Your P.O. #: 53479
Your Project #: MTBE_01
Site Location: 53479
Your C.O.C. #: n/a

Attention: Aaron DeWees

Absolute Resource Associates LLC
124 Heritage Avenue
Unit # 16
Portsmouth, NH
USA 03801

Report Date: 2020/08/27
Report #: R6309657
Version: 8 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0F5294
Received: 2020/06/23, 13:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Post Oxidation PFAS in water (1)	1	2020/07/01	2020/07/04	CAM SOP-00095/CAM SOP-00894	Houtz & Sedlak 2012
PFAS in water by SPE/LCMS (2)	1	2020/07/02	2020/07/02	CAM SOP-00894	EPA 537 m
Change in PFAS after oxidation (3)	1	N/A	2020/07/03	CAM SOP-00095	

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Oxidation was performed adhering to the protocol as described by Houtz, E.F. and Sedlak, D.L. (2012). Environ. Sci. Technol., 46, 9342-9349
(2) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.
(3) The change in PFAS concentration was calculated by subtracting the pre oxidation concentration from the post oxidation concentration. A negative change indicates a decrease in PFAS concentration after oxidation. If the concentration of a parameter was <RDL either prior to or post oxidation, the concentration was treated as “zero” for the difference calculation. While the PFOS and PFOA analysis by SPE/LCMS used for the quantitation of per- and polyfluoroalkyl substances (PFAS) is an accredited method, the oxidation of PFASs via the TOPs Assay is not an accredited method.
U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.

Your P.O. #: 53479
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Portsmouth, NH
USA 03801

Report Date: 2020/08/27
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CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0F5294
Received: 2020/06/23, 13:00

B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Stephanie Pollen
Project Manager
27 Aug 2020 17:34:22

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: Stephanie.Pollen@bvlabs.com
Phone# (905)817-5830

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

PERFLUOROALKYL SUBSTANCES (WATER)

BV Labs ID		MYC431			
Sampling Date		2020/06/19 10:15			
COC Number		n/a			
	UNITS	NH0100366_I	RDL	MDL	QC Batch
Perfluorinated Compounds					
Perfluorobutanoic acid (PFBA)	ug/L	0.024	0.020	0.0070	6814967
Post Oxidation Perfluorobutanoic acid (PFBA)	ug/L	0.088	0.040	0.040	6833963
Perfluoropentanoic acid (PFPeA)	ug/L	0.017 J	0.020	0.0041	6814967
Post Oxidation Perfluoropentanoic acid (PFPeA)	ug/L	0.064	0.040	0.040	6833963
Perfluorohexanoic acid (PFHxA)	ug/L	0.035	0.020	0.0064	6814967
Post Oxidation Perfluorohexanoic acid (PFHxA)	ug/L	0.062	0.040	0.040	6814469
Perfluoroheptanoic acid (PFHpA)	ug/L	0.0075 J	0.020	0.0071	6814967
Post Oxidation Perfluoroheptanoic acid (PFHpA)	ug/L	0.040 U	0.040	0.040	6833963
Perfluorooctanoic acid (PFOA)	ug/L	0.016 J	0.020	0.0074	6814967
Post Oxidation Perfluorooctanoic acid (PFOA)	ug/L	0.040 U	0.040	0.040	6814469
Perfluorononanoic acid (PFNA)	ug/L	0.0049 U	0.020	0.0049	6814967
Post Oxidation Perfluorononanoic acid (PFNA)	ug/L	0.040 U	0.040	0.040	6814469
Perfluorodecanoic acid (PFDA)	ug/L	0.0041 U	0.020	0.0041	6814967
Post Oxidation Perfluorodecanoic acid (PFDA)	ug/L	0.040 U	0.040	0.040	6814469
Perfluoroundecanoic acid (PFUnA)	ug/L	0.0043 U	0.020	0.0043	6814967
Post Oxidation Perfluoroundecanoic acid (PFUnA)	ug/L	0.040 U	0.040	0.040	6814469
Perfluorododecanoic acid (PFDoA)	ug/L	0.0068 U	0.020	0.0068	6814967
Post Oxidation Perfluorododecanoic acid (PFDoA)	ug/L	0.040 U	0.040	0.040	6814469
Perfluorotridecanoic acid (PFTRDA)	ug/L	0.0069 U	0.020	0.0069	6814967
Post Oxidation Perfluorotridecanoic acid (PFTRDA)	ug/L	0.040 U	0.040	0.040	6833963
Perfluorotetradecanoic acid(PFTEDA)	ug/L	0.0067 U	0.020	0.0067	6814967
Post Oxidation Perfluorotetradecanoic acid(PFTEDA)	ug/L	0.040 U	0.040	0.040	6814469
Perfluorobutanesulfonic acid (PFBS)	ug/L	0.0051 U	0.020	0.0051	6814967
Post Oxidation Perfluorobutanesulfonic acid (PFBS)	ug/L	0.040 U	0.040	0.040	6833963
Perfluorohexanesulfonic acid(PFHxS)	ug/L	0.013 J	0.020	0.0052	6814967
Post Oxidation Perfluorohexanesulfonic acid(PFHxS)	ug/L	0.040 U	0.040	0.040	6814469
Perfluoroheptanesulfonic acid PFHpS	ug/L	0.0033 U	0.020	0.0033	6814967
Post Oxidation Perfluoroheptanesulfonic acid PFHpS	ug/L	0.040 U	0.040	0.040	6814469
Perfluorooctanesulfonic acid (PFOS)	ug/L	0.0052 U	0.020	0.0052	6814967
Post Oxidation Perfluorooctanesulfonic acid (PFOS)	ug/L	0.040 U	0.040	0.040	6833963
Perfluorodecanesulfonic acid (PFDS)	ug/L	0.0072 U	0.020	0.0072	6814967
Post Oxidation Perfluorodecanesulfonic acid (PFDS)	ug/L	0.040 U	0.040	0.040	6814469
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.0066 U	0.020	0.0066	6814967

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

PERFLUOROALKYL SUBSTANCES (WATER)

BV Labs ID		MYC431			
Sampling Date		2020/06/19 10:15			
COC Number		n/a			
	UNITS	NH0100366_I	RDL	MDL	QC Batch
Post Oxidation Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.040 U	0.040	0.040	6814469
EtFOSA	ug/L	0.0090 U	0.020	0.0090	6814967
Post Oxidation EtFOSA	ug/L	0.040 U	0.040	0.040	6814469
MeFOSA	ug/L	0.0035 U	0.020	0.0035	6814967
Post Oxidation MeFOSA	ug/L	0.040 U	0.040	0.040	6814469
EtFOSE	ug/L	0.0094 U	0.020	0.0094	6814967
Post Oxidation EtFOSE	ug/L	0.040 U	0.040	0.040	6814469
MeFOSE	ug/L	0.0066 U	0.020	0.0066	6814967
Post Oxidation MeFOSE	ug/L	0.040 U	0.040	0.040	6814469
EtFOSAA	ug/L	0.0081 U	0.020	0.0081	6814967
Post Oxidation EtFOSAA	ug/L	0.040 U	0.040	0.040	6814469
MeFOSAA	ug/L	0.0070 U	0.020	0.0070	6814967
Post Oxidation MeFOSAA	ug/L	0.040 U	0.040	0.040	6833963
4:2 Fluorotelomer sulfonic acid	ug/L	0.0066 U	0.020	0.0066	6814967
6:2 Fluorotelomer sulfonic acid	ug/L	0.016 J	0.020	0.0059	6814967
Post Oxidation 6:2 Fluorotelomer sulfonic acid	ug/L	0.040 U	0.040	0.040	6814469
8:2 Fluorotelomer sulfonic acid	ug/L	0.0059 U	0.020	0.0059	6814967
Post Oxidation 8:2 Fluorotelomer sulfonic acid	ug/L	0.040 U	0.040	0.040	6814469
Surrogate Recovery (%)					
Post Oxidation 13C2-6:2-Fluorotelomersulfonic Acid	%	76	N/A	N/A	6814469
Post Oxidation 13C2-8:2-Fluorotelomersulfonic Acid	%	76	N/A	N/A	6814469
Post Oxidation 13C2-Perfluorodecanoic acid	%	76	N/A	N/A	6814469
Post Oxidation 13C2-Perfluorododecanoic acid	%	65	N/A	N/A	6814469
Post Oxidation 13C2-Perfluorohexanoic acid	%	81	N/A	N/A	6814469
Post Oxidation 13C2-perfluorotetradecanoic acid	%	96	N/A	N/A	6833963
Post Oxidation 13C2-Perfluoroundecanoic acid	%	69	N/A	N/A	6814469
Post Oxidation 13C3-Perfluorobutanesulfonic acid	%	109	N/A	N/A	6833963
Post Oxidation 13C4-Perfluorobutanoic acid	%	105	N/A	N/A	6833963
Post Oxidation 13C4-Perfluoroheptanoic acid	%	110	N/A	N/A	6833963
Post Oxidation 13C4-Perfluorooctanesulfonic acid	%	98	N/A	N/A	6833963
Post Oxidation 13C4-Perfluorooctanoic acid	%	78	N/A	N/A	6814469
Post Oxidation 13C5-Perfluorononanoic acid	%	77	N/A	N/A	6814469
Post Oxidation 13C5-Perfluoropentanoic acid	%	103	N/A	N/A	6833963
Post Oxidation 13C8-Perfluorooctane Sulfonamide	%	58	N/A	N/A	6814469

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

PERFLUOROALKYL SUBSTANCES (WATER)

BV Labs ID		MYC431			
Sampling Date		2020/06/19 10:15			
COC Number		n/a			
	UNITS	NH0100366_I	RDL	MDL	QC Batch
Post Oxidation 18O2-Perfluorohexanesulfonic acid	%	77	N/A	N/A	6814469
Post Oxidation D3-MeFOSAA	%	91	N/A	N/A	6833963
Post Oxidation D5-EtFOSAA	%	67	N/A	N/A	6814469
Post Oxidation D7-MeFOSE	%	57	N/A	N/A	6814469
Post Oxidation D9-EtFOSE	%	58	N/A	N/A	6814469
13C2-4:2-Fluorotelomersulfonic Acid	%	157 (1)	N/A	N/A	6814967
13C2-6:2-Fluorotelomersulfonic Acid	%	174 (2)	N/A	N/A	6814967
13C2-8:2-Fluorotelomersulfonic Acid	%	195 (3)	N/A	N/A	6814967
13C2-Perfluorodecanoic acid	%	79	N/A	N/A	6814967
13C2-Perfluorododecanoic acid	%	40 (4)	N/A	N/A	6814967
13C2-Perfluorohexanoic acid	%	85	N/A	N/A	6814967
13C2-perfluorotetradecanoic acid	%	25 (5)	N/A	N/A	6814967
13C2-Perfluoroundecanoic acid	%	63	N/A	N/A	6814967

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

(1) Extracted internal standard analyte recovery was above the defined upper control limit (UCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be increasing the variability of the associated native analyte result (4:2-FTS).

(2) Extracted internal standard analyte recovery was above the defined upper control limit (UCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be increasing the variability of the associated native analyte result (6:2-FTS).

(3) Extracted internal standard analyte recovery was above the defined upper control limit (UCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be increasing the variability of the associated native analyte result (8:2-FTS).

(4) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analyte (PFDoA).

(5) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analytes (PFTrDA, PFTeDA).

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BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

PERFLUOROALKYL SUBSTANCES (WATER)

BV Labs ID		MYC431			
Sampling Date		2020/06/19 10:15			
COC Number		n/a			
	UNITS	NH0100366_I	RDL	MDL	QC Batch
13C3-Perfluorobutanesulfonic acid	%	92	N/A	N/A	6814967
13C4-Perfluorobutanoic acid	%	46 (1)	N/A	N/A	6814967
13C4-Perfluoroheptanoic acid	%	91	N/A	N/A	6814967
13C4-Perfluorooctanesulfonic acid	%	84	N/A	N/A	6814967
13C4-Perfluorooctanoic acid	%	89	N/A	N/A	6814967
13C5-Perfluorononanoic acid	%	80	N/A	N/A	6814967
13C5-Perfluoropentanoic acid	%	82	N/A	N/A	6814967
13C8-Perfluorooctane Sulfonamide	%	37 (2)	N/A	N/A	6814967
18O2-Perfluorohexanesulfonic acid	%	87	N/A	N/A	6814967
D3-MeFOSA	%	40 (3)	N/A	N/A	6814967
D3-MeFOSAA	%	77	N/A	N/A	6814967
D5-EtFOSA	%	35 (4)	N/A	N/A	6814967
D5-EtFOSAA	%	68	N/A	N/A	6814967
D7-MeFOSE	%	41 (5)	N/A	N/A	6814967

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked waterresulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be increasing the variability of the associated native analyte result (PFBA).

(2) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analyte (PFOSA).

(3) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analyte (MeFOSA).

(4) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analyte (EtFOSA).

(5) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analyte (MeFOSE).

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BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

PERFLUOROALKYL SUBSTANCES (WATER)

BV Labs ID		MYC431			
Sampling Date		2020/06/19 10:15			
COC Number		n/a			
	UNITS	NH0100366_I	RDL	MDL	QC Batch
D9-EtFOSE	%	37 (1)	N/A	N/A	6814967

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analyte (EtFOSE).

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DIFFERENCE IN PRE & POST OXIDATION CONC. (WATER)

BV Labs ID		MYC431		
Sampling Date		2020/06/19 10:15		
COC Number		n/a		
	UNITS	NH0100366_I	MDL	QC Batch
Perfluorinated Compounds				
Change in Perfluorobutanoic acid (PFBA)	ug/L	0.064	N/A	6801517
Change in Perfluoropentanoic acid (PFPeA)	ug/L	0.064	N/A	6801517
Change in Perfluorohexanoic acid (PFHxA)	ug/L	0.027	N/A	6801517
Change in Perfluoroheptanoic acid (PFHpA)	ug/L	0	N/A	6801517
Change in Perfluorooctanoic acid (PFOA)	ug/L	0	N/A	6801517
Change in Perfluorononanoic acid (PFNA)	ug/L	0	N/A	6801517
Change in Perfluorodecanoic acid (PFDA)	ug/L	0	N/A	6801517
Change in Perfluoroundecanoic acid (PFUnA)	ug/L	0	N/A	6801517
Change in Perfluorododecanoic acid (PFDoA)	ug/L	0	N/A	6801517
Change in Perfluorotridecanoic acid (PFTRDA)	ug/L	0	N/A	6801517
Change in Perfluorotetradecanoic acid(PFTEDA)	ug/L	0	N/A	6801517
Change in Perfluorobutanesulfonic acid (PFBS)	ug/L	0	N/A	6801517
Change in Perfluorohexanesulfonic acid(PFHxS)	ug/L	0	N/A	6801517
Change in Perfluoroheptanesulfonic acid PFHpS	ug/L	0	N/A	6801517
Change in Perfluorooctanesulfonic acid (PFOS)	ug/L	0	N/A	6801517
Change in Perfluorodecanesulfonic acid (PFDS)	ug/L	0	N/A	6801517
Change in Perfluorooctane Sulfonamide (PFOSA)	ug/L	0	N/A	6801517
Change in EtFOSA	ug/L	0	N/A	6801517
Change in MeFOSA	ug/L	0	N/A	6801517
Change in EtFOSE	ug/L	0	N/A	6801517
Change in MeFOSE	ug/L	0	N/A	6801517
Change in EtFOSAA	ug/L	0	N/A	6801517
Change in MeFOSAA	ug/L	0	N/A	6801517
Change in 6:2 Fluorotelomer sulfonic acid	ug/L	0	N/A	6801517
Change in 8:2 Fluorotelomer sulfonic acid	ug/L	0	N/A	6801517

QC Batch = Quality Control Batch
N/A = Not Applicable

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BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
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Site Location: 53479
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TEST SUMMARY

BV Labs ID: MYC431
Sample ID: NH0100366_I
Matrix: Water

Collected: 2020/06/19
Shipped:
Received: 2020/06/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Post Oxidation PFAS in water	LCMS	6814469	2020/07/01	2020/07/04	Xinhe Xing (Helena)
PFAS in water by SPE/LCMS	LCMS	6814967	2020/07/02	2020/07/02	Patrick Yu Peng Li
Change in PFAS after oxidation	LCMS	6801517	N/A	2020/07/03	Automated Statchk

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GENERAL COMMENTS

Revised Reports (2020/08/27): Split report as per client request.
Sample MYC431, Post Oxidation PFAS in water: Test repeated.

Results relate only to the items tested.

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BV Labs Job #: C0F5294
Report Date: 2020/08/27

Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
6814469	XIN	Spiked Blank	Post Oxidation 13C2-6:2-Fluorotelomersulfonic	2020/07/04		81	%	50 - 150
			Post Oxidation 13C2-8:2-Fluorotelomersulfonic	2020/07/04		83	%	50 - 150
			Post Oxidation 13C2-Perfluorodecanoic acid	2020/07/04		80	%	50 - 150
			Post Oxidation 13C2-Perfluorododecanoic acid	2020/07/04		71	%	50 - 150
			Post Oxidation 13C2-Perfluorohexanoic acid	2020/07/04		85	%	50 - 150
			Post Oxidation 13C2-Perfluoroundecanoic acid	2020/07/04		75	%	50 - 150
			Post Oxidation 13C4-Perfluorooctanoic acid	2020/07/04		80	%	50 - 150
			Post Oxidation 13C5-Perfluorononanoic acid	2020/07/04		81	%	50 - 150
			Post Oxidation 13C8-Perfluorooctane Sulfonami	2020/07/04		73	%	50 - 150
			Post Oxidation 18O2-Perfluorohexanesulfonic a	2020/07/04		79	%	50 - 150
			Post Oxidation D5-EtFOSAA	2020/07/04		71	%	50 - 150
			Post Oxidation D7-MeFOSE	2020/07/04		67	%	50 - 150
			Post Oxidation D9-EtFOSE	2020/07/04		70	%	50 - 150
			Post Oxidation Perfluorohexanoic acid (PFHxA)	2020/07/04		130	%	70 - 130
			Post Oxidation Perfluorooctanoic acid (PFOA)	2020/07/04		129	%	30 - 130
			Post Oxidation Perfluorononanoic acid (PFNA)	2020/07/04		126	%	70 - 130
			Post Oxidation Perfluorodecanoic acid (PFDA)	2020/07/04		122	%	70 - 130
			Post Oxidation Perfluoroundecanoic acid (PFUn	2020/07/04		122	%	70 - 130
			Post Oxidation Perfluorododecanoic acid (PFDo	2020/07/04		125	%	70 - 130
			Post Oxidation Perfluorotetradecanoic acid(PFT	2020/07/04		124	%	70 - 130
			Post Oxidation Perfluorohexanesulfonic acid(PF	2020/07/04		127	%	30 - 130
			Post Oxidation Perfluoroheptanesulfonic acid P	2020/07/04		125	%	30 - 130
			Post Oxidation Perfluorodecanesulfonic acid (PF	2020/07/04		122	%	30 - 130
			Post Oxidation Perfluorooctane Sulfonamide (P	2020/07/04		117	%	70 - 130
			Post Oxidation EtFOSA	2020/07/04		106	%	70 - 130
			Post Oxidation MeFOSA	2020/07/04		109	%	70 - 130
			Post Oxidation EtFOSE	2020/07/04		111	%	70 - 130
			Post Oxidation MeFOSE	2020/07/04		123	%	70 - 130
			Post Oxidation EtFOSAA	2020/07/04		130	%	70 - 130
			Post Oxidation 6:2 Fluorotelomer sulfonic acid	2020/07/04		124	%	30 - 130
			Post Oxidation 8:2 Fluorotelomer sulfonic acid	2020/07/04		126	%	30 - 130
6814469	XIN	Method Blank	Post Oxidation 13C2-6:2-Fluorotelomersulfonic	2020/07/04		79	%	50 - 150
			Post Oxidation 13C2-8:2-Fluorotelomersulfonic	2020/07/04		76	%	50 - 150
			Post Oxidation 13C2-Perfluorodecanoic acid	2020/07/04		72	%	50 - 150
			Post Oxidation 13C2-Perfluorododecanoic acid	2020/07/04		64	%	50 - 150
			Post Oxidation 13C2-Perfluorohexanoic acid	2020/07/04		83	%	50 - 150
			Post Oxidation 13C2-Perfluoroundecanoic acid	2020/07/04		67	%	50 - 150
			Post Oxidation 13C4-Perfluorooctanoic acid	2020/07/04		80	%	50 - 150
			Post Oxidation 13C5-Perfluorononanoic acid	2020/07/04		78	%	50 - 150
			Post Oxidation 13C8-Perfluorooctane Sulfonami	2020/07/04		65	%	50 - 150
			Post Oxidation 18O2-Perfluorohexanesulfonic a	2020/07/04		78	%	50 - 150
			Post Oxidation D5-EtFOSAA	2020/07/04		60	%	50 - 150
			Post Oxidation D7-MeFOSE	2020/07/04		61	%	50 - 150
			Post Oxidation D9-EtFOSE	2020/07/04		64	%	50 - 150
			Post Oxidation Perfluorohexanoic acid (PFHxA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorooctanoic acid (PFOA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorononanoic acid (PFNA)	2020/07/04	0.020 U, MDL=0.020		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Post Oxidation Perfluorodecanoic acid (PFDA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluoroundecanoic acid (PFUnA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorododecanoic acid (PFDoA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorotetradecanoic acid (PFTEDA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorohexanesulfonic acid (PFHxS)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluoroheptanesulfonic acid PFHpS	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorodecanesulfonic acid (PFDS)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorooctane Sulfonamide (PFOSA)	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation EtFOSA	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation MeFOSA	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation EtFOSE	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation MeFOSE	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation EtFOSAA	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation 6:2 Fluorotelomer sulfonic acid	2020/07/04	0.020 U, MDL=0.020		ug/L	
			Post Oxidation 8:2 Fluorotelomer sulfonic acid	2020/07/04	0.020 U, MDL=0.020		ug/L	
6814469	XIN	RPD - Sample/Sample Dup	Post Oxidation Perfluorohexanoic acid (PFHxA)	2020/07/04	7.0		%	30
			Post Oxidation Perfluorooctanoic acid (PFOA)	2020/07/04	0.20		%	30
			Post Oxidation Perfluorononanoic acid (PFNA)	2020/07/04	NC		%	30
			Post Oxidation Perfluorodecanoic acid (PFDA)	2020/07/04	NC		%	30
			Post Oxidation Perfluoroundecanoic acid (PFUn	2020/07/04	NC		%	30
			Post Oxidation Perfluorododecanoic acid (PFDo	2020/07/04	NC		%	30
			Post Oxidation Perfluorotetradecanoic acid(PFT	2020/07/04	NC		%	30
			Post Oxidation Perfluorohexanesulfonic acid(PF	2020/07/04	NC		%	30
			Post Oxidation Perfluoroheptanesulfonic acid P	2020/07/04	NC		%	30
			Post Oxidation Perfluorodecanesulfonic acid (PF	2020/07/04	NC		%	30
			Post Oxidation Perfluorooctane Sulfonamide (P	2020/07/04	NC		%	30
			Post Oxidation EtFOSA	2020/07/04	NC		%	30
			Post Oxidation MeFOSA	2020/07/04	NC		%	30
			Post Oxidation EtFOSE	2020/07/04	NC		%	30
			Post Oxidation MeFOSE	2020/07/04	NC		%	30
			Post Oxidation EtFOSAA	2020/07/04	NC		%	30
			Post Oxidation 6:2 Fluorotelomer sulfonic acid	2020/07/04	NC		%	30
			Post Oxidation 8:2 Fluorotelomer sulfonic acid	2020/07/04	NC		%	30
6814967	YPL	Spiked Blank	13C2-4:2-Fluorotelomersulfonic Acid	2020/07/02		97	%	50 - 150
			13C2-6:2-Fluorotelomersulfonic Acid	2020/07/02		93	%	50 - 150
			13C2-8:2-Fluorotelomersulfonic Acid	2020/07/02		97	%	50 - 150
			13C2-Perfluorodecanoic acid	2020/07/02		90	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C2-Perfluorododecanoic acid	2020/07/02		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/07/02		94	%	50 - 150
			13C2-perfluorotetradecanoic acid	2020/07/02		84	%	50 - 150
			13C2-Perfluoroundecanoic acid	2020/07/02		90	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/07/02		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/07/02		98	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/07/02		96	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/07/02		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/07/02		93	%	50 - 150
			13C5-Perfluorononanoic acid	2020/07/02		94	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/07/02		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2020/07/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2020/07/02		90	%	50 - 150
			D3-MeFOSA	2020/07/02		62	%	50 - 150
			D3-MeFOSAA	2020/07/02		81	%	50 - 150
			D5-EtFOSA	2020/07/02		60	%	50 - 150
			D5-EtFOSAA	2020/07/02		84	%	50 - 150
			D7-MeFOSE	2020/07/02		81	%	50 - 150
			D9-EtFOSE	2020/07/02		76	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/07/02		98	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2020/07/02		100	%	70 - 130
			Perfluorohexanoic acid (PFHxA)	2020/07/02		98	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2020/07/02		98	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2020/07/02		102	%	70 - 130
			Perfluorononanoic acid (PFNA)	2020/07/02		97	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2020/07/02		100	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2020/07/02		100	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2020/07/02		101	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2020/07/02		101	%	70 - 130
			Perfluorotetradecanoic acid(PFTEDA)	2020/07/02		99	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2020/07/02		99	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2020/07/02		102	%	70 - 130
			Perfluoroheptanesulfonic acid PFHpS	2020/07/02		97	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2020/07/02		103	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2020/07/02		95	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2020/07/02		99	%	70 - 130
			EtFOSA	2020/07/02		105	%	70 - 130
			MeFOSA	2020/07/02		105	%	70 - 130
			EtFOSE	2020/07/02		98	%	70 - 130
			MeFOSE	2020/07/02		98	%	70 - 130
			EtFOSAA	2020/07/02		98	%	70 - 130
			MeFOSAA	2020/07/02		103	%	70 - 130
			4:2 Fluorotelomer sulfonic acid	2020/07/02		101	%	70 - 130
			6:2 Fluorotelomer sulfonic acid	2020/07/02		106	%	70 - 130
			8:2 Fluorotelomer sulfonic acid	2020/07/02		101	%	70 - 130
6814967	YPL	Spiked Blank DUP	13C2-4:2-Fluorotelomersulfonic Acid	2020/07/02		100	%	50 - 150
			13C2-6:2-Fluorotelomersulfonic Acid	2020/07/02		96	%	50 - 150
			13C2-8:2-Fluorotelomersulfonic Acid	2020/07/02		94	%	50 - 150
			13C2-Perfluorodecanoic acid	2020/07/02		88	%	50 - 150
			13C2-Perfluorododecanoic acid	2020/07/02		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/07/02		95	%	50 - 150

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C2-perfluorotetradecanoic acid	2020/07/02		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2020/07/02		89	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/07/02		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/07/02		97	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/07/02		94	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/07/02		93	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/07/02		96	%	50 - 150
			13C5-Perfluorononanoic acid	2020/07/02		94	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/07/02		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2020/07/02		81	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2020/07/02		93	%	50 - 150
			D3-MeFOSA	2020/07/02		62	%	50 - 150
			D3-MeFOSAA	2020/07/02		78	%	50 - 150
			D5-EtFOSA	2020/07/02		64	%	50 - 150
			D5-EtFOSAA	2020/07/02		81	%	50 - 150
			D7-MeFOSE	2020/07/02		76	%	50 - 150
			D9-EtFOSE	2020/07/02		76	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/07/02		101	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2020/07/02		100	%	70 - 130
			Perfluorohexanoic acid (PFHxA)	2020/07/02		100	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2020/07/02		102	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2020/07/02		100	%	70 - 130
			Perfluorononanoic acid (PFNA)	2020/07/02		101	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2020/07/02		108	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2020/07/02		103	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2020/07/02		100	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2020/07/02		105	%	70 - 130
			Perfluorotetradecanoic acid(PFTEDA)	2020/07/02		101	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2020/07/02		100	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2020/07/02		101	%	70 - 130
			Perfluoroheptanesulfonic acid PFHpS	2020/07/02		98	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2020/07/02		102	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2020/07/02		100	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2020/07/02		101	%	70 - 130
			EtFOSA	2020/07/02		100	%	70 - 130
			MeFOSA	2020/07/02		103	%	70 - 130
			EtFOSE	2020/07/02		99	%	70 - 130
			MeFOSE	2020/07/02		106	%	70 - 130
			EtFOSAA	2020/07/02		99	%	70 - 130
			MeFOSAA	2020/07/02		105	%	70 - 130
			4:2 Fluorotelomer sulfonic acid	2020/07/02		102	%	70 - 130
			6:2 Fluorotelomer sulfonic acid	2020/07/02		106	%	70 - 130
			8:2 Fluorotelomer sulfonic acid	2020/07/02		107	%	70 - 130
6814967	YPL	RPD	Perfluorobutanoic acid (PFBA)	2020/07/02	2.4		%	30
			Perfluoropentanoic acid (PFPeA)	2020/07/02	0.23		%	30
			Perfluorohexanoic acid (PFHxA)	2020/07/02	1.2		%	30
			Perfluoroheptanoic acid (PFHpA)	2020/07/02	3.8		%	30
			Perfluorooctanoic acid (PFOA)	2020/07/02	1.9		%	30
			Perfluorononanoic acid (PFNA)	2020/07/02	3.8		%	30
			Perfluorodecanoic acid (PFDA)	2020/07/02	7.8		%	30
			Perfluoroundecanoic acid (PFUnA)	2020/07/02	2.7		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic acid (PFDoA)	2020/07/02	1.0		%	30
			Perfluorotridecanoic acid (PFTRDA)	2020/07/02	3.9		%	30
			Perfluorotetradecanoic acid(PFTEDA)	2020/07/02	2.1		%	30
			Perfluorobutanesulfonic acid (PFBS)	2020/07/02	1.4		%	30
			Perfluorohexanesulfonic acid(PFHxS)	2020/07/02	0.81		%	30
			Perfluoroheptanesulfonic acid PFHpS	2020/07/02	1.3		%	30
			Perfluorooctanesulfonic acid (PFOS)	2020/07/02	0.95		%	30
			Perfluorodecanesulfonic acid (PFDS)	2020/07/02	5.2		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2020/07/02	1.9		%	30
			EtFOSA	2020/07/02	4.9		%	30
			MeFOSA	2020/07/02	1.7		%	30
			EtFOSE	2020/07/02	0.18		%	30
			MeFOSE	2020/07/02	7.9		%	30
			EtFOSAA	2020/07/02	0.89		%	30
			MeFOSAA	2020/07/02	1.7		%	30
			4:2 Fluorotelomer sulfonic acid	2020/07/02	0.48		%	30
			6:2 Fluorotelomer sulfonic acid	2020/07/02	0.52		%	30
			8:2 Fluorotelomer sulfonic acid	2020/07/02	5.8		%	30
6814967	YPL	Method Blank	13C2-4:2-Fluorotelomersulfonic Acid	2020/07/02		102	%	50 - 150
			13C2-6:2-Fluorotelomersulfonic Acid	2020/07/02		103	%	50 - 150
			13C2-8:2-Fluorotelomersulfonic Acid	2020/07/02		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2020/07/02		92	%	50 - 150
			13C2-Perfluorododecanoic acid	2020/07/02		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/07/02		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2020/07/02		85	%	50 - 150
			13C2-Perfluoroundecanoic acid	2020/07/02		88	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/07/02		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/07/02		97	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/07/02		99	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/07/02		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/07/02		97	%	50 - 150
			13C5-Perfluorononanoic acid	2020/07/02		95	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/07/02		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2020/07/02		89	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2020/07/02		88	%	50 - 150
			D3-MeFOSA	2020/07/02		67	%	50 - 150
			D3-MeFOSAA	2020/07/02		80	%	50 - 150
			D5-EtFOSA	2020/07/02		66	%	50 - 150
			D5-EtFOSAA	2020/07/02		81	%	50 - 150
			D7-MeFOSE	2020/07/02		85	%	50 - 150
			D9-EtFOSE	2020/07/02		82	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/07/02	0.0070 U, MDL=0.0070		ug/L	
			Perfluoropentanoic acid (PFPeA)	2020/07/02	0.0041 U, MDL=0.0041		ug/L	
			Perfluorohexanoic acid (PFHxA)	2020/07/02	0.0064 U, MDL=0.0064		ug/L	
			Perfluoroheptanoic acid (PFHpA)	2020/07/02	0.0071 U, MDL=0.0071		ug/L	
			Perfluorooctanoic acid (PFOA)	2020/07/02	0.0074 U, MDL=0.0074		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorononanoic acid (PFNA)	2020/07/02	0.0049 U, MDL=0.0049		ug/L	
			Perfluorodecanoic acid (PFDA)	2020/07/02	0.0041 U, MDL=0.0041		ug/L	
			Perfluoroundecanoic acid (PFUnA)	2020/07/02	0.0043 U, MDL=0.0043		ug/L	
			Perfluorododecanoic acid (PFDoA)	2020/07/02	0.0068 U, MDL=0.0068		ug/L	
			Perfluorotridecanoic acid (PFTRDA)	2020/07/02	0.0069 U, MDL=0.0069		ug/L	
			Perfluorotetradecanoic acid(PFTEDA)	2020/07/02	0.0067 U, MDL=0.0067		ug/L	
			Perfluorobutanesulfonic acid (PFBS)	2020/07/02	0.0051 U, MDL=0.0051		ug/L	
			Perfluorohexanesulfonic acid(PFHxS)	2020/07/02	0.0052 U, MDL=0.0052		ug/L	
			Perfluoroheptanesulfonic acid PFHpS	2020/07/02	0.0033 U, MDL=0.0033		ug/L	
			Perfluorooctanesulfonic acid (PFOS)	2020/07/02	0.0052 U, MDL=0.0052		ug/L	
			Perfluorodecanesulfonic acid (PFDS)	2020/07/02	0.0072 U, MDL=0.0072		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2020/07/02	0.0066 U, MDL=0.0066		ug/L	
			EtFOSA	2020/07/02	0.0090 U, MDL=0.0090		ug/L	
			MeFOSA	2020/07/02	0.0035 U, MDL=0.0035		ug/L	
			EtFOSE	2020/07/02	0.0094 U, MDL=0.0094		ug/L	
			MeFOSE	2020/07/02	0.0066 U, MDL=0.0066		ug/L	
			EtFOSAA	2020/07/02	0.0081 U, MDL=0.0081		ug/L	
			MeFOSAA	2020/07/02	0.0070 U, MDL=0.0070		ug/L	
			4:2 Fluorotelomer sulfonic acid	2020/07/02	0.0066 U, MDL=0.0066		ug/L	
			6:2 Fluorotelomer sulfonic acid	2020/07/02	0.0059 U, MDL=0.0059		ug/L	
			8:2 Fluorotelomer sulfonic acid	2020/07/02	0.0059 U, MDL=0.0059		ug/L	
6833963	YPL	Spiked Blank	Post Oxidation 13C2-perfluorotetradecanoic aci	2020/07/14		77	%	50 - 150
			Post Oxidation 13C3-Perfluorobutanesulfonic ac	2020/07/14		47 (1)	%	50 - 150
			Post Oxidation 13C4-Perfluorobutanoic acid	2020/07/14		82	%	50 - 150
			Post Oxidation 13C4-Perfluoroheptanoic acid	2020/07/14		99	%	50 - 150
			Post Oxidation 13C4-Perfluorooctanesulfonic ac	2020/07/14		79	%	50 - 150
			Post Oxidation 13C5-Perfluoropentanoic acid	2020/07/14		89	%	50 - 150
			Post Oxidation D3-MeFOSAA	2020/07/14		65	%	50 - 150
			Post Oxidation Perfluorobutanoic acid (PFBA)	2020/07/14		90	%	70 - 130
			Post Oxidation Perfluoropentanoic acid (PFPeA)	2020/07/14		85	%	70 - 130
			Post Oxidation Perfluoroheptanoic acid (PFHpA)	2020/07/14		91	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Post Oxidation Perfluorotridecanoic acid (PFTR	2020/07/14		78	%	70 - 130
			Post Oxidation Perfluorobutanesulfonic acid (PF	2020/07/14		93	%	30 - 130
			Post Oxidation Perfluorooctanesulfonic acid (PF	2020/07/14		92	%	30 - 130
			Post Oxidation MeFOSAA	2020/07/14		93	%	70 - 130
6833963	YPL	Method Blank	Post Oxidation 13C2-perfluorotetradecanoic aci	2020/07/14		77	%	50 - 150
			Post Oxidation 13C3-Perfluorobutanesulfonic ac	2020/07/14		104	%	50 - 150
			Post Oxidation 13C4-Perfluorobutanoic acid	2020/07/14		86	%	50 - 150
			Post Oxidation 13C4-Perfluoroheptanoic acid	2020/07/14		104	%	50 - 150
			Post Oxidation 13C4-Perfluorooctanesulfonic ac	2020/07/14		98	%	50 - 150
			Post Oxidation 13C5-Perfluoropentanoic acid	2020/07/14		98	%	50 - 150
			Post Oxidation D3-MeFOSAA	2020/07/14		76	%	50 - 150
			Post Oxidation Perfluorobutanoic acid (PFBA)	2020/07/14	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluoropentanoic acid (PFPeA)	2020/07/14	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluoroheptanoic acid (PFHpA)	2020/07/14	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorotridecanoic acid (PFTRDA)	2020/07/14	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorobutanesulfonic acid (PFBS)	2020/07/14	0.020 U, MDL=0.020		ug/L	
			Post Oxidation Perfluorooctanesulfonic acid (PFOS)	2020/07/14	0.020 U, MDL=0.020		ug/L	
			Post Oxidation MeFOSAA	2020/07/14	0.020 U, MDL=0.020		ug/L	
6833963	YPL	RPD - Sample/Sample Dup	Post Oxidation Perfluorobutanoic acid (PFBA)	2020/07/14	0.79		%	30
			Post Oxidation Perfluoropentanoic acid (PFPeA)	2020/07/14	0.16		%	30
			Post Oxidation Perfluoroheptanoic acid (PFHpA)	2020/07/14	2.0		%	30
			Post Oxidation Perfluorotridecanoic acid (PFTR	2020/07/14	NC		%	30
			Post Oxidation Perfluorobutanesulfonic acid (PF	2020/07/14	0.13		%	30
			Post Oxidation Perfluorooctanesulfonic acid (PF	2020/07/14	14		%	30
			Post Oxidation MeFOSAA	2020/07/14	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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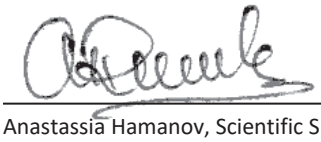
BV Labs Job #: C0F5294
Report Date: 2020/08/27

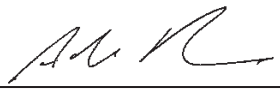
Absolute Resource Associates LLC
Client Project #: MTBE_01
Site Location: 53479
Your P.O. #: 53479

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anastassia Hamanov, Scientific Specialist



Adam Robinson, Supervisor, LC/MS/MS

Colm McNamara, Senior Analyst, Liquid Chromatography

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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