Emerging Contaminant Sampling Initiative EC Form 1: Initial Groundwater Sampling Results Evaluation

Site Name:						Site ID:			
Date(s) Sampled:				Class:					
Number of Monitoria				((attach figure showing sa	mpling locations)			
Groundwater Sc	reening								
Chemical	_	Screening level (DWQC Recommended MCL))	Max. concentration detected	Check box if level exceeded		
1,4-dioxane in grour	ndwater		<u>-</u>	1 ug/L (ppb)					
PFOA in groundwate	er		1	LO ng/L (ppt)					
PFOS in groundwate	r		1	LO ng/L (ppt)					
Awareness									
Other PFAS (not PFC	DA/PFOS)	Any	one co	mpound over 100 n	g/L				
Total PFAS (incl. PFC	A/PFOS)	Tota	ıl conce	ntration over 500 n	g/L				
STOP here if no scree	ening levels a	re exce	eeded. 1	No further action r	equi	red at this time.			
Proximity to Wa	ter Suppli	es							
Water supply type	Any wells w			Distance (ft)	I	Method(s) used to confirm water supply we locations			
Public well(s)									
Private well(s)									
= = =						d for sampling these supp ter sampling efforts as d	· -		
Apparent Source	e(s)								
Chemical	Past use or chemical	_		Describe	reas	ons for suspecting appare	nt source(s)		
1,4-dioxane									
PFAS									
If an apparent on-sit	e source is su	specte	d, inco	rporate further wo	rk ir	nto ongoing remedial pro	gram if possible.		
Further action r	equired at	this t	time?	Yes	5	No			
					kt ste	eps or provide rationale f	for not		
recommending furth				•	_	• ~			
Alin B	anu			Micha	J	J. Komorosk			
Ali in B	_0 m3	h				Chief			
1 00 1-				7/28/19					

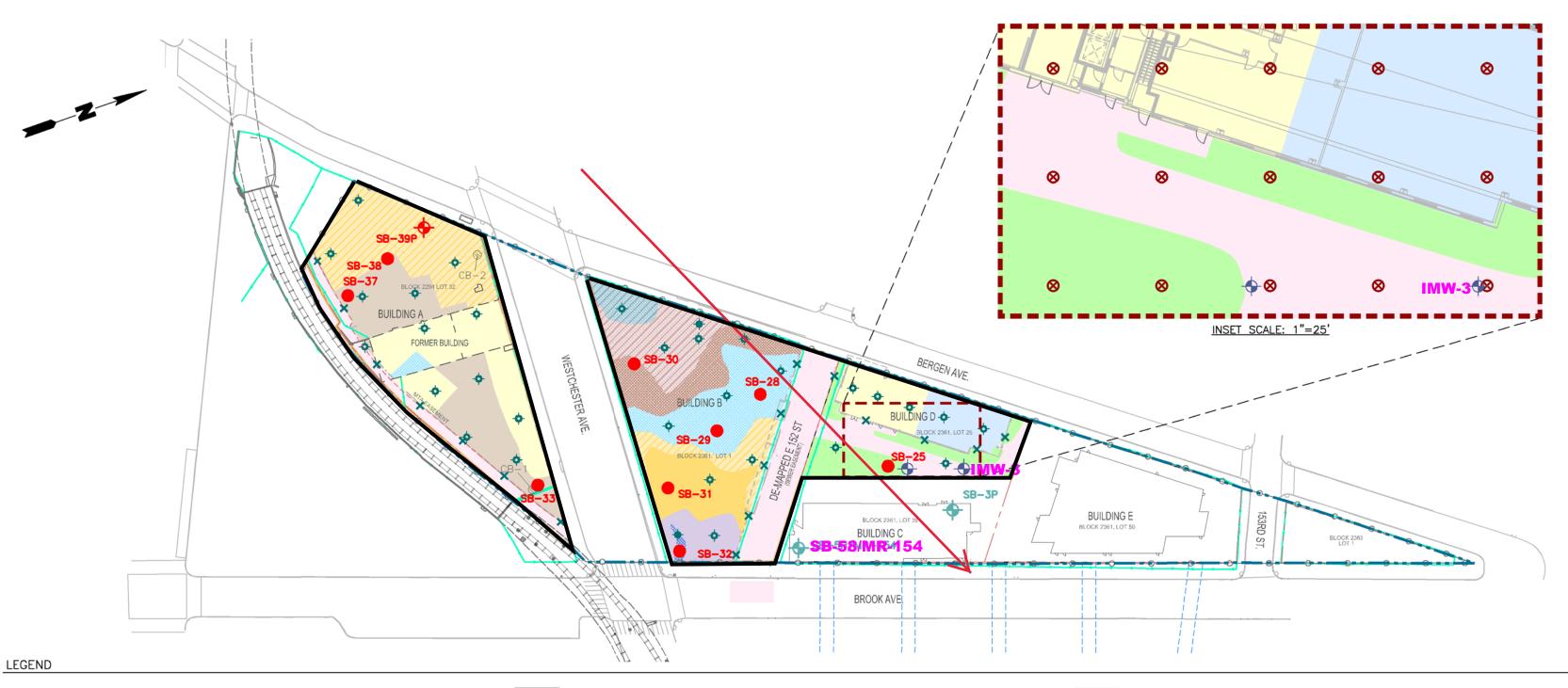
Date Signed

Bureau Director

Emerging Contaminant Sampling Initiative EC Form 1: Initial Groundwater Sampling Results Evaluation

Checklist for Completing EC Form 1:

	Did you include a value in "Maximum Level Detected" even if the screening levels were not exceeded?
	Did you enter "ND" if nothing detected or "NA" if not analyzed?
	Did you check your units (ug/L vs ng/L)?
	Did you include PFOA & PFOS when totaling "Total PFAS"?
	Did you check yes or no for "Is further action required at this time?"
	Did you include "next steps", or provide justification for not recommending further action, if RMCLs are exceeded?
	Did you attach a figure with sampling locations?
	Did you attach emerging contaminant data? (<u>not</u> the full data package—only enough for all reviewers to double check that the form is filled out properly)
	Did you read through the internal DER Emerging Contaminant website for guidance on what to do if you have exceedances?
	Did you check with DOH-BEEI to help confirm the existence of public and private drinking water wells? DOH will handle communications with public water suppliers and local health departments.
	Is the data in EQuIS?
	Did you complete the UIS EC project current status per the internal DER Emerging Contaminant website?
	is form is to be uploaded to DecDocs when completed. A copy of the signed form is to be sent to Caryn wer (OGC) and Eric Hausamann (DER Bureau D/Sec D).
Sit	te-specific next steps or rationale for not recommending further action



PROPOSED BDS LOCATION

PROPOSED SDS LOCATION

PROPOSED BCS LOCATION

EXISTING SOIL BORING/ GW GRAB LOCATION TO BE USED AS A BDS

EXISTING SOIL BORING/ MONITORING WELL LOCATION TO BE USED AS A BDS

APPROXIMATE PROPOSED MONITORING WELL LOCATION

OFF-SITE EXISTING MONITORING WELL LOCATION

LA CENTRAL PHASE I BCP SITE BOUNDARY

LA CENTRAL REDEVELOPMENT PROJECT SITE BOUNDARY

── CHAIN LINK FENCE

CATCH BASIN (CB) LOCATION

PROPOSED LIMITS OF EXCAVATION TO LESS THAN 1 FOOT BGS. SITE COVER SYSTEM COMPRISED OF ASPHALT/CONCRETE WALKWAYS AND SUB-BASE AGGREGATE BACKFILL. SEE DETAIL 2 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO LESS THAN 1 FOOT BGS. SITE COVER SYSTEM COMPRISED OF 2 FEET OF CLEAN SOIL BACKFILL. SEE DETAIL 3 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 2 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 8 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 13 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 14 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 15 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 16 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 17 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

> PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 18 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

> PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 19 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

> PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 20 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

> PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 21 FEET BGS. SITE COVER SYSTEM COMPRISED OF BUILDING FOUNDATION SLAB AND AGGREGATE SUB-BASE BACKFILL. SEE DETAIL 1 AND NOTE 3.

PROPOSED LIMITS OF ON-SITE IN SITU CHEMICAL OXIDATION INJECTIONS OF POTASSIUM PERMANGANATE. TWENTY INJECTION POINTS PROPOSED. REFER TO INSET FOR INJECTION POINT LOCATIONS AND SECTION 8.1 OF RIR/RAWP FOR DETAILS.

IN SITU CHEMICAL OXIDATION INJECTION POINT LOCATION

NOTES

- 1. ENDPOINT DOCUMENTATION AND CONFIRMATION SAMPLES WILL BE A COMBINATION OF EXISTING SOIL SAMPLES AND PROPOSED SAMPLES AS SHOWN. REFER TO SECTION 5.2.1 OF THE RIR/RAWP FOR A DESCRIPTION OF SAMPLING FREQUENCIES AND ANALYTES. LOCATIONS ARE APPROXIMATE AND WILL BE BIASED TOWARD IMPACTS OBSERVED, IF ANY.
- 2. REFER TO DETAILS FOR SITE COVER SYSTEM TYPES. IN AREAS WHERE BUILDINGS (SLABS AND WALLS) PRECLUDE CONTACT WITH SOIL, THE REQUIREMENTS FOR A SITE COVER SYSTEM WILL BE DEFERRED UNTIL SUCH TIME THAT THEY ARE
- 3. REMEDIAL EXCAVATION IS CONSIDERED BY NYSDEC TO BE 2 FEET ON THE BUILDINGS A AND D PARCELS AND THE DE-MAPPED E 152ND STREET ON THE BUILDING B PARCEL. THE REMAINDER IS CONSIDERED BY NYSDEC TO BE REDEVELOPMENT RELATED. ALL EXCAVATION ON THE BUILDING B PARCEL IS CONSIDERED TO BE REMEDIAL TO ACHIEVE THE TRACK 1 CLEANUP GOAL.
- 4. BACKFILL FOR THE BUILDING B PARCEL (EXCEPT DE-MAPPED E 152ND STREET) WILL MEET UUSCO; BACKFILL FOR THE BUILDING A AND D PARCELS AND THE DE-MAPPED E 152ND STREET ON THE BUILDING B PARCEL WILL MEET THE LOWER OF PART 375 RRSCOs OR PGWSCOs.
- 5. THE BUILDING B PARCEL WILL BE REMEDIATED TO TRACK 1 UNRESTRICTED USE. THE BUILDINGS A AND B PARCELS WILL BE REMEDIATED TO TRACK 4 RESTRICTED RESIDENTIAL USE.

BGS - BELOW GRADE SURFACE

NYSDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

RRSCOs - PART 375 RESTRICTED RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES

PGWSCOs - PART 375 PROTECTION OF GROUNDWATER SOIL CLEANUP OBJECTIVES

UUSCOs - PART 375 UNRESTRICTED SOIL CLEANUP OBJECTIVES

BDS - BOTTOM DOCUMENTATION SAMPLE

BCS - BOTTOM CONFIRMATION SAMPLE

SDS - SIDEWALL DOCUMENTATION SAMPLE

SOURCE

MEGA ENGINEERING & SURVEYING, P.C., NOVEMBER 2016 SURVEY. BASED ON NAVD88 DATUM.



REMEDIAL ALTERNATIVE 2: COMBINED TRACK 1 UNRESTRICTED USE/ TRACK 4 RESTRICTED RESIDENTIAL USE CLEANUP

LA CENTRAL REDEVELOPMENT BRONX, NEW YORK

Prepared For:

LA CENTRAL MANAGER, LLC



Damadial	Compiled by: R.M.	Date: 17APR17	PLATE
[Remedial]	Prepared by: J.A.D.	Scale: AS SHOWN	
REMEDIAL ENGINEERING, P.C.	Project Mgr: R.M.	Project: 2446.0001Y000	7
ENVIRONMENTAL ENGINEERS	File: 2446.0001Y116	5.01.DWG	

Statistic	Concentration	Units	Sample Source	Max non PFOS/PFOA compound
Maximum 1,4-Dioxane	0	ug/L		
Maximum PFOA	107	ng/L	SB-5P-MR-154-082918-ACTO-JC72777AQ	
Maximum PFOS	133	ng/L	SB-5P-MR-154-082918-ACTO-JC72777AQ	
Maximum PFAS compound aside from PFOS/PFOA	131	ng/L	SB-5P-MR-154-082918-ACTO-JC72777AQ	Perfluoropentanoic Acid (PFPeA)
Total PFAS including PFOS and PFOA	697.95	ng/L	SB-5P-MR-154-082918-ACTO-JC72777AQ	

	Well ID	IM	W-3-082918-A	CTD-JC72777	AQ	IM	W-3-082918-A
IMW-3	Date		8/29	/2018			8/29/
Constituent	Units	Result	Lab Quals	Interpreted Quals	RDL	Result	Lab Quals
Perfluorobutanesulfonic acid (PFBS)	ng/l					11.7	
Perfluoroheptane Sulfonate (PFHPS)	ng/l					1.71	J
Perfluorobutanoic Acid (PFBA)	ng/l					15.7	
Perfluoroheptanoic acid (PFHpA)	ng/l					17.4	
Perfluorononanoic acid (PFNA)	ng/l					3.67	
Perfluorohexanesulfonic acid (PFHxS)	ng/l					11.1	
Perfluorooctanesulfonic acid (PFOS)	ng/l					55.3	
Perfluorodecane Sulfonic Acid	ng/l					< 4	U
Perfluorooctanoic acid (PFOA)	ng/l					44.6	
Perfluorodecanoic acid (PFDA)	ng/l					< 4	U
Perfluoropentanoic Acid (PFPeA)	ng/l					27.5	
Perfluorohexanoic acid (PFHxA)	ng/l					21.4	
Perfluoroundecanoic Acid (PFUnA)	ng/l					1.18	J
Perfluorododecanoic acid (PFDoA)	ng/l					< 4	U
Perfluorotridecanoic Acid (PFTriA)	ng/l					< 4	U
Perfluorotetradecanoic acid (PFTA)	ng/l					< 4	U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	ng/l					< 8	U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	ng/l					< 8	U
Perfluorooctane Sulfonamide (FOSA)	ng/l					< 4	U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l					< 20	U
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l					< 20	U
1,4-Dioxane (P-Dioxane)	ug/l	< 0.1	U	U	0.1		

IMW-3		
Statistic	Result	Units
Maximum 1,4-Dioxane	0	ug/L
Maximum PFOA	44.6	ng/L
Maximum PFOS	55.3	ng/L
Maximum PFAS compound aside from PFOS/PFOA	27.5	ng/L
Total PFAS including PFOS and PFOA	211.26	ng/L

	Wall ID	CTO-JC72777	۸0
I NIMI 2	_	2018	AQ.
IMW-3	Date		
Constituent	Units	Interpreted Quals	RDL
Perfluorobutanesulfonic acid (PFBS)	ng/l		2
Perfluoroheptane Sulfonate (PFHPS)	ng/l	J	4
Perfluorobutanoic Acid (PFBA)	ng/l		8
Perfluoroheptanoic acid (PFHpA)	ng/l		2
Perfluorononanoic acid (PFNA)	ng/l		2
Perfluorohexanesulfonic acid (PFHxS)	ng/l		2
Perfluorooctanesulfonic acid (PFOS)	ng/l		2
Perfluorodecane Sulfonic Acid	ng/l	U	4
Perfluorooctanoic acid (PFOA)	ng/l		2
Perfluorodecanoic acid (PFDA)	ng/l	U	4
Perfluoropentanoic Acid (PFPeA)	ng/l		4
Perfluorohexanoic acid (PFHxA)	ng/l		4
Perfluoroundecanoic Acid (PFUnA)	ng/l	J	4
Perfluorododecanoic acid (PFDoA)	ng/l	U	4
Perfluorotridecanoic Acid (PFTriA)	ng/l	U	4
Perfluorotetradecanoic acid (PFTA)	ng/l	U	4
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	ng/l	U	8
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	ng/l	U	8
Perfluorooctane Sulfonamide (FOSA)	ng/l	U	4
2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l	U	20
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l	U	20
1,4-Dioxane (P-Dioxane)	ug/l		

Sample Source	Max non PFOS/PFOA compound
IMW-3-082918-ACTD-JC72777AQ	
IMW-3-082918-ACTO-JC72777AQ	
IMW-3-082918-ACTO-JC72777AQ	
IMW-3-082918-ACTO-JC72777AQ	Perfluoropentanoic Acid (PFPeA)
IMW-3-082918-ACTO-JC72777AQ	

	Well ID	SB-5P-	MR-154-0829	18-ACTD-JC72	777AQ	SB-5P-	-MR-154-08291
SB-5P-MR-154	Date		8/29	/2018			8/29/
Constituent	Units	Result	Lab Quals	Interpreted Quals	RDL	Result	Lab Quals
Perfluorobutanesulfonic acid (PFBS)	ng/l					7.47	
Perfluoroheptane Sulfonate (PFHPS)	ng/l					2.07	J
Perfluorobutanoic Acid (PFBA)	ng/l					66.5	
Perfluoroheptanoic acid (PFHpA)	ng/l					125	
Perfluorononanoic acid (PFNA)	ng/l					21.9	
Perfluorohexanesulfonic acid (PFHxS)	ng/l					6.24	
Perfluorooctanesulfonic acid (PFOS)	ng/l					133	
Perfluorodecane Sulfonic Acid	ng/l					< 4	U
Perfluorooctanoic acid (PFOA)	ng/l					107	
Perfluorodecanoic acid (PFDA)	ng/l					2.71	J
Perfluoropentanoic Acid (PFPeA)	ng/l					131	
Perfluorohexanoic acid (PFHxA)	ng/l					89.9	
Perfluoroundecanoic Acid (PFUnA)	ng/l					< 4	U
Perfluorododecanoic acid (PFDoA)	ng/l					< 4	C
Perfluorotridecanoic Acid (PFTriA)	ng/l					< 4	U
Perfluorotetradecanoic acid (PFTA)	ng/l					< 4	C
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	ng/l					5.16	J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	ng/l					< 8	U
Perfluorooctane Sulfonamide (FOSA)	ng/l					< 4	U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l					< 20	U
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l					< 20	U
1,4-Dioxane (P-Dioxane)	ug/l	< 0.1	U	U	0.1		

SB-5P-MR-154		
Statistic	Result	Units
Maximum 1,4-Dioxane	0	ug/L
Maximum PFOA	107	ng/L
Maximum PFOS	133	ng/L
Maximum PFAS compound aside from PFOS/PFOA	131	ng/L
Total PFAS including PFOS and PFOA	697.95	ng/L

	Well ID	8-ACTO-JC72	777AQ
SB-5P-MR-154	Date	2018	
Constituent	Units	Interpreted Quals	RDL
Perfluorobutanesulfonic acid (PFBS)	ng/l		2
Perfluoroheptane Sulfonate (PFHPS)	ng/l	J	4
Perfluorobutanoic Acid (PFBA)	ng/l		8
Perfluoroheptanoic acid (PFHpA)	ng/l		2
Perfluorononanoic acid (PFNA)	ng/l		2
Perfluorohexanesulfonic acid (PFHxS)	ng/l		2
Perfluorooctanesulfonic acid (PFOS)	ng/l		2
Perfluorodecane Sulfonic Acid	ng/l	U	4
Perfluorooctanoic acid (PFOA)	ng/l		2
Perfluorodecanoic acid (PFDA)	ng/l	J	4
Perfluoropentanoic Acid (PFPeA)	ng/l		4
Perfluorohexanoic acid (PFHxA)	ng/l		4
Perfluoroundecanoic Acid (PFUnA)	ng/l	U	4
Perfluorododecanoic acid (PFDoA)	ng/l	U	4
Perfluorotridecanoic Acid (PFTriA)	ng/l	U	4
Perfluorotetradecanoic acid (PFTA)	ng/l	U	4
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	ng/l	J	8
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	ng/l	U	8
Perfluorooctane Sulfonamide (FOSA)	ng/l	U	4
2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l	U	20
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l	U	20
1,4-Dioxane (P-Dioxane)	ug/l		

Sample Source	Max non PFOS/PFOA compound
SB-5P-MR-154-082918-ACTD-JC727	777AQ
SB-5P-MR-154-082918-ACTO-JC727	777AQ
SB-5P-MR-154-082918-ACTO-JC727	⁷ 77AQ
SB-5P-MR-154-082918-ACTO-JC727	777A@erfluoropentanoic Acid (PFPeA)
SB-5P-MR-154-082918-ACTO-JC727	777AQ

