Technical Report
for
Emerging Contaminants

prepared for:

Norman Bloom and Son LLC
7 Edgewater Place
Norwalk CT, 06855-2413
Attention: Richard Harris

Report Date: 12/08/2022
Client Project ID: ASTRO TURF #1 BALL FIELD, NWK
York Project (SDG) No.: 22K1527

CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

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Report Date: 12/08/2022
Client Project ID: ASTRO TURF #1 BALL FIELD, NWK
York Project (SDG) No.: 22K1527

Norman Bloom and Son LLC
7 Edgewater Place
Norwalk CT, 06855-2413
Attention: Richard Harris

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on November 30, 2022 and listed below. The project was identified as your project: **ASTRO TURF #1 BALL FIELD, NWK**.

The analyses were conducted utilizing appropriate EPA methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

Please contact Client Services at 203.325.1371 with any questions regarding this report or e-mail clientservices@yorklab.com.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
22K1527-01	Sample #1 N41 07.741 W73 25.835	Water	11/15/2022	11/30/2022
22K1527-02	Sample #2 N41 07.675 W73 25.818	Water	11/15/2022	11/30/2022
22K1527-03	Sample #3 N41 06.269 W73 25.015	Water	11/15/2022	11/30/2022
22K1527-04	Sample #4 N41 07.897 W73 25.788	Water	11/15/2022	11/30/2022
22K1527-05	Sample #5 Field Trip Blank	Water	11/15/2022	11/30/2022

General Notes for York Project (SDG) No.: 22K1527

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 12/08/2022

Cassie L. Mosher
Laboratory Manager

Sample Information

Client Sample ID: **Sample #1 N41 07.741 W73 25.835** **York Sample ID:** **22K1527-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 10:50 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-73-5	**Perfluorobutanesulfonic acid (PFBS)**	**5.51**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**5.05**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
375-85-9	**Perfluoroheptanoic acid (PFHpA)**	**2.38**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
355-46-4	**Perfluorohexanesulfonic acid (PFHxS)**	**3.58**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
335-67-1	**Perfluorooctanoic acid (PFOA)**	**8.25**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
1763-23-1	**Perfluorooctanesulfonic acid (PFOS)**	**7.69**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
375-95-1	Perfluorononanoic acid (PFNA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
335-76-2	Perfluorodecanoic acid (PFDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
307-55-1	Perfluorododecanoic acid (PFDoA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
2355-31-9	N-MeFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
2991-50-6	N-EtFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
2706-90-3	**Perfluoropentanoic acid (PFPeA)**	**4.81**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	PF-HT	0	ng/L	4.63	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	

Sample Information

Client Sample ID: **Sample #1 N41 07.741 W73 25.835** **York Sample ID:** **22K1527-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 10:50 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-22-4	**Perfluoro-n-butanoic acid (PFBA)**	**4.76**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:38	

Surrogate Recoveries	Result		Acceptance Range
Surrogate: M3PFBS	*100 %*	PF-HT	*25-150*
Surrogate: M5PFHxA	*78.2 %*	PF-HT	*25-150*
Surrogate: M4PFHpA	*88.7 %*	PF-HT	*25-150*
Surrogate: M3PFHxS	*113 %*	PF-HT	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*90.2 %*	PF-HT	*25-150*
Surrogate: M6PFDA	*86.1 %*	PF-HT	*25-150*
Surrogate: M7PFUdA	*77.4 %*	PF-HT	*25-150*
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*70.6 %*	PF-HT	*25-150*
Surrogate: M2PFTeDA	*55.2 %*	PF-HT	*10-150*
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*79.5 %*	PF-HT	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*112 %*	PF-HT	*25-150*
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*87.9 %*	PF-HT	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*4.28 %*	PF-HT, PFSu-L	*10-150*
Surrogate: d3-N-MeFOSAA	*86.0 %*	PF-HT	*25-150*
Surrogate: d5-N-EtFOSAA	*85.2 %*	PF-HT	*25-150*
Surrogate: M2-6:2 FTS	*269 %*	PF-HT, PFSu-H	*25-200*
Surrogate: M2-8:2 FTS	*204 %*	PF-HT, PFSu-H	*25-200*
Surrogate: M9PFNA	*87.2 %*	PF-HT	*25-150*

Sample Information

Client Sample ID: **Sample #2 N41 07.675 W73 25.818** **York Sample ID:** **22K1527-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 11:08 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst

Sample Information

Client Sample ID: **Sample #2 N41 07.675 W73 25.818** **York Sample ID:** **22K1527-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 11:08 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-73-5	**Perfluorobutanesulfonic acid (PFBS)**	**5.35**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**3.17**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
375-85-9	**Perfluoroheptanoic acid (PFHpA)**	**2.66**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
355-46-4	**Perfluorohexanesulfonic acid (PFHxS)**	**2.98**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
335-67-1	**Perfluorooctanoic acid (PFOA)**	**9.62**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
1763-23-1	**Perfluorooctanesulfonic acid (PFOS)**	**43.5**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
375-95-1	Perfluorononanoic acid (PFNA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
335-76-2	Perfluorodecanoic acid (PFDA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
307-55-1	Perfluorododecanoic acid (PFDoA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
2355-31-9	N-MeFOSAA	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
2991-50-6	N-EtFOSAA	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
2706-90-3	**Perfluoropentanoic acid (PFPeA)**	**5.19**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	PF-HT	0	ng/L	4.81	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	PF-HT	0	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	
375-22-4	**Perfluoro-n-butanoic acid (PFBA)**	**4.10**	**PF-HT**	**0**	ng/L	1.92	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 19:51	

Sample Information

Client Sample ID: Sample #2 N41 07.675 W73 25.818 **York Sample ID:** 22K1527-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 11:08 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
	Surrogate Recoveries	**Result**		**Acceptance Range**					
	Surrogate: M3PFBS	*96.5 %*	PF-HT	*25-150*					
	Surrogate: M5PFHxA	*72.6 %*	PF-HT	*25-150*					
	Surrogate: M4PFHpA	*68.5 %*	PF-HT	*25-150*					
	Surrogate: M3PFHxS	*111 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*85.3 %*	PF-HT	*25-150*					
	Surrogate: M6PFDA	*76.1 %*	PF-HT	*25-150*					
	Surrogate: M7PFUdA	*71.6 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*65.4 %*	PF-HT	*25-150*					
	Surrogate: M2PFTeDA	*54.6 %*	PF-HT	*10-150*					
	Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*70.8 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*98.9 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*80.3 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*16.1 %*	PF-HT	*10-150*					
	Surrogate: d3-N-MeFOSAA	*82.0 %*	PF-HT	*25-150*					
	Surrogate: d5-N-EtFOSAA	*74.3 %*	PF-HT	*25-150*					
	Surrogate: M2-6:2 FTS	*293 %*	PF-HT, PFSu-H	*25-200*					
	Surrogate: M2-8:2 FTS	*170 %*	PF-HT	*25-200*					
	Surrogate: M9PFNA	*82.1 %*	PF-HT	*25-150*					

Sample Information

Client Sample ID: Sample #3 N41 06.269 W73 25.015 **York Sample ID:** 22K1527-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 11:40 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-73-5	**Perfluorobutanesulfonic acid (PFBS)**	**3.63**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	

Sample Information

Client Sample ID: **Sample #3 N41 06.269 W73 25.015** **York Sample ID:** **22K1527-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 11:40 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**6.57**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
375-85-9	**Perfluoroheptanoic acid (PFHpA)**	**2.69**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
335-67-1	**Perfluorooctanoic acid (PFOA)**	**5.10**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
1763-23-1	**Perfluorooctanesulfonic acid (PFOS)**	**4.46**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
375-95-1	Perfluorononanoic acid (PFNA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
335-76-2	Perfluorodecanoic acid (PFDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
307-55-1	Perfluorododecanoic acid (PFDoA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
2355-31-9	N-MeFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
2991-50-6	N-EtFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
2706-90-3	**Perfluoropentanoic acid (PFPeA)**	**8.65**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	PF-HT	0	ng/L	4.63	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	
375-22-4	**Perfluoro-n-butanoic acid (PFBA)**	**4.99**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:04	

Surrogate Recoveries	Result		Acceptance Range
Surrogate: M3PFBS	*106 %*	PF-HT	*25-150*

Sample Information

Client Sample ID: **Sample #3 N41 06.269 W73 25.015** **York Sample ID:** **22K1527-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 11:40 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
	Surrogate: M5PFHxA	*80.2 %*	PF-HT	*25-150*					
	Surrogate: M4PFHpA	*86.4 %*	PF-HT	*25-150*					
	Surrogate: M3PFHxS	*128 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*98.6 %*	PF-HT	*25-150*					
	Surrogate: M6PFDA	*93.2 %*	PF-HT	*25-150*					
	Surrogate: M7PFUdA	*84.1 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*73.3 %*	PF-HT	*25-150*					
	Surrogate: M2PFTeDA	*45.8 %*	PF-HT	*10-150*					
	Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*85.5 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*121 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*98.1 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*30.4 %*	PF-HT	*10-150*					
	Surrogate: d3-N-MeFOSAA	*89.2 %*	PF-HT	*25-150*					
	Surrogate: d5-N-EtFOSAA	*83.8 %*	PF-HT	*25-150*					
	Surrogate: M2-6:2 FTS	*366 %*	PF-HT, PFSu-H	*25-200*					
	Surrogate: M2-8:2 FTS	*181 %*	PF-HT	*25-200*					
	Surrogate: M9PFNA	*99.2 %*	PF-HT	*25-150*					

Sample Information

Client Sample ID: **Sample #4 N41 07.897 W73 25.788** **York Sample ID:** **22K1527-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 12:20 pm	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-73-5	**Perfluorobutanesulfonic acid (PFBS)**	**3.85**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**5.91**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	

Sample Information

Client Sample ID: **Sample #4 N41 07.897 W73 25.788** **York Sample ID:** **22K1527-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 12:20 pm	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-85-9	**Perfluoroheptanoic acid (PFHpA)**	**3.00**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
335-67-1	**Perfluorooctanoic acid (PFOA)**	**6.20**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
1763-23-1	**Perfluorooctanesulfonic acid (PFOS)**	**4.08**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
375-95-1	Perfluorononanoic acid (PFNA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
335-76-2	Perfluorodecanoic acid (PFDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
307-55-1	Perfluorododecanoic acid (PFDoA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
2355-31-9	N-MeFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
2991-50-6	N-EtFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
2706-90-3	**Perfluoropentanoic acid (PFPeA)**	**7.42**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	PF-HT	0	ng/L	4.63	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	
375-22-4	**Perfluoro-n-butanoic acid (PFBA)**	**5.08**	**PF-HT**	**0**	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:17	

Surrogate Recoveries	Result		Acceptance Range
Surrogate: M3PFBS	*71.5 %*	PF-HT	*25-150*
Surrogate: M5PFHxA	*57.4 %*	PF-HT	*25-150*
Surrogate: M4PFHpA	*58.7 %*	PF-HT	*25-150*

Sample Information

Client Sample ID: **Sample #4 N41 07.897 W73 25.788** **York Sample ID:** **22K1527-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 12:20 pm	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
	Surrogate: M3PFHxS	*89.3 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*68.8 %*	PF-HT	*25-150*					
	Surrogate: M6PFDA	*65.0 %*	PF-HT	*25-150*					
	Surrogate: M7PFUdA	*56.5 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*51.3 %*	PF-HT	*25-150*					
	Surrogate: M2PFTeDA	*41.3 %*	PF-HT	*10-150*					
	Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*60.3 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*82.5 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*66.9 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*19.4 %*	PF-HT	*10-150*					
	Surrogate: d3-N-MeFOSAA	*67.2 %*	PF-HT	*25-150*					
	Surrogate: d5-N-EtFOSAA	*57.8 %*	PF-HT	*25-150*					
	Surrogate: M2-6:2 FTS	*265 %*	PFSu-H, PF-HT	*25-200*					
	Surrogate: M2-8:2 FTS	*166 %*	PF-HT	*25-200*					
	Surrogate: M9PFNA	*67.0 %*	PF-HT	*25-150*					

Sample Information

Client Sample ID: **Sample #5 Field Trip Blank** **York Sample ID:** **22K1527-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 10:45 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	PF-HT	0	ng/L Certifications:	1.85	EPA 537m	12/05/2022 14:47 12/06/2022 20:30	WEL
307-24-4	Perfluorohexanoic acid (PFHxA)	ND	PF-HT	0	ng/L Certifications:	1.85	EPA 537m	12/05/2022 14:47 12/06/2022 20:30	WEL
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND	PF-HT	0	ng/L Certifications:	1.85	EPA 537m	12/05/2022 14:47 12/06/2022 20:30	WEL
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND	PF-HT	0	ng/L Certifications:	1.85	EPA 537m	12/05/2022 14:47 12/06/2022 20:30	WEL

Sample Information

Client Sample ID: **Sample #5 Field Trip Blank** **York Sample ID:** **22K1527-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 10:45 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
335-67-1	Perfluorooctanoic acid (PFOA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
375-95-1	Perfluorononanoic acid (PFNA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
335-76-2	Perfluorodecanoic acid (PFDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
307-55-1	Perfluorododecanoic acid (PFDoA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
2355-31-9	N-MeFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
2991-50-6	N-EtFOSAA	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	PF-HT	0	ng/L	4.63	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	
375-22-4	Perfluoro-n-butanoic acid (PFBA)	ND	PF-HT	0	ng/L	1.85	EPA 537m	12/05/2022 14:47	WEL
					Certifications:			12/06/2022 20:30	

Surrogate Recoveries	Result		Acceptance Range
Surrogate: M3PFBS	*59.8 %*	PF-HT	*25-150*
Surrogate: M5PFHxA	*56.2 %*	PF-HT	*25-150*
Surrogate: M4PFHpA	*57.4 %*	PF-HT	*25-150*
Surrogate: M3PFHxS	*69.6 %*	PF-HT	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*63.0 %*	PF-HT	*25-150*
Surrogate: M6PFDA	*60.6 %*	PF-HT	*25-150*
Surrogate: M7PFUdA	*53.8 %*	PF-HT	*25-150*

Sample Information

Client Sample ID: **Sample #5 Field Trip Blank** **York Sample ID:** **22K1527-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
22K1527	ASTRO TURF #1 BALL FIELD, NWK	Water	November 15, 2022 10:45 am	11/30/2022

PFAS by EPA 537 m

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE Ext-PFAS-EPA 537.1M

CAS No.	Parameter	Result	Flag	Maximum Contaminant Level MCL	Units	Reported to LOQ	Reference Method	Date/Time Prep/Anal	Analyst
	Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*48.6 %*	PF-HT	*25-150*					
	Surrogate: M2PFTeDA	*42.2 %*	PF-HT	*10-150*					
	Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*48.1 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*73.5 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*55.3 %*	PF-HT	*25-150*					
	Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*24.0 %*	PF-HT	*10-150*					
	Surrogate: d3-N-MeFOSAA	*54.3 %*	PF-HT	*25-150*					
	Surrogate: d5-N-EtFOSAA	*46.9 %*	PF-HT	*25-150*					
	Surrogate: M2-6:2 FTS	*117 %*	PF-HT	*25-200*					
	Surrogate: M2-8:2 FTS	*89.4 %*	PF-HT	*25-200*					
	Surrogate: M9PFNA	*58.2 %*	PF-HT	*25-150*					

Analytical Batch Summary

Batch ID: BL20244 **Preparation Method:** SPE Ext-PFAS-EPA 537.1M **Prepared By:** WJH

YORK Sample ID	Client Sample ID	Preparation Date
22K1527-01	Sample #1 N41 07.741 W73 25	12/05/22
22K1527-02	Sample #2 N41 07.675 W73 25	12/05/22
22K1527-03	Sample #3 N41 06.269 W73 25	12/05/22
22K1527-04	Sample #4 N41 07.897 W73 25	12/05/22
22K1527-05	Sample #5 Field Trip Blank	12/05/22
BL20244-BLK1	Blank	12/05/22
BL20244-BS1	LCS	12/05/22
BL20244-BSD1	LCS Dup	12/05/22

PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL20244 - SPE Ext-PFAS-EPA 537.1M											
Blank (BL20244-BLK1)											
Perfluorobutanesulfonic acid (PFBS)	ND	2.00	ng/L								
Perfluorohexanoic acid (PFHxA)	ND	2.00	"								
Perfluoroheptanoic acid (PFHpA)	ND	2.00	"								
Perfluorohexanesulfonic acid (PFHxS)	ND	2.00	"								
Perfluorooctanoic acid (PFOA)	ND	2.00	"								
Perfluorooctanesulfonic acid (PFOS)	ND	2.00	"								
Perfluorononanoic acid (PFNA)	ND	2.00	"								
Perfluorodecanoic acid (PFDA)	ND	2.00	"								
Perfluoroundecanoic acid (PFUnA)	ND	2.00	"								
Perfluorododecanoic acid (PFDoA)	ND	2.00	"								
Perfluorotridecanoic acid (PFTrDA)	ND	2.00	"								
Perfluorotetradecanoic acid (PFTA)	ND	2.00	"								
N-MeFOSAA	ND	2.00	"								
N-EtFOSAA	ND	2.00	"								
Perfluoropentanoic acid (PFPeA)	ND	2.00	"								
Perfluoro-1-octanesulfonamide (FOSA)	ND	2.00	"								
Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	2.00	"								
Perfluoro-1-decanesulfonic acid (PFDS)	ND	2.00	"								
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	5.00	"								
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	2.00	"								
Perfluoro-n-butanoic acid (PFBA)	ND	2.00	"								
Surrogate: M3PFBS	*53.4*		*"*	*74.3*		*71.8*	*25-150*				
Surrogate: M5PFHxA	*52.1*		*"*	*80.0*		*65.1*	*25-150*				
Surrogate: M4PFHpA	*54.6*		*"*	*80.0*		*68.2*	*25-150*				
Surrogate: M3PFHxS	*60.3*		*"*	*75.7*		*79.7*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*55.6*		*"*	*80.0*		*69.5*	*25-150*				
Surrogate: M6PFDA	*52.4*		*"*	*80.0*		*65.5*	*25-150*				
Surrogate: M7PFUdA	*49.5*		*"*	*80.0*		*61.8*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*43.2*		*"*	*80.0*		*54.0*	*25-150*				
Surrogate: M2PFTeDA	*37.6*		*"*	*80.0*		*47.0*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*46.8*		*"*	*80.0*		*58.5*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*63.7*		*"*	*76.6*		*83.1*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*53.7*		*"*	*80.0*		*67.2*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*23.8*		*"*	*80.0*		*29.7*	*10-150*				
Surrogate: d3-N-MeFOSAA	*50.9*		*"*	*80.0*		*63.6*	*25-150*				
Surrogate: d5-N-EtFOSAA	*47.2*		*"*	*80.0*		*59.0*	*25-150*				
Surrogate: M2-6:2 FTS	*86.4*		*"*	*75.9*		*114*	*25-200*				
Surrogate: M2-8:2 FTS	*81.3*		*"*	*76.6*		*106*	*25-200*				
Surrogate: M9PFNA	*54.7*		*"*	*80.0*		*68.3*	*25-150*				

Prepared: 12/05/2022 Analyzed: 12/06/2022

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL20244 - SPE Ext-PFAS-EPA 537.1M											
LCS (BL20244-BS1)											
Prepared: 12/05/2022 Analyzed: 12/06/2022											
Perfluorobutanesulfonic acid (PFBS)	73.9	2.00	ng/L	70.8		104	50-130				
Perfluorohexanoic acid (PFHxA)	79.1	2.00	"	80.0		98.8	50-130				
Perfluoroheptanoic acid (PFHpA)	80.3	2.00	"	80.0		100	50-130				
Perfluorohexanesulfonic acid (PFHxS)	65.0	2.00	"	72.8		89.2	50-130				
Perfluorooctanoic acid (PFOA)	80.1	2.00	"	80.0		100	50-130				
Perfluorooctanesulfonic acid (PFOS)	77.3	2.00	"	74.0		104	50-130				
Perfluorononanoic acid (PFNA)	73.3	2.00	"	80.0		91.6	50-130				
Perfluorodecanoic acid (PFDA)	81.0	2.00	"	80.0		101	50-130				
Perfluoroundecanoic acid (PFUnA)	78.4	2.00	"	80.0		98.0	50-130				
Perfluorododecanoic acid (PFDoA)	80.6	2.00	"	80.0		101	50-130				
Perfluorotridecanoic acid (PFTrDA)	54.7	2.00	"	80.0		68.4	50-130				
Perfluorotetradecanoic acid (PFTA)	81.6	2.00	"	80.0		102	50-130				
N-MeFOSAA	78.9	2.00	"	80.0		98.6	50-130				
N-EtFOSAA	80.1	2.00	"	80.0		100	50-130				
Perfluoropentanoic acid (PFPeA)	82.3	2.00	"	80.0		103	50-130				
Perfluoro-1-octanesulfonamide (FOSA)	74.1	2.00	"	80.0		92.7	50-130				
Perfluoro-1-heptanesulfonic acid (PFHpS)	70.5	2.00	"	76.4		92.3	50-130				
Perfluoro-1-decanesulfonic acid (PFDS)	62.0	2.00	"	77.2		80.4	50-130				
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	76.6	5.00	"	76.0		101	50-175				
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	81.3	2.00	"	76.8		106	50-175				
Perfluoro-n-butanoic acid (PFBA)	78.5	2.00	"	80.0		98.1	50-130				
Surrogate: M3PFBS	*63.7*		"	*74.3*		*85.7*	*25-150*				
Surrogate: M5PFHxA	*70.0*		"	*80.0*		*87.5*	*25-150*				
Surrogate: M4PFHpA	*68.8*		"	*80.0*		*86.0*	*25-150*				
Surrogate: M3PFHxS	*68.5*		"	*75.7*		*90.5*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*68.7*		"	*80.0*		*85.9*	*25-150*				
Surrogate: M6PFDA	*61.0*		"	*80.0*		*76.3*	*25-150*				
Surrogate: M7PFUdA	*59.1*		"	*80.0*		*73.8*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*56.9*		"	*80.0*		*71.1*	*25-150*				
Surrogate: M2PFTeDA	*41.8*		"	*80.0*		*52.2*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*58.2*		"	*80.0*		*72.8*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*68.6*		"	*76.6*		*89.5*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*70.9*		"	*80.0*		*88.6*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*32.8*		"	*80.0*		*41.0*	*10-150*				
Surrogate: d3-N-MeFOSAA	*51.2*		"	*80.0*		*64.0*	*25-150*				
Surrogate: d5-N-EtFOSAA	*47.9*		"	*80.0*		*59.9*	*25-150*				
Surrogate: M2-6:2 FTS	*73.3*		"	*75.9*		*96.5*	*25-200*				
Surrogate: M2-8:2 FTS	*61.3*		"	*76.6*		*79.9*	*25-200*				
Surrogate: M9PFNA	*68.2*		"	*80.0*		*85.2*	*25-150*				

PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL20244 - SPE Ext-PFAS-EPA 537.1M											
LCS Dup (BL20244-BSD1)								Prepared: 12/05/2022 Analyzed: 12/06/2022			
Perfluorobutanesulfonic acid (PFBS)	66.1	2.00	ng/L	70.8		93.3	50-130		11.2	30	
Perfluorohexanoic acid (PFHxA)	79.4	2.00	"	80.0		99.3	50-130		0.481	30	
Perfluoroheptanoic acid (PFHpA)	70.0	2.00	"	80.0		87.5	50-130		13.7	30	
Perfluorohexanesulfonic acid (PFHxS)	59.3	2.00	"	72.8		81.5	50-130		9.07	30	
Perfluorooctanoic acid (PFOA)	79.3	2.00	"	80.0		99.2	50-130		0.994	30	
Perfluorooctanesulfonic acid (PFOS)	61.3	2.00	"	74.0		82.8	50-130		23.0	30	
Perfluorononanoic acid (PFNA)	66.1	2.00	"	80.0		82.6	50-130		10.3	30	
Perfluorodecanoic acid (PFDA)	77.8	2.00	"	80.0		97.3	50-130		3.99	30	
Perfluoroundecanoic acid (PFUnA)	71.8	2.00	"	80.0		89.7	50-130		8.81	30	
Perfluorododecanoic acid (PFDoA)	75.6	2.00	"	80.0		94.5	50-130		6.39	30	
Perfluorotridecanoic acid (PFTrDA)	65.1	2.00	"	80.0		81.3	50-130		17.3	30	
Perfluorotetradecanoic acid (PFTA)	81.3	2.00	"	80.0		102	50-130		0.367	30	
N-MeFOSAA	71.1	2.00	"	80.0		88.9	50-130		10.3	30	
N-EtFOSAA	69.0	2.00	"	80.0		86.3	50-130		14.9	30	
Perfluoropentanoic acid (PFPeA)	76.9	2.00	"	80.0		96.1	50-130		6.83	30	
Perfluoro-1-octanesulfonamide (FOSA)	68.8	2.00	"	80.0		86.1	50-130		7.39	30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	67.4	2.00	"	76.4		88.2	50-130		4.60	30	
Perfluoro-1-decanesulfonic acid (PFDS)	50.6	2.00	"	77.2		65.5	50-130		20.4	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	69.3	5.00	"	76.0		91.2	50-175		10.1	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	82.7	2.00	"	76.8		108	50-175		1.67	30	
Perfluoro-n-butanoic acid (PFBA)	74.5	2.00	"	80.0		93.1	50-130		5.26	30	
Surrogate: M3PFBS	*66.0*		"	*74.3*		*88.8*	*25-150*				
Surrogate: M5PFHxA	*67.2*		"	*80.0*		*84.0*	*25-150*				
Surrogate: M4PFHpA	*72.4*		"	*80.0*		*90.5*	*25-150*				
Surrogate: M3PFHxS	*77.1*		"	*75.7*		*102*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*67.3*		"	*80.0*		*84.1*	*25-150*				
Surrogate: M6PFDA	*65.0*		"	*80.0*		*81.2*	*25-150*				
Surrogate: M7PFUdA	*59.0*		"	*80.0*		*73.8*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*56.6*		"	*80.0*		*70.7*	*25-150*				
Surrogate: M2PFTeDA	*45.4*		"	*80.0*		*56.7*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*59.7*		"	*80.0*		*74.7*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*80.2*		"	*76.6*		*105*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*70.3*		"	*80.0*		*87.9*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*38.1*		"	*80.0*		*47.6*	*10-150*				
Surrogate: d3-N-MeFOSAA	*59.4*		"	*80.0*		*74.3*	*25-150*				
Surrogate: d5-N-EtFOSAA	*52.2*		"	*80.0*		*65.2*	*25-150*				
Surrogate: M2-6:2 FTS	*97.0*		"	*75.9*		*128*	*25-200*				
Surrogate: M2-8:2 FTS	*88.3*		"	*76.6*		*115*	*25-200*				
Surrogate: M9PFNA	*70.8*		"	*80.0*		*88.5*	*25-150*				

Sample and Data Qualifiers Relating to This Work Order

PFSu-L	The isotopically labeled surrogate recovered below lab control limits due to a matrix effect. Isotope Dilution was applied.
PFSu-H	The isotopically labeled surrogate recovered above lab control limits due to a matrix effect. Isotope Dilution was applied.
PF-HT	Although no referenced Holding time has been established for PFAS, 14 days has been used. This sample was re-extracted outside of the 14 days.

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.
MCL	This is the Maximum Contaminant Level in ng/L (ppt) established by the NYSDOH for these compounds where an MCL is reported. Exceedences are flagged accordingly.

Field Chain-of-Custody Record

YORK ANALYTICAL LABORATORIES INC

York Analytical Laboratories, Inc. (YORK)'s Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 22K1577

120 Research Drive Stratford, CT 06615 - 132-02 89th Ave Queens, NY 11418 - 56 Church Hill Rd. #2 Newtown, CT 06470 clientservices@yorklab.com www.yorklab.com 800-306-YORK Page _____ of _____

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company: NORMAN BLOOM & SON LLC	Company: NORMAN BLOOM & SON LLC	Company: SAME	ASTRO TURF #1	RUSH - Next Day
Address: 7 EDGE WATER PLACE NORWALK, CT 06855	Address: 7 EDGE WATER PLACE NORWALK, CT 06855	Address: SAME	YOUR Project Name: BALL FIELD, NWK	RUSH - Two Day
Phone.: 203-246-6696	Phone.: 203-246-6696	Phone.: SAME		RUSH - Three Day
Contact: RICHARD HARRIS	Contact: RICHARD HARRIS	Contact: SAME		RUSH - Four Day
E-mail: RBHARRIS39@GMAIL.COM	E-mail: RBHARRIS39@GMAIL.COM	E-mail: SAME	YOUR PO#:	Standard (5-7 Day) ✓
				(7-10 for PFAS)

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

RICHARD HARRIS

Samples Collected by: (print AND sign your name)

Matrix Codes	Samples From	Report / EDD Type (circle selections)			YORK Reg. Comp.
S - soil / solid	New York	Summary Report	CT RCP	EQuIS (Standard)	Compared to the following Regulation(s): (please fill in)
GW - groundwater	New Jersey	QA Report	CT RCP DQA/DUE	NYSDEC EQuIS	
DW - drinking water	Connecticut ✓	Standard Excel EDD	NJDEP Reduced Deliverables	NJDKQP	
WW - wastewater	Pennsylvania	NY ASP B Package		NJDEP SRP HazSite	
O - Oil | Other	Other:	Other:			

Sample Identification	Sample Matrix	Date/Time Sampled	Analyses Requested	Container Type	No.
SAMPLE #1 N41° 07.741 W73° 25.835	SURFACE WATER	10:50 AM 11/15/22	PFAS / PFOS IN SURFACE WATER	125ML PP	10
SAMPLE #2 N41° 07.675 W73° 25.818	NW RIVER	11:08 11/15/22	Products of INTEREST PFOA, PFHpA	provided	
SAMPLE #3 N41 06.269 W73° 25.615	↓	11:40 AM 11/15/22	PFHxA, PFPeA, PFBA	by YORK	
SAMPLE #4 N41 07.897 W73° 25.788	↓	12:20 AM 11/15/22			
SAMPLE #5 Field Trip blank	BLANK	10:45 AM 11/15/22			

Comments: An assessment of total PFAS compounds in runoff from Astroturf® ball fields – baseline study

Samples iced/chilled at time of lab pickup? circle Yes or No

Preservation: (check all that apply) HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other: NONE

Special Instruction: Field Filtered ☐ Lab to Filter ☐

Samples Relinquished by / Company	Date/Time	1. Samples Received by / Company	Date/Time	2. Samples Relinquished by / Company	Date/Time
		RB Harris	11/23/22	RB Harris	11/23/22
Samples Received by / Company	Date/Time	3. Samples Relinquished by / Company	Date/Time	3. Samples Received by / Company	Date/Time
Chris York	11-30-22 13:45	Chris York	11-30-22 1424		
Samples Relinquished by / Company	Date/Time	4. Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time / Temperature
				[signature]	11/30/22 1424 / 9.0 Degrees C