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ENVIRONMENTAL
ASSESSMENT &
REMEDIATIONS

To: Ian Hofmann
Environmental Assessment &
Remediations
225 Atlantic Avenue
Patchogue, NY 11772

From: Tracey Evans

Data: 8/20/2018

Subject: Data Usability Summary Report for Project DEC-GABRESKI-AirNationalGuard

The Following Items Are Being Transmitted:
Data Packages

Originals	Copies	Description of Materials	Electronic/ Hard Copy
1		200-43725-1Ny_CatB_Package_Mini_Final Report.pdf	Electronic
1		200-43725-1_EquNysdec.xls	Electronic

Signature:

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DEC-GABRESKI-AirNationalGuard Data Usability Summary Report for May 30, 2018 Samples

Client: Environmental Assessment & Remediations, Patchogue, New York L**aboratory:** TestAmerica, Burlington (NYDOH lab id 11452)
Site:DEC-GABRESKI-AirNationalGuard (Site#152148)

Lab Job ID: 200-43725-1			**Method Evaluation**	
Lab ID	**Field ID**	**Collection Date**	**Matrix**	**PFC**
200-43725-1	MW-4	5/30/2018	water	x
200-43725-2	ANG_UNK_MW	5/30/2018	water	x
200-43725-3	SW-09	5/30/2018	water	x
200-43725-4	SW-08	5/30/2018	water	x
200-43725-5	MW-3	5/30/2018	water	x
200-43725-6	MW-2	5/30/2018	water	x
200-43725-7	MW-1	5/30/2018	water	x
200-43725-8	MW-x	5/30/2018	water	x
200-43725-9	Equipment Blank	5/30/2018	water	x

Samples were analyzed under (depends on testing):

- USEPA Contract Laboratory Program National Functional Guidance for Super Organic Methods Data Review, EPA 540-R-2017-002 (January 2017)

It should be noted that this method, 537 Modified has not been yet defined by the EPA for a standard operational procedure to guide the evaluation of data which includes isotope dilution and liquid chromatography QA/QC

Criteria for Data Usability Summary Report

Completeness:
A complete data package is one that has all relevant and related material packaged for distribution to its client in accordance to the Analytical Service Protocol (ASP) Category B Deliverables guidelines.

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Compliant:
A compliant data package is one that is determined to have all work that pertains to the production of the laboratory data in a manner that is consistent with the Quality Assurance Program Plan.

Overall Usability Issues
Data validation was completed in accordance to the New York State Department of Environmental Conservation Analytical Service Protocol (NYSDEC ASP) Category B Data Deliverable requirements and reviewer's professional judgment.
This analytical report complies to the following points:

1. Holding Time and Analysis Time
2. Sample Analysis and Quality Control.

- There was no rejection of data.

In conclusion, the data reviewed in this report is usable and valid as it passes all stated criterion for compliance for method modified 537 (PFC IDA).

Data Completeness

- A complete Category B data package under the NYSDEC ASP has been reported.

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Data Validation Acronyms

AA	Atomic Absorption, Flame Technique
BHC	Hexachlorocyclohexane
BFB	Bromofluorobenzene (Tune check analyte)
CCC	Continuing Calibration Check
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
CVAA	Atomic Absorption, Cold Vapor
DCAA	2,4-Dichlorophenylacetic acid
DCB	Decachlorobiphenyl
DFTPP	Decafluorotriphenyl phosphine (Tune check analyte)
DL	Detection Limit
ECD	Electron Capture Detector
FAA	Atomic Absorption, Furnace Technique
FID	Flame Ionization Detector
FNP	1-Fluoronapthalene
GC	Gas Chromatography
GC/MS	Gas Chromatography/ Mass Spectrometry
GPC	Gel Permeation Chromatography
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma – Atomic Emission Spectrometer
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ICAL	Initial Calibration Curve
IS	Internal Standard
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LCS/LCSD	Laboratory Control Sample/ Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
BNAMS11	Method of Standard Additions
MSD	Matrix Spike Duplicate
MS/MSD	Matrix Spike/ Matrix Spike Duplicate

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Data Validation Acronyms

ND	Non-detected or Not Detected
PID	Photo Ionization Detector
PCB	Polychlorinated biphenyl
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
PQL	Practical Quantitation Limit
QA	Quality Assurance
QA/QC	Quality Assurance/ Quality Control
QC	Quality Control
RF	Response Factor
RPD	Relative Percent Difference
RL	Reporting Limit
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
SMC	System Monitoring Compounds/ Surrogates
SPCC	Sample Performance Check Compound
TCX	Tetrachloro-m-xylene
%D	Percent Drift
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation

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Data Validation Qualifiers

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
C	This qualifier applies to results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to results when GC/MS analysis was attempted but unsuccessful

Note:

1. These qualifiers are used for data validation purposes. The data validation qualifiers may differ from the qualifiers that the laboratory assigns to the data. Refer to the laboratory analytical report for the definitions of the laboratory qualifiers.

2. The EDDs are assigned these data validation qualifiers and refer to the valid value list supplied by the specific agency or informational data system.

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Client: Environmental Assessment & Remediations, Patchogue, New York
L**aboratory:** TESTAMERICA-Burlington, (NYDOH lab id 11452)
Site: DEC-GABRESKI (SITE# 152148)

Method Review :537 Modified (PFC)

Lab Job ID: 200-43725-1

Lab ID	Field ID	Collection Date	Matrix
200-43725-1	MW-4	5/30/2018	water
200-43725-2	ANG_UNK_MW	5/30/2018	water
200-43725-3	SW-09	5/30/2018	water
200-43725-4	SW-08	5/30/2018	water
200-43725-5	MW-3	5/30/2018	water
200-43725-6	MW-2	5/30/2018	water
200-43725-7	MW-1	5/30/2018	water
200-43725-8	MW-x	5/30/2018	water
200-43725-9	Equipment Blank	5/30/2018	water

Reviewer Summary :

Samples were handled and analyzed properly under EPA's National Functional Guideline for Organic Compounds. Surrogate failure occurred in sample MW-2 and lead to qualification of all detected samples with "J" values for estimation. Method blank contained target compounds thus the laboratory has flagged all these compounds with "B" qualifiers. The equipment blank had compounds below reporting limit thus no qualification is needed. Blind duplicate pair MW-1 and MW-X compared well in all compounds except for compound PFBS which may be due to dilution of sample. All data is within category B criterion and usable.

Blind Duplicate Comparison

	Original Sample	Blind Duplicate	Relative Percent Difference
Well	**MW-1**	**MW-X**	
13C3-PERFLUOROBUTANE SULFONATE	68.4	91	28.36 %
13C4-Perfluoroheptanoic acid	59.6	70.5	16.76 %
13C4-Perfluorooctanesulfonate	53.1	74.9	34.06 %
13C4-Perfluorooctanoic acid	61.4	99	46.88 %
13C5-Perfluorononanoic acid	62	81.4	27.06 %
18O2-Perfluorohexanesulfonic acid	59	81.6	32.15 %
Combined PFOA & PFOS	1170.9	1283.4	9.17 %
Perfluorobutanesulfonic Acid (PFBS)	<8.57	3.94	74.02 %
Perfluoroheptanoic Acid (PFHpA)	51	64.9	23.99 %
Perfluorohexanesulfonic Acid (PFHxS)	287	269	6.47 %
Perfluorononanoic Acid (PFNA)	3.77	4.26	12.2 %
Perfluorooctanesulfonic Acid (PFOS)	1130	1250	10.08 %
Perfluorooctanoic Acid (PFOA)	40.9	33.4	20.19 %

Reviewer comment: The comparison of parent and duplicate samples MW-1 and MW-X are well within the %)% QC for all compound except that of PFBS. This could be due to the dilution of the sample.

Client: Environmental Assessment & Remediations, Patchogue, New York
Laboratory: TESTAMERICA-Burlington, (NYDOH lab id 11452)
Site: DEC-GABRESKI (SITE# 152148)
Job ID: 320-43725-1

537 PFC IDA

Criteria	Y	N	NA	Comment
A. Sample Receipt				
Were samples within technical hold time and extraction period?	x			
Cooling Temp = 4°C ± 2°C .	x			
B. Initial Calibration				
Was a 5 point calibration conducted?	x			
RSD% within acceptable criterion?	x			
Was curve fit used for evaluation? If yes did the I.C. meet the curve fit acceptability of ≥0.990 ?	x			
Was the Initial Calibration Verification (ICV) done after the I.C?	x			
C. Continuing Calibration				
Was it done every 12 hours after Initial Calibration to verify it?	x			
Were (%D) and relative respond factors (RRF) within acceptable criteria?	x			
D. Laboratory Blanks				
Was a lab blank associated with each sample of SDG?	x			Two compounds, PFOA and PFHxS were detected below reportable level, which led lab to mark all sample containing these compounds with "B" qualifiers. No further qualification will be needed. Please see attachment.
Was blank analyzed every 20 samples?	x			
Were contamination found, if so qualification may be necessary?	x			
E. Field Blanks/Trip Blank				**Equipment Blank**
Was a field blanks associated with each sample of SDG?	x			While compounds were detected below RL level no

Criteria	Y	N	NA	Comment
Were target compounds detected in it?	x			further qualification is needed. Please see attachment.
F. Surrogate spikes (Isotope Dilution Recovery)				
Were Surrogates percent recovery (%R) within QC limits?	x			Sample MW-2 (200-43725-6) failed all surrogate thus all compounds detected will be qualified as estimate, "J" values. Please see attachment.
If the (R%) for one or more surrogates were out of QC, was reanalysis performed to confirm %R?		x		
H. Matrix Spike/Matrix duplicate				
Were MS and MSD analyzed for SGD?	x			
Was MS/MSD done every 20 samples?	x			
Were MS/MSD (%R) and RPD within QC?	x			
subsect.: Laboratory control sample				
Was LCS analysis for this SDG?	x			
Was LCS analysis per analysis batch?	x			
Was LCS (R%) within QC Limits?	x			
I. Field Duplicate				
Were field duplicates identified in this SGD?	x			Blind field duplicate pair MW-1 and MW-X compared well except for compound PFBS. Please see worksheet.
Were target compounds detected in it?	x			
K. Compound quantitation				
Were correct internal standards, quantitation ions and RRF used in quantitate compounds?	x			
Were compound quantitates and RLs adjusted to reflect sample dilutions and dry weights to continuous calibration?	x			
L. Target Compound Identification				
Were relative retention times (RRTs) with in ±0.06 units of standard?	x			

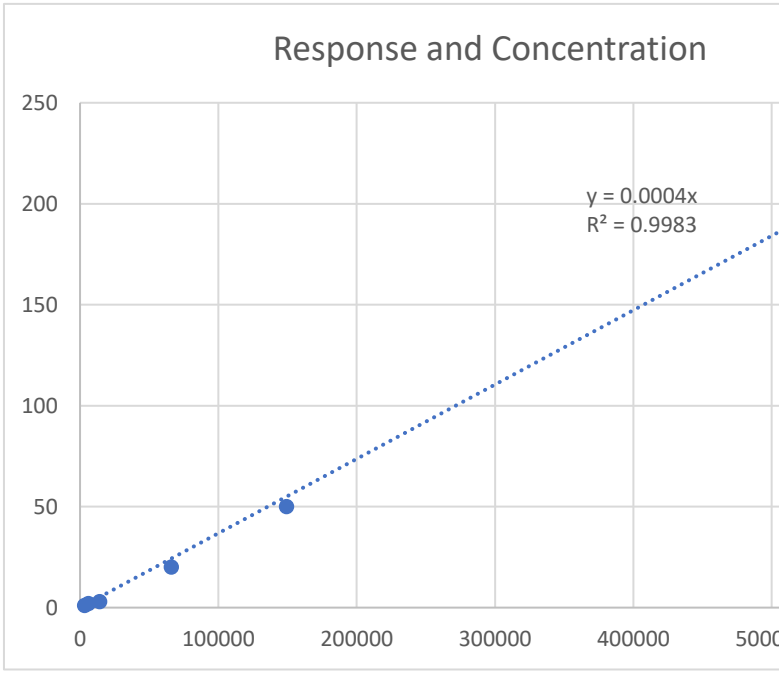
Criteria	Y	N	NA	Comment
Did the spectrum meet EPA "Functional Guidelines"?	x			
Were chromatograms peaks verified and accounted?	x			
N. Overall assessment of data				
Was Overall assessment of data found to be acceptable?	x			

Comments: Due to failures of all surrogates within sample MW-2, all detected compounds will be qualified with "J" values. Method blank and equipment blank experience contamination or compound detection. While flagged for method blank, no further qualification is needed for any samples. All results were within Cat. B criterion and usable.

Calculation Spot Check

Date: 5/15/2018 :15:13
Isotopic dilution PFBA 13C4

Curve Evaluation		Response and Concentration of PFBA	
	RRF	R	C
LV1	0.6719	3226	1
LV2	0.6594	6138	2
LV3	0.5982	14208	3
LV4	0.6151	66031	20
LV5	0.5929	149170	50
LV6	0.6541	537847	200
LV7			
AVG	0.631933		
SD	0.034024		
RSD	5.384043		



Attachments for Method Review

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-43725-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFBS #	PFHpA #	PFHxS #	PFOA #	PFNA #	PFOS #
MW-4	200-43725-1	64	69	87	80	87	87
ANG_UNK_MW	200-43725-2	78	83	91	93	97	98
SW-09	200-43725-3	87	87	49	108	101	84
SW-08	200-43725-4	68	76	67	74	112	101
MW-3	200-43725-5	84	76	91	95	93	94
MW-2	200-43725-6	0.1 *	0.08 *	0.08 *	0.1 *	0.1 *	0.09 *
MW-1	200-43725-7	86	70	73	72	72	65
MW-X	200-43725-8	109	79	96	110	91	87
EQUIPMENT BLANK	200-43725-9	62	71	66	99	110	91
	MB 200-130388/1-A	63	71	68	94	91	90
	LCS 200-130388/2-A	73	76	71	100	102	94
MW-4 MS	200-43725-1 MS	79	78	93	90	90	100
MW-4 MSD	200-43725-1 MSD	69	76	88	89	86	95

Reviewer comment: Highlighted sample MW-2 had all surrogate fails which will lead to all compounds detected within the sample to be qualified as estimates, "J" values.

	QC LIMITS
PFBS = 13C3-PFBS	25-150
PFHpA = 13C4-PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
PFOA = 13C4 PFOA	25-150
PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-43725-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 200-130388/1-A

Matrix: Water | Lab File ID: PF061218A31.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 06/08/2018 11:00

Sample wt/vol: 250(mL) | Date Analyzed: 06/12/2018 16:20

Con. Extract Vol.: 0.5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: C-18 ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 130505 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.29	U	2.00	0.29
335-67-1	Perfluorooctanoic acid (PFOA)	0.735	J	2.00	0.47
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	2.00	0.26
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.88	U	2.00	0.88
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.161	J	2.00	0.28
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.30	U	2.00	0.30

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01892	13C4-PFHpA	71		25-150
STL00990	13C4 PFOA	94		25-150
STL00995	13C5 PFNA	91		25-150
STL00994	18O2 PFHxS	68		25-150
STL00991	13C4 PFOS	90		25-150
STL02337	13C3-PFBS	63		25-150

Reviewer comment: Two compounds highlighted above were detected below reportable limit but above that of measurable limit. These "J" values for PFOA and PFHxS are now qualified by the laboratory within each sample with a "B". No further qualification is needed.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-43725-1

SDG No.:

Client Sample ID: EQUIPMENT BLANK | Lab Sample ID: 200-43725-9

Matrix: Water | Lab File ID: PF061218A44.d

Analysis Method: 537 (modified) | Date Collected: 05/30/2018 09:30

Extraction Method: 3535 | Date Extracted: 06/08/2018 11:00

Sample wt/vol: 287.3(mL) | Date Analyzed: 06/12/2018 19:50

Con. Extract Vol.: 0.5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: C-18 ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 130505 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.35	J	1.74	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.60	J B	1.74	0.41
375-95-1	Perfluorononanoic acid (PFNA)	0.23	U	1.74	0.23
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.77	U	1.74	0.77
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.51	J B	1.74	0.24
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.42	J	1.74	0.26

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01892	13C4-PFHpA	71		25-150
STL00990	13C4 PFOA	99		25-150
STL00995	13C5 PFNA	110		25-150
STL00994	18O2 PFHxS	66		25-150
STL00991	13C4 PFOS	91		25-150
STL02337	13C3-PFBS	62		25-150

Reviewer comment: While the Equipment blank contained the highlighted compounds detection below MDL, none were twice the actual reporting limit no qualification is needed.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-43725-1

SDG No.:

Client Sample ID: MW-2 | Lab Sample ID: 200-43725-6

Matrix: Water | Lab File ID: PF061918A09.d

Analysis Method: 537 (modified) | Date Collected: 05/30/2018 14:15

Extraction Method: 3535 | Date Extracted: 06/08/2018 11:00

Sample wt/vol: 291.2(mL) | Date Analyzed: 06/19/2018 12:40

Con. Extract Vol.: 0.5(mL) | Dilution Factor: 1000

Injection Volume: 20(uL) | GC Column: C-18 ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 130831 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-85-9	Perfluoroheptanoic acid (PFHpA)	4860	J	1720	249
335-67-1	Perfluorooctanoic acid (PFOA)	12600	B J	1720	404
375-95-1	Perfluorononanoic acid (PFNA)	492	J	1720	223
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3080	J	1720	755
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	221000	B J	1720	240
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	58400	J	1720	258

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01892	13C4-PFHpA	0.08	*	25-150
STL00990	13C4 PFOA	0.1	*	25-150
STL00995	13C5 PFNA	0.1	*	25-150
STL00994	18O2 PFHxS	0.08	*	25-150
STL00991	13C4 PFOS	0.09	*	25-150
STL02337	13C3-PFBS	0.1	*	25-150

Reviewer comment: Due to failure of all surrogates within the sample, all compounds detected are qualified as estimations, thus "J" values are assigned to each.