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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		320-39134-1 Ny_CatB_Package_Mini_Final Report.pdf	Electronic
1		320-39134-1 _EquNysdec.xls	Electronic

Signature:

Tracey Evans
Chemist
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Environmental Assessment and
Remediation
225 Atlantic Avenue
Patchogue, New York 11772
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DEC-GABRESKI-AirNationalGuard Data Usability Summary Report for May 7, 2018 Samples

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

Lab Job ID: 320-39134-1				**Method Evaluation**	
Lab ID	**Field ID**	**Collection Date**	**Matrix**	**PFAS**	**PFC**
320-39134-1	SDO_001_SW	5/7/2018	water	x	
320-39134-2	SDO_001_SED	5/7/2018	solid		x
320-39134-3	SDO_001_0.0-0.5	5/7/2018	solid		x
320-39134-4	SDO_001_2.0-2.5	5/7/2018	solid		x
320-39134-5	SDO_001_3.5-4.0	5/7/2018	solid		x
320-39134-6	SDO_002_0.0-0.5	5/7/2018	solid		x
320-39134-7	SDO_002_2.0-2.5	5/7/2018	solid		x
320-39134-8	SDO_002_3.5-4.0	5/7/2018	solid		x
320-39134-9	Equipment Blank	5/7/2018	water	x	
320-39134-10	Bailer-Blank	5/7/2018	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.

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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.

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 (PFAS and 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-Sacramento, (NYDOH lab id 11452)
Site: DEC-GABRESKI (SITE# 152148)

Method Review :537 Modified (PFC)

Lab Job ID: 320-39134-1

Lab ID	Field ID	Collection Date	Matrix
320-39134-2	SDO_001_SED	5/7/2018	solid
320-39134-3	SDO_001_0.0-0.5	5/7/2018	solid
320-39134-4	SDO_001_2.0-2.5	5/7/2018	solid
320-39134-5	SDO_001_3.5-4.0	5/7/2018	solid
320-39134-6	SDO_002_0.0-0.5	5/7/2018	solid
320-39134-7	SDO_002_2.0-2.5	5/7/2018	solid
320-39134-8	SDO_002_3.5-4.0	5/7/2018	solid

Reviewer Summary :
Samples were handled and analyzed properly under EPA's National Functional Guideline for Organic Compounds. All data is within category B criterion and usable.

Client: Environmental Assessment & Remediations, Patchogue, New York
Laboratory: TESTAMERICA-Sacramento, (NYDOH lab id 11452)
Site: DEC-GABRESKI (SITE# 152148)
Job ID: 320-39134-1

537 PFC IDA

Criteria	Y	N	NA	Comment
A. Sample Receipt				
Were samples within technical hold time and extraction period?				
Cooling Temp = 4°C ± 2°C .				
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			
Was blank analyzed every 20 samples?	x			
Were contamination found, if so qualification may be necessary?		x		
E. Field Blanks/Trip Blank				
Was a field blanks associated with each sample of SDG?	x			Please see PFAS portion. Equipment and Bailer Blank

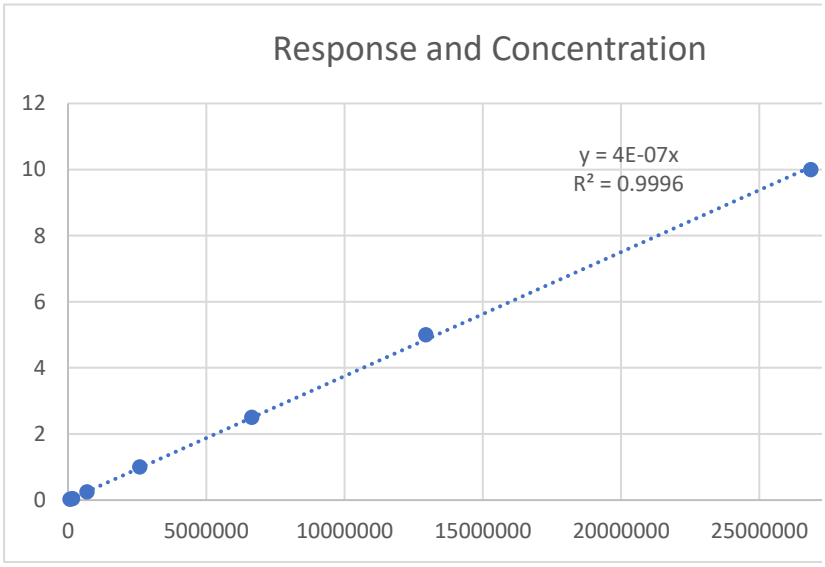
Criteria	Y	N	NA	Comment
Were target compounds detected in it?		x		was ran under PFAS method (modified 537 for liquid) no compounds were detected.
F. Surrogate spikes (Isotope Dilution Recovery)				
Were Surrogates percent recovery (%R) within QC limits?	x			
If the (R%) for one or more surrogates were 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	
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			
Did the spectrum meet EPA "Functional Guidelines"?	x			

Criteria	Y	N	NA	Comment
Were chromatograms peaks verified and accounted?	x			
N. Overall assessment of data				
Was Overall assessment of data found to be acceptable?	x			

Comments: All results were within Cat. B criterion and usable.

Calculation Spot Check
Date: 5/15/2018 15:13
Isotopic dilution PFC

Curve Evaluation		Response and Concentration	
	RRF	R	C
LV1	0.9241	73922	0.025
LV2	0.9313	162647	0.05
LV3	0.9225	691256	0.25
LV4	0.9212	2597444	1
LV5	0.9561	6642110	2.5
LV6	0.9579	12934647	5
LV7	0.8957	26861072	10
AVG	0.929829		
SD	0.021626		
RSD	2.325801		



Client: Environmental Assessment & Remediations, Patchogue, New York
L**aboratory:** TESTAMERICA -Sacramento, (NYDOH lab id 11452)

Method Review :537 Modified (PFAS)

Lab Job ID: 320-39134-1

Lab ID	Field ID	Collection Date	Matrix
320-39134-1	SDO_001_SW	5/7/2018	water
320-39134-9	Equipment Blank	5/7/2018	water
320-39134-10	Bailer-Blank	5/7/2018	water

Reviewer Summary :
Samples were handled and analyzed properly under EPA's National Functional Guideline for Organic Compounds. Within the initial and continuous calibration compound 6:2FTS failed %RSD and %D but is not relevant to this data and is ignored by reviewer when it comes to evaluation of data. It is noted because it is an issue which is present in the data; lab should investigate. All data is within category B criterion and usable.

Client: Environmental Assessment & Remediations, Patchogue, New York
Laboratory: TESTAMERICA-Sacramento, (NYDOH lab id 11452)
Site: DEC-GABRESKI (SITE# 152148)
Job ID: 320-39134-1

537 PFAS

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			Compound 6:2FTS failed but had no bearing on this data. It was included in the calibration for other samples thus it is not relevant for this data. It should be looked at by lab. Please see attachment.
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			Compound 6:2FTS failed but had no bearing on this data just as in ICV. Please see attachment.
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			
Was blank analyzed every 20 samples?	x			
Were contamination found, if so qualification may be necessary?	x			
E. Field Blanks/Trip Blank				**Bailer and Equipment Blank**
Was a field blanks associated with each sample of SDG?	x			

Criteria	Y	N	NA	Comment
Were target compounds detected in it?		x		
F. Surrogate spikes (Isotope Dilution Recovery)				
Were Surrogates percent recovery (%R) within QC limits?	x			
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	
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			
Did the spectrum meet EPA "Functional Guidelines"?	x			

Criteria	Y	N	NA	Comment
Were chromatograms peaks verified and accounted?	x			
N. Overall assessment of data				
Was Overall assessment of data found to be acceptable?	x			

Comments: All results were within Cat. B criterion and usable.

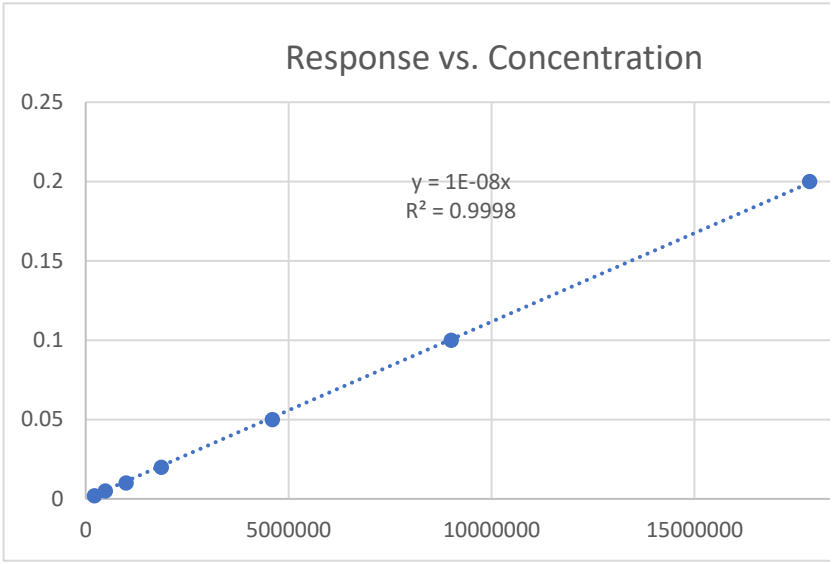
Calculation Spot Check

ICV Date :4/10/2018 13:30

Compound: 13C4 PFBA

Isotopic Dilution

Curve Evaluation		Response vs. Concentration	
L1	1.02E+08	-	-
L2	1E+08	212132	0.002
L3	1E+08	484195	0.005
L4	1.02E+08	995748	0.01
L5	1.03E+08	1863692	0.02
L6	1.05E+08	4596374	0.05
L7	1.02E+08	9003202	0.1
L8	1.02E+08	17841001	0.2
average	1.02E+08		
RSD	1.5		



Attachments for Method Review

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-39134-1 Analy Batch No.: 217253

SDG No.:

Instrument ID: A7_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/10/2018 13:30 Calibration End Date: 04/10/2018 15:39 Calibration ID: 38519

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	+++++ 0.8757	1.0585 0.8785	0.9638 0.8713	0.9757	0.9036	AveID		0.9325				7.5		35.0			
Perfluoropentanoic acid (PFPA)	1.0301 0.9845	1.0615 0.9963	1.0168 0.9627	1.0488	0.9899	AveID		1.0113				3.4		35.0			
Perfluorobutanesulfonic acid (PFBS)	1.6418 1.5981	1.6425 1.6525	1.6504 1.5191	1.6455	1.6010	AveID		1.6189				2.8		50.0			
Perfluorohexanoic acid (PFHxA)	1.0911 0.9880	1.0283 0.9648	1.0067 0.9352	1.0161	0.9867	AveID		1.0021				4.6		35.0			
Perfluorohexanesulfonic acid (PFHxS)	1.2044 1.0982	1.2215 1.1056	1.1762 1.0635	1.1041	1.0996	AveID		1.1342				5.1		50.0			
Perfluoroheptanoic acid (PFHpA)	1.0379 0.9838	1.0145 0.9716	1.0215 0.9931	0.9695	0.9966	AveID		0.9986				2.4		35.0			
6:2FTS	+++++ 0.9777	8.2812 +++++	1.7352 +++++	1.0036	2.5853	AveID		2.9166				105.3	*	35.0			
Perfluorooctanoic acid (PFOA)	1.1662 1.0535	1.1378 1.0381	1.0641 1.0289	1.0719	1.0723	AveID		1.0791				4.5		35.0			
Perfluorooctanesulfonic acid (PFOS)	1.0911 1.0637	1.0791 1.0948	1.0957 1.0807	1.0725	1.0526	AveID		1.0788				1.4		35.0			
Perfluorononanoic acid (PFNA)	1.0619 0.9906	0.9084 0.9642	0.9382 0.9606	0.9894	0.9611	AveID		0.9718				4.6		35.0			
Perfluorooctane Sulfonamide (FOSA)	0.8883 0.9455	0.9119 0.9485	0.9654 0.9291	0.9899	0.9668	AveID		0.9432				3.5		35.0			
Perfluorodecanoic acid (PFDA)	0.9965 0.9713	1.0399 0.9580	1.0474 0.9739	0.9674	0.9645	AveID		0.9899				3.5		35.0			
8:2FTS	1.0270 1.0481	1.1034 0.9149	1.0412 0.8187	1.1331	1.0332	AveID		1.0150				10.0		35.0			
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.9970 1.0194	1.0936 1.0195	1.0387 1.0261	1.0404	1.0462	AveID		1.0351				2.7		35.0			
Perfluorodecanesulfonic acid (PFDS)	0.6934 0.6419	0.6440 0.7182	0.6494 0.6923	0.6700	0.6419	AveID		0.6689				4.4		50.0			
Perfluoroundecanoic acid (PFUnA)	1.0768 0.9908	1.0956 1.0233	1.0145 1.0524	1.0365	1.0037	AveID		1.0367				3.5		35.0			
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.8987 0.9823	0.8628 0.8995	0.9018 0.9366	0.9541	0.9747	AveID		0.9263				4.6		35.0			
Perfluorododecanoic acid (PFDoA)	0.9673 0.9607	1.0098 0.9872	1.0167 0.9748	1.0023	0.9831	AveID		0.9877				2.1		35.0			
Perfluorotridecanoic Acid (PFTriA)	0.9223 0.8879	0.9214 0.9987	0.9486 0.9299	0.8607	0.8657	AveID		0.9169				5.0		50.0			

Reviewer comment: It should be noted that compound 6:2FTS failed QC %RSD. This had no bearing on data but is told to laboratory due to possible implications on future sample results.

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-39134-1

SDG No.:

Lab Sample ID: CCV 320-224372/28 Calibration Date: 05/20/2018 19:13

Instrument ID: A7_N Calib Start Date: 04/10/2018 13:30

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 04/10/2018 15:39

Lab File ID: 2018.05.20A_030.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9325	0.8671		46.5	50.0	-7.0	40.0
Perfluoropentanoic acid (PFPA)	AveID	1.011	0.997		49.3	50.0	-1.5	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.619	1.715		46.8	44.2	5.9	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.002	0.9732		48.6	50.0	-2.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.134	1.108		44.4	45.5	-2.3	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.999	1.025		51.3	50.0	2.6	40.0
6:2FTS	AveID	2.917	0.9489		15.4	47.4	-67.5*	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.079	1.050		48.7	50.0	-2.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.079	1.075		46.2	46.4	-0.4	40.0
Perfluorononanoic acid (PFNA)	AveID	0.9718	0.9005		46.3	50.0	-7.3	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9432	0.9729		51.6	50.0	3.2	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9452		47.7	50.0	-4.5	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.035	0.9861		47.6	50.0	-4.7	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6689	0.6673		48.1	48.2	-0.2	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.037	1.054		50.8	50.0	1.7	40.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9263	0.9450		51.0	50.0	2.0	40.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9877	0.9834		49.8	50.0	-0.4	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.9169	0.8585		46.8	50.0	-6.4	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.7735	0.7600		49.1	50.0	-1.7	50.0
8:2FTS	AveID	1.015			3.00	47.9		
Perfluoro-n-hexadecanoic acid (PFHxDA)	AveID	0.4120			0.0800	50.0		
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.0882			0.420	50.0		
13C4 PFBA	Ave	102179095	99810040		48.8	50.0	-2.3	50.0
13C5-PFPeA	Ave	83378355	77688940		46.6	50.0	-6.8	50.0
13C2 PFHxA	Ave	68692190	67036000		48.8	50.0	-2.4	50.0
18O2 PFHxS	Ave	88960230	79556998		42.3	47.3	-10.6	50.0
13C4-PFHpA	Ave	53234750	45904220		43.1	50.0	-13.8	50.0
M2-6:2FTS	Ave	40273711	40645621		47.9	47.5	0.9	50.0
13C4 PFOA	Ave	44233845	42022400		47.5	50.0	-5.0	50.0
13C4 PFOS	Ave	79851221	76758222		46.0	47.8	-3.9	50.0
13C5 PFNA	Ave	34499178	34152000		49.5	50.0	-1.0	50.0

Reviewer comment: It should be note that compound 6:2FTS failed QC %D of opening CCV. This had no bearing on data but is told to laboratory due to possible implications on future sample results.

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-39134-1

SDG No.:

Lab Sample ID: CCV 320-224372/34 Calibration Date: 05/20/2018 21:03

Instrument ID: A7_N Calib Start Date: 04/10/2018 13:30

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 04/10/2018 15:39

Lab File ID: 2018.05.20A_036.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9325	0.8997		19.3	20.0	-3.5	40.0
Perfluoropentanoic acid (PFPA)	AveID	1.011	1.025		20.3	20.0	1.3	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.619	1.686		18.4	17.7	4.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.002	0.9710		19.4	20.0	-3.1	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.999	0.9600		19.2	20.0	-3.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.134	1.090		17.5	18.2	-3.9	40.0
6:2FTS	AveID	2.917	1.517		9.86	19.0	-48.0*	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.079	1.041		19.3	20.0	-3.5	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.079	1.063		18.3	18.6	-1.5	40.0
Perfluorononanoic acid (PFNA)	AveID	0.9718	0.999		20.6	20.0	2.8	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9432	1.002		21.3	20.0	6.3	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9894		20.0	20.0	-0.0	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.035	1.029		19.9	20.0	-0.6	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6689	0.6959		20.1	19.3	4.0	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.037	0.9922		19.1	20.0	-4.3	40.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9263	0.9023		19.5	20.0	-2.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9877	1.015		20.6	20.0	2.8	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.9169	0.8383		18.3	20.0	-8.6	50.0
8:2FTS	AveID	1.015			3.00	19.2		
Perfluoro-n-hexadecanoic acid (PFHxDA)	AveID	0.4120			0.0800	20.0		
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.0882			0.420	20.0		
Perfluorotetradecanoic acid (PFTeA)	AveID	0.7735			0.120	20.0		
13C4 PFBA	Ave	102179095	94767380		46.4	50.0	-7.3	50.0
13C5-PFPeA	Ave	83378355	75709680		45.4	50.0	-9.2	50.0
13C2 PFHxA	Ave	68692190	66591240		48.5	50.0	-3.1	50.0
13C4-PFHpA	Ave	53234750	46199000		43.4	50.0	-13.2	50.0
18O2 PFHxS	Ave	88960230	80648288		42.9	47.3	-9.3	50.0
M2-6:2FTS	Ave	40273711	38879537		45.9	47.5	-3.5	50.0
13C4 PFOA	Ave	44233845	42371960		47.9	50.0	-4.2	50.0
13C4 PFOS	Ave	79851221	74223954		44.4	47.8	-7.0	50.0
13C5 PFNA	Ave	34499178	32266040		46.8	50.0	-6.5	50.0

Reviewer comment: It should be noted that compound 6:2FTS failed QC %D on closing CCV. This had no bearing on data.