable limits. The relative percent difference for the spiked-sample results (35%) was slightly higher than the maximum (30%), but this is attributed to the higher degree of analytical variation inherent in analyzing samples for low concentrations of PFAS.

Based on the occurrence and distribution of PFAS in the eight wells sampled, neither the West Cell nor the East Cell is a significant source of PFAS releases to groundwater. This determination is based on the fact that total PFAS concentrations in the upgradient well for each cell exhibited a high degree of comparability to the highest total PFAS concentration in a downgradient well for that cell, and that PFAS concentrations in the other downgradient wells are limited to low, estimated concentrations.

While there are currently no official standards for PFAS, two of the PFAS analytes – PFOA and PFOS now have a NYSDOH proposed drinking water standard of 10 ng/L for each compound, and the USEPA has a health advisory level for drinking water of 70 ng/L for each compound or their sum. Results are available for both compounds and were compared to these values. In the West Cell wells, the concentrations of PFOA and PFOS in both upgradient well LTMW-8 and downgradient well LTMW-1 exceed both values, but are similar in magnitude. PFOA and PFOS concentrations detected in the other downgradient West Cell well (LTMW-3) were much lower than these values. In the East Cell wells, only the concentrations of PFOA in upgradient well LTMW-10 and one of the four downgradient wells (LTMW-18ug) exceeded the NYSDOH proposed drinking water standard, and were similar in magnitude. PFOA and PFOS concentrations in the other three East Cell wells were lower than the NYSDOH and USEPA values.

Conclusions

In summary, based on the results of the additional monitoring for 1,4-dioxane and PFAS performed in March 2019, the BAL site is not a significant source of these emerging contaminants in groundwater. For the older West Cell, the higher concentrations of 1,4-dioxane, PFOA and PFOS detected in upgradient well LTMW-8 and downgradient well LTMW-1 show a high degree of comparability, and are attributed to an off-site, upgradient source. The newer East Cell appears to be only a minor, localized source of 1,4-dioxane based on the fact that the concentration in one downgradient well (LTMW-18ug) is somewhat higher than in upgradient well LTMW-10, but PFAS concentrations in these two wells are comparable. 1,4-dioxane and PFAS concentrations in the other three downgradient East Cell wells are negligible. The presence of 1,4-dioxane, PFOA and PFOS in the upgradient wells suggests that the occurrence of these parameters at the site represents the regional groundwater quality.

Please contact our office if you have any questions regarding the information in this report.

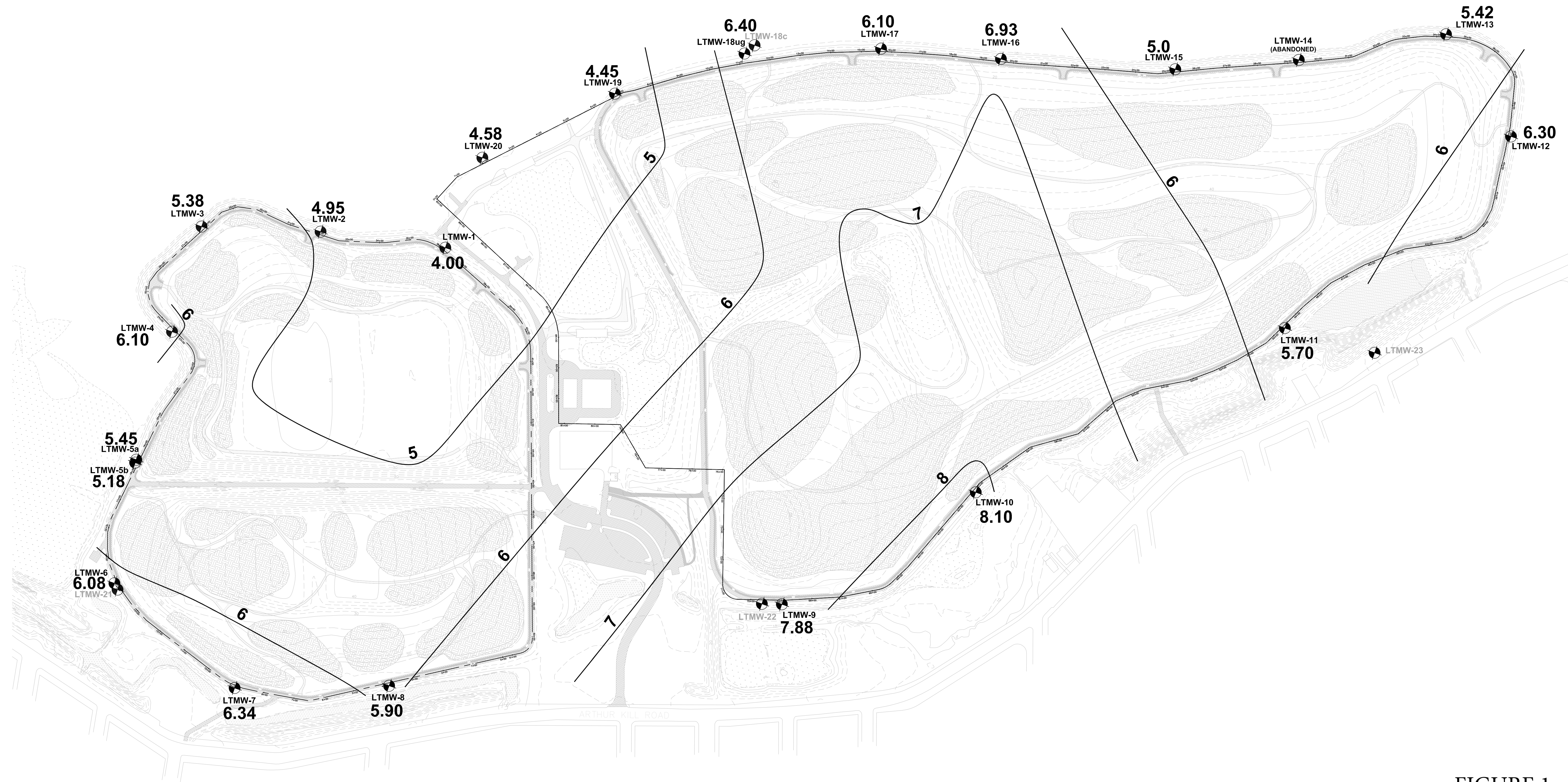
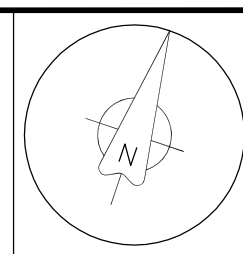
Sincerely,
LOCKWOOD, KESSLER & BARTLETT, INC.



Theresa Heneveld, PE
Director of Environmental Engineering

C.c. K. Zias – DPR

Attachments (Figure 1, Table 1 and Attachment 1)



NOTE:
1. WHEN COMPARING WATER LEVEL MAP
TO MAPS GENERATED PRIOR TO 2017,
SEE NOTES ON THE SYNOPTIC WATER
LEVEL MEASUREMENT TABLE OF THIS
REPORT.

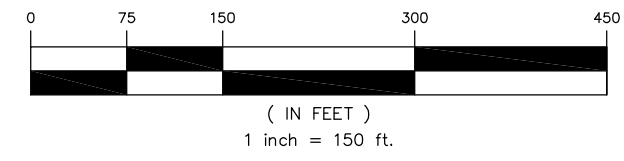
LEGEND

LTMW-8
7.50

8

LONG-TERM GROUNDWATER MONITORING WELL
AND GROUND WATER LEVEL ELEVATION

GROUNDWATER ELEVATION CONTOUR



Layou Inc.

PROFESSIONAL LAND SURVEYORS
CONSTRUCTION SURVEYING SPECIALISTS
N.Y. Certificate of Authorization #3542768
24 Kanouse Road
Newfoundland, N.J. 07435
Ph: 973-249-0900 Fax: 973-838-6433

FIGURE 1

UPPER GLACIAL WELLS - WATER LEVEL MAP MARCH 2019	Drawn By: MP
BROOKFIELD AVENUE LANDFILL	Checked: JB
Prepared For: CITY OF NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION	Scale: 1"=150'
BROOKFIELD CONSTRUCTION ASSOCIATES, LLC 136 CENTRAL AVENUE CLARK, NJ 07066	Date: 05-16-19
	Proj. No.: 2857
	Page: Figure 7

User Name : mpawakawa Date/Time : Thu, 16 May 2019 - 12:04pm Path/Name : C:\Layout\1-Archive\2857-Brookfield-Landfill\CML_30\Drawings\2857-GW-MW-WATER ELEV.dwg - Layout_1.dwg - MARCH 2019-UPPER GLACIAL

Table 1
Brookfield Avenue Landfill 2019 Groundwater Monitoring Event
Summary of Groundwater Monitoring Results for Emerging Contaminants

Emerging Contaminants	Units	West Cell Wells Sampled							East Cell Wells Sampled					
		Upgradient Well	Additional Sidegradient Wells ¹				Downgradient Wells			Upgradient Well	Downgradient Wells			
		LTMW-8	LTMW-4	LTMW-6	LTMW-6 Dup.	LTMW-1	LTMW-3	LTMW-3 Dup. ²	LTMW-10	LTMW-12	LTMW-15	LTMW-16	LTMW-18ug	
		3/12/2019	3/14/2019	3/15/2019	3/15/2019	3/11/2019	3/11/2019	3/14/2019	3/12/2019	3/12/2019	3/12/2019	3/13/2019	3/13/2019	
1,4-Dioxane ³	ug/L	<u>106</u>	<0.303	<0.306	<0.306	<u>114</u>	0.335	NA	<u>0.748</u>	<0.303	<0.303	<0.306	<u>13.6</u>	
Per- and Polyfluoroalkyl Substances (PFAS):														
N-EtFOSAA ⁵	ng/L	6.2	NA	NA	NA	32	1.6 J	7.0	<0.50	<0.50	1.1 J	<0.45	<0.44	
N-MeFOSAA ^{6*}	ng/L	<0.50	NA	NA	NA	3.5	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
Perfluorobutanesulfonate	ng/L	32	NA	NA	NA	25	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	3.2	
Perfluorodecanoic acid*	ng/L	<0.50	NA	NA	NA	1.3 J	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
Perfluorododecanoic acid*	ng/L	<0.50	NA	NA	NA	<0.50	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
Perfluoroheptanoic acid	ng/L	93	NA	NA	NA	110	<0.50	<0.42	0.89 J	<0.50	<0.50	<0.45	2.7	
Perfluorohexanesulfonate	ng/L	55	NA	NA	NA	65	<0.50	<0.42	1.4 J	<0.50	<0.50	<0.45	3.2	
Perfluorohexanoic acid	ng/L	210	NA	NA	NA	190	<0.50	0.98 J	1.6 J	<0.50	<0.50	<0.45	4.0	
Perfluorononanoic acid*	ng/L	2.2	NA	NA	NA	2.1	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
Perfluorooctanoic acid (PFOA) ⁴	ng/L	<u>320</u>	NA	NA	NA	<u>410</u>	0.97 J	1.1 J	<u>37</u>	<0.50	<0.50	<0.45	<u>23</u>	
Perfluoro-octanesulfonate (PFOS) ⁴	ng/L	<u>140</u>	NA	NA	NA	<u>270</u>	1.6 J	3.3	2.3	<0.50	1.6 J	0.89 J	4.3	
Sum of PFOA and PFOS ⁴ :	ng/L	<u>460</u>	NA	NA	NA	<u>680</u>	2.57 J	4.4 J	<u>39.3</u>	<1.0	1.6 J	0.89 J	<u>27.3</u>	
Perfluorotetradecanoic acid*	ng/L	<0.50	NA	NA	NA	<0.50	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
Perfluorotridecanoic acid*	ng/L	<0.50	NA	NA	NA	<0.50	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
Perfluoroundecanoic acid*	ng/L	<0.50	NA	NA	NA	<0.50	<0.50	<0.42	<0.50	<0.50	<0.50	<0.45	<0.44	
No. of PFAS Analytes Detected:	Out of 14	8	--	--	--	10	3	4	5	0	2	1	6	
Total Detected PFAS Concentration:	ng/L	858	--	--	--	1,109 J	4.2 J	12.4 J	43.2 J	0	2.7 J	0.89 J	40.4	

Notes:

ug/L = micrograms per Liter.

ng/L = nanograms per Liter.

NA = Not Analyzed (see Note 1).

1 = Wells not originally included in Final Work Plan, but sampled for 1,4-Dioxane. Well LTMW-6 was selected for blind duplicate for 1,4-Dioxane and other Post-Closure Groundwater Monitoring parameters.

2 = Blind duplicate and MS/MSD samples for LTMW-3 were performed on 3/14/19.

3 = NYSDOH proposed drinking water standard is 1 ug/L (NYSDEC has accepted this as their internal guidance value) and USEPA screening level for tap water is 0.46 ug/L.

4 = NYSDOH proposed drinking water standard for PFOS or PFOA is 10 ng/L and USEPA health advisory level for PFOS, PFOA or their sum in drinking water is 70 ng/L.

5 = N-ethyl perfluorooctanesulfonamidoacetic Acid.

6 = N-methyl perfluorooctanesulfonamidoacetic Acid.

J = Estimated concentration (less than reporting limit but higher than method detection limit).

Bold = Exceeds NYSDOH proposed drinking water standard.

Underlined = Also exceeds EPA screening level for 1,4-dioxane or health advisory level for PFOA and/or PFOS.

* = Analyte not detected (4 of 14) or only detected sporadically at low concentration (3 of 14).

ATTACHMENT 1
LABORATORY ANALYTICAL REPORTS

**ANALYSIS DATA SHEET**
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: Field Blank
Lab Sample ID: 1900371-01
Project: B.A.L. Contract #1359-BRK
Work Order: 1900371

Date Sampled:	03/11/19 09:45	Prep Date:	03/15/19 08:33	Matrix:	Aqueous
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8035.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 08:37
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.309	0.309	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

18%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-1
Lab Sample ID: 1900371-02
Project: B.A.L. Contract #1359-BRK
Work Order: 1900371

Date Sampled:	03/11/19 12:00	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8070.D
Prep Batch:	B9C1504	Sequence:	S9C2012	Analyzed:	03/20/19 15:33
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	114	0.303	0.303	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	19%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-3
Lab Sample ID: 1900371-03
Project: B.A.L. Contract #1359-BRK
Work Order: 1900371

Date Sampled:	03/11/19 13:50	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8039.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 10:55
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	0.335	0.306	0.306	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

22%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit

**ANALYSIS DATA SHEET**
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-4
Lab Sample ID: 1900412-04
Project: B.A.L. Contract #1359-BRK
Work Order: 1900412

Date Sampled:	03/14/19 10:40	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8050.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 15:59
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.303	0.303	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

16%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-4MS
Lab Sample ID: 1900412-05
Project: B.A.L. Contract #1359-BRK
Work Order: 1900412

Date Sampled:	03/14/19 11:20	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8051.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 16:26
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	1.62	0.303	0.303	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	18%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit

**ANALYSIS DATA SHEET**
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-4MSD
Lab Sample ID: 1900412-06
Project: B.A.L. Contract #1359-BRK
Work Order: 1900412

Date Sampled:	03/14/19 11:45	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8052.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 16:53
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	1.79	0.306	0.306	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

15%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-6
Lab Sample ID: 1900418-02
Project: B.A.L. Contract #1359-BRK
Work Order: 1900418

Date Sampled:	03/15/19 09:50	Prep Date:	03/22/19 07:24	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8082.D
Prep Batch:	B9C2204	Sequence:	S9D0215	Analyzed:	04/02/19 15:45
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.300	0.300	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	19%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-25 (Blind Duplicate of LTMW-6)
Lab Sample ID: 1900418-03
Project: B.A.L. Contract #1359-BRK
Work Order: 1900418

Date Sampled:	03/15/19 10:20	Prep Date:	03/22/19 07:24	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8083.D
Prep Batch:	B9C2204	Sequence:	S9D0215	Analyzed:	04/02/19 16:08
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.306	0.306	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	22%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-8
Lab Sample ID: 1900377-01
Project: B.A.L. Contract #1359-BRK
Work Order: 1900377

Date Sampled:	03/12/19 09:35	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8071.D
Prep Batch:	B9C1504	Sequence:	S9C2012	Analyzed:	03/20/19 16:01
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	106	0.303	0.303	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

19%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit

**ANALYSIS DATA SHEET**
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-10
Lab Sample ID: 1900377-02
Project: B.A.L. Contract #1359-BRK
Work Order: 1900377

Date Sampled:	03/12/19 11:25	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8042.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 12:22
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	0.748	0.309	0.309	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	20%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit

**ANALYSIS DATA SHEET**
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-12
Lab Sample ID: 1900377-03
Project: B.A.L. Contract #1359-BRK
Work Order: 1900377

Date Sampled:	03/12/19 13:10	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8043.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 12:49
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.303	0.303	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

16%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-15
Lab Sample ID: 1900377-04
Project: B.A.L. Contract #1359-BRK
Work Order: 1900377

Date Sampled:	03/12/19 14:45	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8044.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 13:16
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.303	0.303	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	17%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit

**ANALYSIS DATA SHEET**
EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: Field Blank
Lab Sample ID: 1900394-01
Project: B.A.L. Contract #1359-BRK
Work Order: 1900394

Date Sampled:	03/13/19 08:30	Prep Date:	03/15/19 08:33	Matrix:	Aqueous
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8045.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 13:43
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.306	0.306	

<u>Surrogate</u>	<u>% Recovery</u>	<u>Recovery Limits</u>
1,4-Dioxane SURR-d8	18%	10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-16
Lab Sample ID: 1900394-02
Project: B.A.L. Contract #1359-BRK
Work Order: 1900394

Date Sampled:	03/13/19 09:50	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8046.D
Prep Batch:	B9C1504	Sequence:	S9C1910	Analyzed:	03/19/19 14:11
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	ND	0.306	0.306	
	<u>Surrogate</u>	<u>% Recovery</u>		<u>Recovery Limits</u>	
	1,4-Dioxane SURR-d8	16%		10-100	

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit



ANALYSIS DATA SHEET

EPA 8270D SIM

Client: Brookfield Construction Associates, LLC
Client Sample ID: LTMW-18UG
Lab Sample ID: 1900394-03
Project: B.A.L. Contract #1359-BRK
Work Order: 1900394

Date Sampled:	03/13/19 11:30	Prep Date:	03/15/19 08:33	Matrix:	Ground Water
Percent Solids:		Prep Method:	EPA 3510C GCMS	File ID:	B8072.D
Prep Batch:	B9C1504	Sequence:	S9C2012	Analyzed:	03/20/19 16:28
Dilution:	1			Analyst:	DSM

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
123-91-1	1,4-Dioxane	13.6	0.312	0.312	

Surrogate

1,4-Dioxane SURR-d8

% Recovery

20%

Recovery Limits

10-100

* Values outside of QC limits

ND - Indicates compound analyzed for but not detected at or above the MDL

J - Indicates estimated value for TICs and all results when detected below the RL

B - Indicates compound found in associated blank

E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution

P - Greater than 25% diff. between 2 GC columns.

MDL - Minimum detection limit

RL - Reporting limit

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE

CARTERET, NJ 07008

Regarding:

ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

PROJECT ID:

AW0782

LABORATORY REPORT NUMBER:

L7111747



Authorized by: Douglas J. Gump
Client Services Manager

ACCREDITED ANALYTICAL RESOURCES, LLC
AW0782

P.O. No:
Inv. No: 1971063 PI
PWSID:

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

Regarding:
DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

SAMPLE SUMMARY

Lab ID	Collected	Received	Matrix	Client ID	
L7111747-1	03/11/19 09:45	03/13/19 12:30	MISC	1900371-01	Field Blank
L7111747-2	03/11/19 10:44	03/13/19 12:30	WATER	1900371-02	LTMW-1
L7111747-3	03/11/19 13:11	03/13/19 12:30	WATER	1900371-03	LTMW-3

Sample Description:	1900371-01	Samp. Date/Time/Temp:	03/11/19 09:45am NA C
Sample Number:	L7111747-1	Sampled by:	Customer
Matrix:	MISC	Iced (Y/N):	Y
Received Temp:	7.4 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900371-01

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900371-02	Samp. Date/Time/Temp:	03/11/19 10:44am NA C
Sample Number:	L7111747-2	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.4 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900371-02

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900371-03	Samp. Date/Time/Temp:	03/11/19 01:11pm NA C
Sample Number:	L7111747-3	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.4 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900371-03

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Comments | Result Qualifiers:

L7111747-1 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.

L7111747-2 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.

*=This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

Consult your regulatory agency for further guidance on the use of this data.

L7111747-3 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.



*=This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Bhavita Shah (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
New Castle Facility	State IDs-	DE: DE01101	MD: 138		
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			



QC

702 Electronic Drive
Horsham, PA 19044-0962
Phone: 215-355-3900
Fax: 215-355-7231

Client/Acct. No. Approved Analytical Res.
Address 2000 Pershing Ave

City/State/Zip Canterbury, NJ 07008
Phone/Fax 732-969-6112

Client Contact: B. O'Gara
PROJECT 1900371

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PROJECT 1900371

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Phone/Fax 732-969-6112

Client Contact: B. O'Gara
PROJECT 1900371

CHAIN OF CUSTODY

Page 1 of 1

Same

Bill to/Report to (if different)

Sampling Site Address (if different) Include State NY

P.O. No. PWSID #

Quote #

e-mail: benmie@accreditedanalytical.com

Collection

Date

Military Time

Matrix Code

Number of Containers

Total

Matrix Code

Number of Containers

Total

Matrix Code

Number of Containers

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Matrix Code

Number of Containers

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Matrix Code

Number of Containers

Total

Lab LIMS No: L7111747

LAB USE ONLY: 6 TVIZMA p1250

Ascorbic/HCL Vials # HCL Vials

Na2S2O3

NaOH/Zn acetate pH

HNO3 pH

H2SO4 pH

NaOH pH

Unpreserved

HCL # NH4Cl # MeOH

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MATRIX CODES

DW: DRINKING WATER

GW: GROUND WATER

WW: WASTEWATER

SO: SOIL

SL: SLUDGE

OIL: OIL

SOL: NON SOIL SOLID

MI: MISCELLANEOUS

X: OTHER

Field pH, Temp (°C), DO, Cl2, Cond. etc.

ANALYSIS REQUESTED

PFA3, PFCs

↓

↓

↓

DELIVERED TO OFFICE

BY CUSTODIAN

Field Parameters Analyzed By

Date/Time:

Initials

DELIVERY: ☐ EOC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER

Custody Seal Number

Rec'd Temp.: 7.4°C Initials: MM Location: ice

COMMENTS: 1.1°C TABS / iced / EOC

Hazardous: yes/no



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Eurofins QC Laboratories
702 Electronic Drive
Horsham PA 19044

Report Date: March 29, 2019 16:10

Project: L7111747

Account #: 22049
Group Number: 2033902
SDG: EAA06
State of Sample Origin: NY

Electronic Copy To Eurofins QC Laboratories

Attn: Nicki Smith

SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
L7111747-1 Grab Drinking Water	03/11/2019 09:45	1009701
L7111747-2 Grab Drinking Water	03/11/2019 10:44	1009702
L7111747-3 Grab Drinking Water	03/11/2019 13:11	1009703

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.

Sample Description: L7111747-1 Grab Drinking Water
1900371-01

Eurofins QC Laboratories
ELLE Sample #: PW 1009701
ELLE Group #: 2033902
Matrix: Drinking Water

Project Name: L7111747

Submittal Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/11/2019 09:45
SDG#: EAA06-01BL

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	N.D.	0.49	1.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.49	1.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.49	1.9	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.49	1.9	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.49	1.9	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.49	1.9	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.49	1.9	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	0.49	1.9	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.49	1.9	1
14070	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.49	1.9	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	0.49	1.9	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.49	1.9	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.49	1.9	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.49	1.9	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/20/2019 00:09	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111747-2 Grab Drinking Water
1900371-02

Eurofins QC Laboratories
ELLE Sample #: PW 1009702
ELLE Group #: 2033902
Matrix: Drinking Water

Project Name: L7111747

Submittal Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/11/2019 10:44
SDG#: EAA06-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	32	0.50	2.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	3.5	0.50	2.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	25	0.50	2.0	1
14070	Perfluorodecanoic acid	335-76-2	1.3 J	0.50	2.0	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.50	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	110	5.0	20	10
14070	Perfluorohexanesulfonate	355-46-4	65	5.0	20	10
14070	Perfluorohexanoic acid	307-24-4	190	5.0	20	10
14070	Perfluorononanoic acid	375-95-1	2.1	0.50	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	270	5.0	20	10
14070	Perfluorooctanoic acid	335-67-1	410	5.0	20	10
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.50	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.50	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.50	2.0	1

The recovery for the internal standard peak areas and surrogate 13C2-PFDA were outside of QC acceptance limits as noted on the QC Summary. The following corrective action was taken: This sample was re-extracted within the method holding time and the recovery for the internal standard peak areas and surrogate 13C2-PFDA were outside of QC acceptance limits. The data is reported from the initial trial of the sample. Both sets of data are included in the data package.

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/21/2019 23:24	Marissa C Drexinger	1
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/21/2019 23:59	Marissa C Drexinger	10
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111747-3 Grab Drinking Water
1900371-03

Eurofins QC Laboratories
ELLE Sample #: PW 1009703
ELLE Group #: 2033902
Matrix: Drinking Water

Project Name: L7111747

Submittal Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/11/2019 13:11
SDG#: EAA06-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	1.6 J	0.50	2.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.50	2.0	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.50	2.0	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.50	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.50	2.0	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.50	2.0	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	0.50	2.0	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.50	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.6 J	0.50	2.0	1
14070	Perfluorooctanoic acid	335-67-1	0.97 J	0.50	2.0	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.50	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.50	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.50	2.0	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/20/2019 00:32	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Quality Control Outlier Summary

Client Name: Eurofins QC Laboratories
Reported: 03/29/2019 16:10

Group Number: 2033902

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Drinking Water
Batch number: 19077023

	13C2-PFDA
1009702	200*

Limits: 70-130

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

2038902

EUROFINS QC, LLC
702 Electronic Drive
Horsham, PA 19044
Contact: Nicki Smith x3360
Phone: 215-355-3900
FAX: 215-392-0626

Bill to:
Horsham, PA 19044

EUROFINS QC, INC.
LANCASTER (ELLE) CHAIN OF CUSTODY
Mar 14 2019, 10:20 am



PWSID:

Sample ID	Analysis	Number of Containers										Sampled Date and Time	Tier
State: NY		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio	Other		
L7111747-1 1900371-01		2										03/11/19 09:45 AM	RDD
03/26/19 QA	PFC												
State: NY		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio	Other		
L7111747-2 1900371-02		2										03/11/19 10:44 AM	RDD
03/26/19 WATER	PFC												
State: NY		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio	Other		
L7111747-3 1900371-03		2										03/11/19 01:11 PM	RDD
03/26/19 WATER	PFC												

Moisture? _____

E-Account Number: 22049 ACCREDITED ANALYTICAL RESOURCES, LLC

CS REP: TBUENELL

Package Type: TYPE III

Relinquished By	Date	Time
<i>[Signature]</i>	3/14/19	1110

Received By	Date	Time
PAS	3/14/19	1110

Comments:
PI list 14?
318247



Lancaster Laboratories
Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 243644



Group Number(s): 2038902

Client: EQC

Delivery and Receipt Information

Delivery Method: EQCL Drop Off Arrival Timestamp: 03/15/2019 0:45
Number of Packages: 1 Number of Projects: 2

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Nicole Reiff (25684) at 07:05 on 03/15/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	32170023	4.2	IR	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $>40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

Regarding:

ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

PROJECT ID:

AW0782

LABORATORY REPORT NUMBER:

L7111959



Authorized by: Douglas J. Gump
Client Services Manager

ACCREDITED ANALYTICAL RESOURCES, LLC
AW0782

P.O. No:
Inv. No: 1971060 PI
PWSID:

Regarding:
DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

L7111959-1	03/14/19 08:55	03/15/19 13:15	WATER	1900412-01	LTMW-3 Duplicate
L7111959-2	03/14/19 08:57	03/15/19 13:15	WATER	1900412-02	LTMW-3 MS
L7111959-3	03/14/19 09:00	03/15/19 13:15	WATER	1900412-03	LTMW-3 MSD

Sample Description:	1900412-01	Samp. Date/Time/Temp:	03/14/19 08:55am NA C
Sample Number:	L7111959-1	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	11.5 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900412-01

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900412-02	Samp. Date/Time/Temp:	03/14/19 08:57am NA C
Sample Number:	L7111959-2	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	11.5 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900412-02

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900412-03	Samp. Date/Time/Temp:	03/14/19 09:00am NA C
Sample Number:	L7111959-3	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	11.5 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900412-03

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Comments | Result Qualifiers:

L7111959-1 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.

L7111959-2 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.

*=This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

Consult your regulatory agency for further guidance on the use of this data.

L7111959-3 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.



*=This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Bhavita Shah (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
New Castle Facility	State IDs-	DE: DE01101	MD: 138		
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			



QC

702 Electronic Drive
Horsham, PA 19044-0962
Phone: 215-355-3900
Fax: 215-355-7231

Client/Acct. No. Accredited Analytical Lab
Address 200 Pendlebury Rd

City/State/Zip Conover, NJ 07008
Phone/Fax 732-969-6112

Client Contact: B. Grana
PROJECT 1900412

CHAIN OF CUSTODY
Page 1 of 1

Bill to/Report to (if different)

Same

Sampling Site Address (if different) Include State

P.O. No. PWSID #:

Quote #

e-mail: burina@conovernj.com

Collection

Date

Military Time

G R A B

C O M P

H C I S

V i a s

H N O 3

Z n a c

U N P R E

B A C T

Total

Matrix Code

Number of Containers

ANALYSIS REQUESTED

Field pH, Temp (°C), DO, Cl₂, Cond. etc.

16.5/44.2/20.0/20.0

PFA's, PFC's

L L

L L

L L

L L

L L

L L

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L L

L L

L L

L L

L L

L L

L L

L L

L L

L L

L L

SAMPLED BY: (Name/Company)

AAR

TAT: ☐ STANDARD (10 DAY)or DUE DATE 03/28/19

Please call for pricing and availability for rush (<10 day) turnaround and for all but standard reporting format.

Report Format: ☐ Standard☒ NJ-RDD☐ SRP-RDD

Initials

Date/Time:

Field Parameters Analyzed By:

Date/Time:

DELIVERED TO OFFICE BY CUSTOMER

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY SAMPLER

RECEIVED BY

DATE

TIME

DELIVERY: ☐ EQC COURIER☐ UPS

Custody Seal Number

RELINQUISHED BY

RECEIVED BY

DATE

TIME

DELIVERY: ☐ EQC COURIER☐ UPS

Custody Seal Number

RELINQUISHED BY

RECEIVED BY

DATE

TIME

DELIVERY: ☐ EQC COURIER☐ UPS

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DELIVERY: ☐ EQC COURIER☐ UPS

Custody Seal Number

RELINQUISHED BY

RECEIVED BY

DATE

TIME

DELIVERY: ☐ EQC COURIER☐ UPS

Custody Seal Number



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Eurofins QC Laboratories
702 Electronic Drive
Horsham PA 19044

Report Date: March 29, 2019 15:17

Project: L7111959

Account #: 22049
Group Number: 2033946
SDG: EAA08
State of Sample Origin: NY

Electronic Copy To Eurofins QC Laboratories

Attn: Nicki Smith

SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
L7111959-1 Grab Drinking Water	03/14/2019 08:55	1009890
L7111959-2 Grab Drinking Water	03/14/2019 08:57	1009891
L7111959-3 Grab Drinking Water	03/14/2019 09:00	1009892

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.

Sample Description: L7111959-1 Grab Drinking Water
1900412-01

Eurofins QC Laboratories
ELLE Sample #: PW 1009890
ELLE Group #: 2033946
Matrix: Drinking Water

Project Name: L7111959

Submittal Date/Time: 03/15/2019 22:10
Collection Date/Time: 03/14/2019 08:55
SDG#: EAA08-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	7.0	0.42	1.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.42	1.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.42	1.7	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.42	1.7	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.42	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.42	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.42	1.7	1
14070	Perfluorohexanoic acid	307-24-4	0.98 J	0.42	1.7	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.42	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	3.3	0.42	1.7	1
14070	Perfluorooctanoic acid	335-67-1	1.1 J	0.42	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.42	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.42	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.42	1.7	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19082023	03/28/2019 06:48	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19082023	03/24/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111959-2 Grab Drinking Water
1900412-02

Eurofins QC Laboratories
ELLE Sample #: PW 1009891
ELLE Group #: 2033946
Matrix: Drinking Water

Project Name: L7111959

Submittal Date/Time: 03/15/2019 22:10
Collection Date/Time: 03/14/2019 08:57
SDG#: EAA08-01MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	8.6	0.42	1.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	2.9	0.42	1.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	2.7	0.42	1.7	1
14070	Perfluorodecanoic acid	335-76-2	3.0	0.42	1.7	1
14070	Perfluorododecanoic acid	307-55-1	2.7	0.42	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	2.9	0.42	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	2.9	0.42	1.7	1
14070	Perfluorohexanoic acid	307-24-4	3.4	0.42	1.7	1
14070	Perfluorononanoic acid	375-95-1	2.9	0.42	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	5.0	0.42	1.7	1
14070	Perfluorooctanoic acid	335-67-1	4.0	0.42	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	2.1	0.42	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	2.6	0.42	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	2.9	0.42	1.7	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19082023	03/28/2019 10:38	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19082023	03/24/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111959-3 Grab Drinking Water
1900412-03

Eurofins QC Laboratories
ELLE Sample #: PW 1009892
ELLE Group #: 2033946
Matrix: Drinking Water

Project Name: L7111959

Submittal Date/Time: 03/15/2019 22:10
Collection Date/Time: 03/14/2019 09:00
SDG#: EAA08-01MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	9.6	0.42	1.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	3.0	0.42	1.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	2.7	0.42	1.7	1
14070	Perfluorodecanoic acid	335-76-2	3.3	0.42	1.7	1
14070	Perfluorododecanoic acid	307-55-1	2.9	0.42	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	3.0	0.42	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	2.7	0.42	1.7	1
14070	Perfluorohexanoic acid	307-24-4	3.5	0.42	1.7	1
14070	Perfluorononanoic acid	375-95-1	2.8	0.42	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	5.5	0.42	1.7	1
14070	Perfluorooctanoic acid	335-67-1	4.0	0.42	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	3.0	0.42	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	3.1	0.42	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	3.0	0.42	1.7	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19082023	03/28/2019 10:50	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19082023	03/24/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Quality Control Outlier Summary

Client Name: Eurofins QC Laboratories
Reported: 03/29/2019 15:17

Group Number: 2033946

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/l	MS Spike Added ng/l	MS Conc ng/l	MSD Spike Added ng/l	MSD Conc ng/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 19082023 Perfluorotetradecanoic acid	Sample number(s): 1009890-1009892 N.D.	1009892 3.25	UNSPK: 1009890 2.09	3.25	2.98	64	92	50-150	35*	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

233946

EUROFINS QC, LLC
702 Electronic Drive
Horsham, PA 19044
Contact: Nicki Smith x3360
Phone: 215-355-3900
FAX: 215-392-0626

Bill to:
Horsham, PA 19044

EUROFINS QC, INC.
LANCASTER (ELLE) CHAIN OF CUSTODY
Mar 15 2019, 07:14 pm



PWSID:

Sample ID	Analysis	Number of Containers										Sampled Date and Time	Tier
State: NY													
L7111959-1 1900412-01	PFC	Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio Other		03/14/19 08:55 AM	RDD
03/28/19 WATER													
State: NY													
L7111959-2 1900412-02	PFC	Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio Other		03/14/19 08:57 AM	RDD
03/28/19 WATER													
State: NY													
L7111959-3 1900412-03	PFC	Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio Other		03/14/19 09:00 AM	RDD
03/28/19 WATER													

Moisture? _____

E-Account Number: 22049 ACCREDITED ANALYTICAL RESOURCES, LLC
Package Type: TYPE III

CS REP: TBURNELL

Relinquished By	Date	Time
<i>[Signature]</i>	3/15/19	1145

Received By	Date	Time
Cash PFA's	3/15/12	1945

Comments:



QC

702 Electronic Drive
Horsham, PA 19044-0962
Phone: 215-355-3900
Fax: 215-355-7231

Client/Acct. No. Accredited Analytical Lab
Address 200 Partridge Ave

City/State/Zip Centerville, NJ 07008
Phone/Fax 732-969-6112

Client Contact: B. O'Grana
PROJECT 1900412

P.O. No.
Quote #

e-mail: borini@accreditedanalytical.com

CHAIN OF CUSTODY
Page 1 of 1

Bill to/Report to (if different)

Same

Sampling Site Address (if different) Include State

Lab LIMS No:

L7111959

MATRIX CODES

LAB USE ONLY:

Ascorbic/HCL Vials # HCl Vials
Na₂S₂O₃
Na OH/Zn acetate pH
HNO₃ pH
H₂SO₄ pH
NaOH pH
6 Impress Trizma 1/2 p 5 p 1
HCl # NH₄Cl # MeOH

16.5 water DI water

ANALYSIS REQUESTED

2 PFA's, PFC's

2 1

2 1

DELIVERED
TO OFFICE

BY CUSTOMER

Field Parameters Analyzed By:

Initials

Date/Time:

Report Format: ☐ Standard ☒ SRP-RDD
☐ Standard + QC ☐ Forms ☐ EDDTAT: ☐ STANDARD (10 DAY)
or DUE DATE 03/28/19

Please call for pricing and availability for rush (<10 day) turnaround and for all but standard reporting format.

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME	Custody Seal Number
1.			1.			
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
2. <u>Kathy Inacio</u>	<u>3/15/19</u>	<u>8:20</u>	2. <u>Mickey Kearns</u>	<u>3/15/19</u>	<u>8:20</u>	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
3. <u>Mickey Kearns</u>	<u>3/15/19</u>	<u>13:15</u>	3. <u>MM</u>	<u>3/15/19</u>	<u>13:15</u>	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
4.			4.			
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
5. <u>Cooler PFA-3</u>	<u>3/15/19</u>	<u>1845</u>	5. <u>MM</u>	<u>3/15/19</u>	<u>1845</u>	

Rec'd Temp.: 11.5°C Initials: MM Location:

COMMENTS:

Hazardous: yes / no



Lancaster Laboratories
Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 243809



Group Number(s): 2033946

Client: EQC

Delivery and Receipt Information

Delivery Method: EQCL Drop Off Arrival Timestamp: 03/15/2019 22:10
Number of Packages: 1 Number of Projects: 4

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Nicole Reiff (25684) at 09:24 on 03/16/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	32170023	2.2	IR	Wet	Y	Bagged	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
L7111959-1	3/14/2019 08:57	
L7111959-2	3/14/2019 11:20	

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $>40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE

CARTERET, NJ 07008

Regarding:

ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

PROJECT ID:

AW0782

LABORATORY REPORT NUMBER:

L7111746



Authorized by: Douglas J. Gump
Client Services Manager

ACCREDITED ANALYTICAL RESOURCES, LLC
AW0782

P.O. No:
Inv. No: 1971048 PI
PWSID:

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

Regarding:
DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

SAMPLE SUMMARY

Lab ID	Collected	Received	Matrix	Client ID	
L7111746-1	03/12/19 09:00	03/13/19 12:30	WATER	1900377-01	LTMW-8
L7111746-2	03/12/19 10:45	03/13/19 12:30	WATER	1900377-02	LTMW-10
L7111746-3	03/12/19 12:35	03/13/19 12:30	WATER	1900377-03	LTMW-12
L7111746-4	03/12/19 14:10	03/13/19 12:30	WATER	1900377-04	LTMW-15

Sample Description:	1900377-01	Samp. Date/Time/Temp:	03/12/19 09:00am NA C
Sample Number:	L7111746-1	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.4 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900377-01

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900377-02	Samp. Date/Time/Temp:	03/12/19 10:45am NA C
Sample Number:	L7111746-2	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.4 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900377-02

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900377-03	Samp. Date/Time/Temp:	03/12/19 12:35pm NA C
Sample Number:	L7111746-3	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.4 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900377-03

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

*=-This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

Sample Description: 1900377-04

Sample Number: L7111746-4

Matrix: WATER

Received Temp: 7.4 C

Exceeds recommended temperature for chemical testing.(T)

Samp. Date/Time/Temp: 03/12/19 02:10pm NA C

Sampled by: Customer

Iced (Y/N): Y

--SUBCONTRACTED RESULT REFERENCES--1900377-04

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)PERFLUORINATED CHEMICALS (14) PFAS

Sample Comments | Result Qualifiers:

L7111746-1 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.

L7111746-2 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.

L7111746-3 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.

L7111746-4 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.



*=-This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Bhavita Shah (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
New Castle Facility	State IDs-	DE: DE01101	MD: 138		
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Eurofins QC Laboratories
702 Electronic Drive
Horsham PA 19044

Report Date: March 29, 2019 16:12

Project: L7111746

Account #: 22049
Group Number: 2033903
SDG: EAA09
State of Sample Origin: NY

Electronic Copy To Eurofins QC Laboratories

Attn: Nicki Smith

SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection</u> <u>Date/Time</u>	<u>ELLE#</u>
L7111746-1 Grab Drinking Water LTMW-8	03/12/2019 09:00	1009704
L7111746-2 Grab Drinking Water LTMW-10	03/12/2019 10:45	1009705
L7111746-3 Grab Drinking Water LTMW-12	03/12/2019 12:35	1009706
L7111746-4 Grab Drinking Water LTMW-15	03/12/2019 14:10	1009707

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.

Sample Description: L7111746-1 Grab Drinking Water
1900377-01

Eurofins QC Laboratories
ELLE Sample #: PW 1009704
ELLE Group #: 2033903
Matrix: Drinking Water

Project Name: L7111746

Submittal Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/12/2019 09:00
SDG#: EAA09-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	6.2	0.50	2.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	32	0.50	2.0	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.50	2.0	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.50	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	93	5.0	20	10
14070	Perfluorohexanesulfonate	355-46-4	55	0.50	2.0	1
14070	Perfluorohexanoic acid	307-24-4	210	5.0	20	10
14070	Perfluorononanoic acid	375-95-1	2.2	0.50	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	140	5.0	20	10
14070	Perfluorooctanoic acid	335-67-1	320	5.0	20	10
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.50	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.50	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.50	2.0	1

A field reagent blank was not submitted by the client for this sample group.

The recovery for surrogate 13C2-PFDA was outside of QC acceptance limits as noted on the QC Summary. The following corrective action was taken: This sample was re-extracted within the method holding time and the recovery for surrogate 13C2-PFDA was outside of QC acceptance limits. The data is reported from the initial trial of the sample. Both sets of data are included in the data package.

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/21/2019 23:36	Marissa C Drexinger	1
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/22/2019 00:10	Marissa C Drexinger	10
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111746-2 Grab Drinking Water
1900377-02

Eurofins QC Laboratories
ELLE Sample #: PW 1009705
ELLE Group #: 2033903
Matrix: Drinking Water

Project Name: L7111746

Submission Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/12/2019 10:45
SDG#: EAA09-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	N.D.	0.50	2.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.50	2.0	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.50	2.0	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.50	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	0.89 J	0.50	2.0	1
14070	Perfluorohexanesulfonate	355-46-4	1.4 J	0.50	2.0	1
14070	Perfluorohexanoic acid	307-24-4	1.6 J	0.50	2.0	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.50	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	2.3	0.50	2.0	1
14070	Perfluorooctanoic acid	335-67-1	37	0.50	2.0	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.50	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.50	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.50	2.0	1

A field reagent blank was not submitted by the client for this sample group.

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/20/2019 00:55	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111746-3 Grab Drinking Water
1900377-03

Eurofins QC Laboratories
ELLE Sample #: PW 1009706
ELLE Group #: 2033903
Matrix: Drinking Water

Project Name: L7111746

Submission Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/12/2019 12:35
SDG#: EAA09-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	N.D.	0.50	2.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.50	2.0	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.50	2.0	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.50	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.50	2.0	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.50	2.0	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	0.50	2.0	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.50	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.50	2.0	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	0.50	2.0	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.50	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.50	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.50	2.0	1

A field reagent blank was not submitted by the client for this sample group.

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/20/2019 01:07	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111746-4 Grab Drinking Water
1900377-04

Eurofins QC Laboratories
ELLE Sample #: PW 1009707
ELLE Group #: 2033903
Matrix: Drinking Water

Project Name: L7111746

Submission Date/Time: 03/15/2019 00:45
Collection Date/Time: 03/12/2019 14:10
SDG#: EAA09-04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	1.1 J	0.50	2.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.50	2.0	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.50	2.0	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.50	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.50	2.0	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.50	2.0	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	0.50	2.0	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.50	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.6 J	0.50	2.0	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	0.50	2.0	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.50	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.50	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.50	2.0	1

A field reagent blank was not submitted by the client for this sample group.

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19077023	03/20/2019 01:30	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19077023	03/18/2019 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Quality Control Outlier Summary

Client Name: Eurofins QC Laboratories
Reported: 03/29/2019 16:12

Group Number: 2033903

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Drinking Water
Batch number: 19077023

	13C2-PFHxA
1009704	58*

Limits: 70-130

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

2033903

EUROFINS QC, LLC
702 Electronic Drive
Horsham, PA 19044
Contact: Nicki Smith x3360
Phone: 215-355-3900
FAX: 215-392-0626

Bill to:
Horsham, PA 19044

EUROFINS QC, INC.
LANCASTER (ELLE) CHAIN OF CUSTODY
Mar 14 2019, 10:15 am



PWSID:

Sample ID	Analysis	Number of Containers										Sampled Date and Time	Tier
State: NY													
L7111746-1 1900377-01		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre	Bact	NaThio	Other	
03/26/19 WATER	PFC	2											03/12/19 09:00 AM RDD
State: NY													
L7111746-2 1900377-02		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre	Bact	NaThio	Other	
03/26/19 WATER	PFC	2											03/12/19 10:45 AM RDD
State: NY													
L7111746-3 1900377-03		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre	Bact	NaThio	Other	
03/26/19 WATER	PFC	2											03/12/19 12:35 PM RDD
State: NY													
L7111746-4 1900377-04		Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre	Bact	NaThio	Other	
03/26/19 WATER	PFC	2											03/12/19 02:10 PM

Moisture? _____

E-Account Number: 22049 ACCREDITED ANALYTICAL RESOURCES, LLC

CS REP: TBUENELL

Package Type:

Relinquished By	Date	Time
CR	3/14/19	1110

Received By	Date	Time
PFAS	3/14/19	1110

Comments:

318247



QC

702 Electronic Drive
Horsham, PA 19044-0962
Phone: 215-355-3900
Fax: 215-355-7231

Client/Act. No. Accredited Analytical Lab.
Address 2000 Washington Ave

City/State/Zip Concord, NJ 07008
Phone/Fax 732-969-6112

Client Contact: Barbara O'Sara

L PROJECT

Collection

Number of Containers

	H	H	V	I	N	Z	B
	C	I	N	A	O	A	C
	2	1	1	3	1	1	1
Total	4	4	4	4	4	4	4

Matrix Code

G

R

O

M

P

Date

Military Time

3/12/19

0900

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04

CHAIN OF CUSTODY

Page 1 of 1

Bill to/Report to (if different)

Same

Sampling Site Address (if different)

Include State

NY

P.O. No.

Quote #

e-mail: barbara@eurofins.com

Matrix Code

G

R

O

M

P

Date

Military Time

3/12/19

0900

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

X

GW

2

Phone: 215-355-3900

Fax: 215-355-7231

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04

Client/Act. No.

Address

City/State/Zip

Phone/Fax

Client Contact:

PROJECT

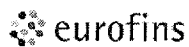
FIELD ID

1900377-01

1900377-02

1900377-03

1900377-04



Lancaster Laboratories
Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 243644



Group Number(s): 2e38903

Client: EQC

Delivery and Receipt Information

Delivery Method: EQCL Drop Off Arrival Timestamp: 03/15/2019 0:45
Number of Packages: 1 Number of Projects: 2

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Nicole Reiff (25684) at 07:05 on 03/15/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	32170023	4.2	IR	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $>40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

Regarding:

ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

PROJECT ID:

AW0782

LABORATORY REPORT NUMBER:

L7111958



Authorized by: Douglas J. Gump
Client Services Manager

ACCREDITED ANALYTICAL RESOURCES, LLC
AW0782

P.O. No:
Inv. No: 1971050 PI
PWSID:

DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

Regarding:
DANIEL MIGUEL
ACCREDITED ANALYTICAL RESOURCES, LLC.
20 PERSHING AVENUE
CARTERET, NJ 07008

SAMPLE SUMMARY

Lab ID	Collected	Received	Matrix	Client ID	
L7111958-1	03/13/19 08:30	03/15/19 13:15	MISC	1900394-01	Field Blank
L7111958-2	03/13/19 09:09	03/15/19 13:15	WATER	1900394-02	LTMW-16
L7111958-3	03/13/19 10:55	03/15/19 13:15	WATER	1900394-03	LTMW-18ug

Sample Description:	1900394-01	Samp. Date/Time/Temp:	03/13/19 08:30am NA C
Sample Number:	L7111958-1	Sampled by:	Customer
Matrix:	MISC	Iced (Y/N):	Y
Received Temp:	7.8 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900394-01

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900394-02	Samp. Date/Time/Temp:	03/13/19 09:09am NA C
Sample Number:	L7111958-2	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.8 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900394-02

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Description:	1900394-03	Samp. Date/Time/Temp:	03/13/19 10:55am NA C
Sample Number:	L7111958-3	Sampled by:	Customer
Matrix:	WATER	Iced (Y/N):	Y
Received Temp:	7.8 C		
Exceeds recommended temperature for chemical testing.(T)			

--SUBCONTRACTED RESULT REFERENCES--1900394-03

See attached reports for the following Subcontract Laboratories:

Eurofins - Lancaster Laboratories, Environmental (ELLE)
PERFLUORINATED CHEMICALS (14) PFAS

Sample Comments | Result Qualifiers:

L7111958-1 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.

L7111958-2 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.

*=This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

Consult your regulatory agency for further guidance on the use of this data.

L7111958-3 :

T: Samples for chemical testing were received at the laboratory outside of the allowed temperature range of just above 0 to 6 degrees C.
Consult your regulatory agency for further guidance on the use of this data.



*=This limit was used in the evaluation of the final result.

PIN: 37516

Unserialized Copy

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Bhavita Shah (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
New Castle Facility	State IDs-	DE: DE01101	MD: 138		
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			



CHAIN OF CUSTODY
Page 1 of 1

QC

1205 Industrial Blvd. Phone: 215-355-3900

Southampton, PA 18966-0514 Fax: 215-355-7231

Client/Acct. No. Accredited Analytical Services

Address 20 Brinsburg Ave

City/State/Zip Convent, NJ 07008

Phone/Fax 732-969-6112

Client Contact: B. O'Carra

PROJECT 1900394

FIELD ID

1900394-01

1900394-02

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1205 Industrial Blvd.

Southampton, PA 18966-0514

Client/Acct. No.

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City/State/Zip

Phone/Fax

Client Contact:

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Southampton, PA 18966-0514

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Eurofins QC Laboratories
702 Electronic Drive
Horsham PA 19044

Report Date: March 29, 2019 09:23

Project: L7111958

Account #: 22049
Group Number: 2033945
SDG: EAA07
State of Sample Origin: NY

Electronic Copy To Eurofins QC Laboratories

Attn: Nicki Smith

SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
L7111958-1 Grab Drinking Water	03/13/2019 08:30	1009887
L7111958-2 Grab Drinking Water	03/13/2019 09:09	1009888
L7111958-3 Grab Drinking Water	03/13/2019 10:55	1009889

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.

Sample Description: L7111958-1 Grab Drinking Water
1900394-01

Eurofins QC Laboratories
ELLE Sample #: PW 1009887
ELLE Group #: 2033945
Matrix: Drinking Water

Project Name: L7111958

Submittal Date/Time: 03/15/2019 22:10
Collection Date/Time: 03/13/2019 08:30
SDG#: EAA07-01BL

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	N.D.	0.43	1.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.43	1.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.43	1.7	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.7	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.43	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.43	1.7	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.7	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.43	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.7	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.43	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.43	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.7	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19078004	03/22/2019 16:07	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19078004	03/19/2019 08:30	Courtney J Fatta	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111958-2 Grab Drinking Water
1900394-02

Eurofins QC Laboratories
ELLE Sample #: PW 1009888
ELLE Group #: 2033945
Matrix: Drinking Water

Project Name: L7111958

Submittal Date/Time: 03/15/2019 22:10
Collection Date/Time: 03/13/2019 09:09
SDG#: EAA07-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	N.D.	0.45	1.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.45	1.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	N.D.	0.45	1.8	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.8	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	0.45	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	0.45	1.8	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.8	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.45	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	0.89 J	0.45	1.8	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.45	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.45	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.8	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19084006	03/28/2019 01:48	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	2	19084006	03/25/2019 08:25	Courtney J Fatta	1

*=This limit was used in the evaluation of the final result

Sample Description: L7111958-3 Grab Drinking Water
1900394-03

Eurofins QC Laboratories
ELLE Sample #: PW 1009889
ELLE Group #: 2033945
Matrix: Drinking Water

Project Name: L7111958

Submittal Date/Time: 03/15/2019 22:10
Collection Date/Time: 03/13/2019 10:55
SDG#: EAA07-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEtFOSAA	2991-50-6	N.D.	0.44	1.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	N.D.	0.44	1.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	3.2	0.44	1.8	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.8	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	2.7	0.44	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	3.2	0.44	1.8	1
14070	Perfluorohexanoic acid	307-24-4	4.0	0.44	1.8	1
14070	Perfluorononanoic acid	375-95-1	N.D.	0.44	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	4.3	0.44	1.8	1
14070	Perfluorooctanoic acid	335-67-1	23	0.44	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	0.44	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	0.44	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.8	1

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	19078004	03/22/2019 16:30	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19078004	03/19/2019 08:30	Courtney J Fatta	1

*=This limit was used in the evaluation of the final result

2033945

EUROFINS QC, LLC
702 Electronic Drive
Horsham, PA 19044
Contact: Nicki Smith x3360
Phone: 215-355-3900
FAX: 215-392-0626

Bill to:
Horsham, PA 19044

EUROFINS QC, INC.
LANCASTER (ELLE) CHAIN OF CUSTODY
Mar 15 2019, 07:15 pm



PMSID:

Sample ID	Analysis	Number of Containers										Sampled Date and Time	Tier
State: NY													
L7111958-1 1900394-01	PFC	Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio	Other	03/13/19 08:30 AM	RDD
03/28/19 QA													
State: NY													
L7111958-2 1900394-02	PFC	Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio	Other	03/13/19 09:09 AM	RDD
03/28/19 WATER													
State: NY													
L7111958-3 1900394-03	PFC	Total	H2SO4	HCl	AscAc	HNO3	NaOH	ZnAc	Unpre Bact	NaThio	Other	03/13/19 10:55 AM	RDD
03/28/19 WATER													

Moisture? _____

E-Account Number: 22049 ACCREDITED ANALYTICAL RESOURCES, LLC

CS REP: TBURNELL

Package Type: TYPE III

Relinquished By	Date	Time
<i>[Signature]</i>	3/15/19	1945

Received By	Date	Time
<i>Cook PRA</i>	3/15/19	1945
<i>Nick</i>	3/15/19	2210

Comments:



eurofins

QC

1205 Industrial Blvd.
Southampton, PA 18966-0514
Phone: 215-355-3900
Fax: 215-355-7231

Client/Acct. No. Accredited Analytical Services
Address 20 Boring Ave
Canterbury, NJ 07008

City/State/Zip
Phone/Fax 732-969-6112

Client Contact: B. O'Garra
PROJECT 1900394

FIELD ID

1900394-01

1900394-02

1900394-03

CHAIN OF CUSTODY

Page 1 of 1

Bill to/Report to (if different) Same

Sampling Site Address (if different) Include State NY

P.O. No.

Quote #

e-mail: bernice@accreditedanalytical.com

Collection

Date

Military Time

Matrix Code

Total

Number of Containers

H C I A O H 3

V I I S

H C I A O H 3

V I I S

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SAMPLED BY: (Name/Company)

AAR

TAT: ☐ STANDARD (10 DAY)

or DUE DATE 03/27/19

Please call for pricing and availability for rush (<10 day) turnaround and for all but standard reporting format.

Report Format: ☐ Standard ☒ NJ-RDD ☐ SRP-RDD

☐ Standard + QC ☐ Forms ☐ EDD

Field Parameters Analyzed By:

Initials

Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY SAMPLER

1. DATE TIME RECEIVED BY

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DELIVERED TO OFFICE BY CUSTODY

Field Parameters Analyzed By:

Initials

Date/Time:

Custody Seal Number

DELIVERY: ☐ EQC COURIER ☐ CLIENT ☐ FEDEX ☐ OTHER

Rec'd Temp.: 7.8C Initials: man Location: 106 Y/N

COMMENTS:

Hazardous: yes / no

2033945

112 of 115

Sample Administration
Receipt Documentation Log

Doc Log ID: 243809



Group Number(s): 2633945

Client: EQC

Delivery and Receipt Information

Delivery Method:	<u>EQCL Drop Off</u>	Arrival Timestamp:	<u>03/15/2019 22:10</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>4</u>

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Nicole Reiff (25684) at 09:24 on 03/16/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	32170023	2.2	IR	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $>40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.