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SGS AXYS Client No.: 4066

Client Address: Tetra Tech, Inc. - Pacific Guardian Ctr.
737 Bishop St., Suite 2340, Mauka Tower
Honolulu, HI, US, 96813-3201

The SGS AXYS contact for these data is Dale Robinson.

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BATCH SUMMARY

Batch ID: WG79487	Date: 24-Jan-2022
Analysis Type: Per- and Polyfluoroalkyl Substances (PFAS)	Matrix Type: Aqueous
BATCH MAKEUP	
Contract: 4066 Samples: L35976-1 SPLP BLANK L35976-2 SIWWTP-BIOS-1A (FA89217-1) - SPLP L35976-3 LIWWTP-BIOS-1A (FA89217-2) - SPLP L35976-4 LIWWTP-BIOS-1A (FA89217-2) - SPLP_DUP L35976-5 HIWWTP-BIOS-1 (FA89217-5) - SPLP L35976-6 KIWWTP-BIOS-1A (FA89217-6) - SPLP	Blank: WG79487-101 Reference or Spike: WG79487-102 WG79487-103 Duplicate:
Comments: <ol style="list-style-type: none"> 1. Data are considered final. 2. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data. 3. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples. 4. The reported concentration values represent the acid forms of the compounds. 5. For the calibration verification (data filename: FC2L_019 S: 16), recoveries of some labeled surrogates were slightly below the method lower control limits, but the recoveries of the associated analytes met the method specifications, data is not considered affected. 6. The recovery of the analyte NFDHA in the calibration verifications, OPR and low level OPR was significantly below the method lower control limit. This analyte was considered as not quantifiable and has been flagged with 'NQ' on reports for the lab QC and client samples. Data is not available. 7. For all the field samples except for sample SPLP BLANK (SGS AXYS ID: L35976-1), recoveries of some labeled surrogates were below the method lower control limits and flagged with a 'V' on reports. In cases where the surrogate recovery was greater than 10%, since isotope dilution method produces data that are recovery corrected, slight variance from the method specification is deemed not to affect the quantification of the associated analytes. In cases where surrogate recovery was less than 10% but greater than 1%, data are considered estimated, as flagged with an 'H' on reports. 	

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February 2017

L35976

Client ID	Axys ID
SPLP BLANK	L35976-1
SIWWTP-BIOS-1A (FA89217-1) - SPLP	L35976-2
SIWWTP-BIOS-1A (FA89217-2) - SPLP	L35976-3
SIWWTP-BIOS-1A (FA89217-2) - SPLP_DUP	L35976-4
SIWWTP-BIOS-1A (FA89217-5) - SPLP	L35976-5
SIWWTP-BIOS-1A (FA89217-6) - SPLP	L35976-6
	LIWWTP-BIOS-1A (FA89217-2) - SPLP
	LIWWTP-BIOS-1A (FA89217-2) - SPLP_DUP
	HIWWTP-BIOS-1 (FA89217-5) - SPLP
	KIWWTP-BIOS-1A (FA89217-6) - SPLP

(IDs corrected by DPR 23-Dec-21)

12:00

14-Oct-2021

Received by: 

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.

SPLP BLANK

Sample Collection:

07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Contract No.: 4066

Lab Sample I.D.:

L35976-1

Matrix: AQUEOUS

Sample Size:

0.471 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date:

22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID:

LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:19:34

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC2L_019 S: 23

Injection Volume (uL): 2

Blank Data Filename:

FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA	U		1.70 (Q)		
PFPeA	U		0.850 (Q)		
PFHxA	U		0.425 (Q)		
PFHpA	U		0.425 (Q)		
PFOA	U		0.425 (Q)		
PFNA	U		0.425 (Q)		
PFDA	U		0.425 (Q)		
PFUnA	U		0.425 (Q)		
PFDaA	U		0.425 (Q)		
PFTTrDA	U		0.425 (Q)		
PFTeDA	U		0.425 (Q)		
PFBS	U		0.425 (Q)		
PFPeS	U		0.427 (Q)		
PFHxS	U		0.425 (Q)		
PFHpS	U		0.425 (Q)		
PFOS	U		0.425 (Q)		
PFNS	U		0.425 (Q)		
PFDS	U		0.425 (Q)		
PFDoS	U		0.425 (Q)		
4:2 FTS	U		1.70 (Q)		
6:2 FTS	U		1.53 (Q)		
8:2 FTS	U		1.70 (Q)		
PFOSA	U		0.425 (Q)		
N-MeFOSA	U		0.489 (Q)		
N-EtFOSA	U		1.06 (Q)		
MeFOSAA	U		0.425 (Q)		
EtFOSAA	U		0.425 (Q)		
N-MeFOSE	U		4.25 (Q)		
N-EtFOSE	U		3.18 (Q)		
HFPO-DA	U		1.61 (Q)		
ADONA	U		1.70 (Q)		
9Cl-PF3ONS	U		1.70 (Q)		
11Cl-PF3OUdS	U		1.70 (Q)		
3:3 FTCA	U		1.70 (Q)		
5:3 FTCA	U		10.6 (Q)		
7:3 FTCA	U		10.6 (Q)		
PFEESA	U		0.425 (Q)		
PFMPA	U		0.850 (Q)		
PFMBA	U		0.425 (Q)		

NFDHA

NQ

- (1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; NQ = data not quantifiable.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

For Axy's Internal Use Only [XSL Template: FC2-Form1A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFC_FC_LC_PFAS_L35976-1_Form1A_FC2L_019S23_SJ3014302.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 2

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.

SPLP BLANK

Sample Collection:

07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Contract No.: 4066

Lab Sample I.D.:

L35976-1

Matrix: AQUEOUS

Sample Size: 0.471 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:19:34

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 23

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

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Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA		40.0	37.4	93.5		1.000
13C5-PFPeA		20.0	16.3	81.4		0.864
13C5-PFHxA		10.0	9.43	94.3	20.9	1.000
13C4-PFHpA		10.0	9.38	93.8		0.899
13C8-PFOA		10.0	8.40	84.0		1.000
13C9-PFNA		5.00	4.11	82.3		1.000
13C6-PFDA		5.00	4.41	88.1		0.999
13C7-PFUnA		5.00	4.31	86.2		1.049
13C2-PFDoA		5.00	3.83	76.6		1.083
13C2-PFTeDA		5.00	2.92	58.4		1.158
13C3-PFBS		10.0	9.23	92.0	2.80	0.806
13C3-PFHxS		10.0	8.70	86.9	2.21	1.000
13C8-PFOS		10.1	9.71	96.5	2.23	1.000
13C2-4:2 FTS		20.2	19.5	96.5	1.75	0.841
13C2-6:2 FTS		20.0	19.0	95.2	2.31	1.001
13C2-8:2 FTS		20.0	15.6	78.1	3.33	1.267
13C8-PFOSA		10.0	8.98	89.8		1.155
D3-N-MeFOSA		10.0	6.51	65.1		1.343
D5-N-EtFOSA		10.0	5.50	55.0		1.381
D3-MeFOSAA		20.0	10.4	51.8		1.314
D5-EtFOSAA	V	20.0	9.99	50.0		1.342
d7-NMe-FOSE		100	60.0	60.0		1.326
d9-NEt-FOSE		100	50.4	50.4		1.364
13C3-HFPO-DA		40.0	34.4	86.0	3.23	1.030

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.
SIWWTP-BIOS-1A (FA89217-1) -
SPLP
Sample Collection:
07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Lab Sample I.D.:

L35976-2

Matrix: AQUEOUS

Sample Size: 0.476 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:32:56

Column ID: C18

Extract Volume (uL): 6000

Sample Data Filename: FC2L_019 S: 24

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA	H	13.1	2.52 (Q)		1.006
PFPeA	U		5.71 (S)		
PFHxA		30.7	1.18 (S)	5.29	1.000
PFHpA		3.45	0.630 (Q)	2.31	1.000
PFOA		4.70	0.630 (Q)	1.74	
PFNA	J	1.19	0.630 (Q)	2.22	
PFDA	J	0.970	0.630 (Q)	4.57	1.000
PFUnA	U		0.630 (Q)		
PFDoA	U		0.630 (Q)		
PFTTrDA	U		0.630 (Q)		
PFTeDA	U		0.630 (Q)		
PFBS	R	26.1	7.34 (S)	31.9	1.001
PFPeS	U		3.88 (S)		
PFHxS	U		1.31 (S)		
PFHpS	U		0.771 (S)		
PFOS		9.41	0.630 (Q)	3.18	
PFNS	U		0.630 (Q)		
PFDS	U		0.630 (Q)		
PFDoS	U		0.630 (Q)		
4:2 FTS	U		2.52 (Q)		
6:2 FTS		30.1	2.27 (Q)	0.43	1.000
8:2 FTS	U		2.52 (Q)		
PFOSA	U		0.630 (Q)		
N-MeFOSA	U		0.725 (Q)		
N-EtFOSA	U		1.58 (Q)		
MeFOSAA	U		0.630 (Q)		
EtFOSAA	U		0.630 (Q)		
N-MeFOSE	U		6.30 (Q)		
N-EtFOSE	U		4.71 (Q)		
HFPO-DA	U		2.39 (Q)		
ADONA	U		2.52 (Q)		
9CI-PF3ONS	U		2.53 (Q)		
11CI-PF3OUdS	U		2.52 (Q)		
3:3 FTCA	U		4.28 (S)		
5:3 FTCA		484	15.8 (Q)	1.25	1.051
7:3 FTCA	U		15.8 (Q)		
PFEESA	U		0.630 (Q)		
PFMPA	U		1.26 (Q)		
PFMBA	U		0.630 (Q)		

NFDHA

NQ

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; R = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than limit of quantification; H = concentration is estimated; NQ = data not quantifiable.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

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SGS AXYS METHOD MLA-110 Rev 02

Form 2

CLIENT SAMPLE NO.
SIWWTP-BIOS-1A (FA89217-1) -
SPLP
Sample Collection:
07-Oct-2021 08:00

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Contract No.: 4066

Lab Sample I.D.:

L35976-2

Matrix: AQUEOUS

Sample Size: 0.476 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:32:56

Column ID: C18

Extract Volume (uL): 6000

Sample Data Filename: FC2L_019 S: 24

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA	V	40.0	2.14	5.34		0.994
13C5-PFPeA	V	20.0	3.35	16.8		0.861
13C5-PFHxA		10.0	5.56	55.6	20.8	1.000
13C4-PFHpA		10.0	6.47	64.7		0.900
13C8-PFOA		10.0	7.83	78.3		1.000
13C9-PFNA		5.00	4.10	81.9		1.000
13C6-PFDA		5.00	4.33	86.5		1.000
13C7-PFUnA		5.00	3.47	69.5		1.050
13C2-PFDoA		5.00	2.63	52.7		1.085
13C2-PFTeDA	V	5.00	1.45	29.0		1.161
13C3-PFBS		10.0	8.05	80.2	3.15	0.808
13C3-PFHxS		10.0	8.73	87.1	2.35	1.000
13C8-PFOS		10.1	8.22	81.7	2.29	1.001
13C2-4:2 FTS	V	20.2	3.77	18.7	2.47	0.842
13C2-6:2 FTS		20.0	17.0	85.2	2.41	1.001
13C2-8:2 FTS		20.0	12.4	62.1	3.10	1.268
13C8-PFOA		10.0	8.36	83.6		1.158
D3-N-MeFOSA	V	10.0	4.25	42.5		1.346
D5-N-EtFOSA	V	10.0	4.06	40.6		1.384
D3-MeFOSAA	V	20.0	5.45	27.3		1.318
D5-EtFOSAA	V	20.0	5.41	27.0		1.344
d7-NMe-FOSE	V	100	42.5	42.5		1.329
d9-NEt-FOSE	V	100	37.1	37.1		1.367
13C3-HFPO-DA	V	40.0	16.8	42.0	3.26	1.031

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.
LIWWTP-BIOS-1A (FA89217-2) -
SPLP
Sample Collection:
07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)
L35976-3

Lab Sample I.D.:

Matrix: AQUEOUS

Sample Size: 0.492 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:46:17

Column ID: C18

Extract Volume (uL): 3000

Sample Data Filename: FC2L_019 S: 25

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA		37.8	1.22 (Q)		1.000
PFPeA		16.3	1.16 (S)		1.001
PFHxA		124	0.982 (S)	5.98	1.000
PFHpA		5.35	0.305 (Q)	2.24	1.000
PFOA		21.7	0.305 (Q)	1.84	
PFNA		2.60	0.305 (Q)	3.12	
PFDA		7.70	0.305 (Q)	3.21	1.000
PFUnA	J	0.537	0.305 (Q)	6.31	1.000
PFDoA	J	0.464	0.305 (Q)	6.91	1.000
PFTTrDA	U		0.305 (S)		
PFTeDA	U		0.479 (S)		
PFBS	R	30.4	0.305 (Q)	5.88	1.001
PFPeS	U		1.41 (S)		
PFHxS	R J	1.07	0.305 (Q)	1.10	
PFHpS	U		0.305 (Q)		
PFOS		30.6	0.305 (Q)	2.73	
PFNS	U		0.305 (Q)		
PFDS	U		0.305 (Q)		
PFDoS	U		0.305 (Q)		
4:2 FTS	U		1.22 (Q)		
6:2 FTS		57.6	1.10 (Q)	0.42	0.999
8:2 FTS	J	2.35	1.22 (Q)	0.47	1.001
PFOSA	J	0.817	0.305 (Q)		
N-MeFOSA	U		0.351 (Q)		
N-EtFOSA	U		0.762 (Q)		
MeFOSAA		5.08	0.305 (Q)	2.29	
EtFOSAA	R	2.37	0.305 (Q)	1.81	
N-MeFOSE	U		3.05 (Q)		
N-EtFOSE	U		2.28 (Q)		
HFPO-DA	U		1.16 (Q)		
ADONA	U		1.22 (Q)		
9CI-PF3ONS	U		1.22 (Q)		
11CI-PF3OUdS	U		1.22 (Q)		
3:3 FTCA	U		1.56 (S)		
5:3 FTCA		1600	7.62 (Q)	1.29	1.051
7:3 FTCA		286	7.62 (Q)	0.68	1.339
PFEESA	U		0.305 (Q)		
PFMPA	U		0.610 (Q)		
PFMBA	U		0.305 (Q)		

NFDHA

NQ

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; R = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than limit of quantification; NQ = data not quantifiable.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

For Axys Internal Use Only [XSL Template: FC2-Form1A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFC_FC_LC_PFAS_L35976-3_Form1A_FC2L_019S25_SJ3014304.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 2

CLIENT SAMPLE NO.
LIWWTP-BIOS-1A (FA89217-2) -
SPLP
Sample Collection:
07-Oct-2021 08:00

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Contract No.: 4066

Lab Sample I.D.:

L35976-3

Matrix: AQUEOUS

Sample Size: 0.492 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:46:17

Column ID: C18

Extract Volume (uL): 3000

Sample Data Filename: FC2L_019 S: 25

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA	V	40.0	6.39	16.0		0.995
13C5-PFPeA	V	20.0	8.62	43.1		0.863
13C5-PFHxA		10.0	7.31	73.1	22.8	1.000
13C4-PFHpA		10.0	8.29	82.9		0.899
13C8-PFOA		10.0	7.84	78.4		0.999
13C9-PFNA		5.00	4.23	84.6		1.001
13C6-PFDA		5.00	4.32	86.4		1.000
13C7-PFUnA		5.00	3.45	69.1		1.049
13C2-PFDoA	V	5.00	1.69	33.8		1.085
13C2-PFTeDA	V	5.00	0.650	13.0		1.161
13C3-PFBS		10.0	7.23	72.1	2.73	0.808
13C3-PFHxS		10.0	8.74	87.3	2.29	1.000
13C8-PFOS		10.1	9.63	95.7	2.24	1.000
13C2-4:2 FTS	V	20.2	8.63	42.8	2.15	0.843
13C2-6:2 FTS		20.0	18.7	93.4	2.11	1.003
13C2-8:2 FTS		20.0	11.2	55.7	3.12	1.267
13C8-PFOA		10.0	9.82	98.2		1.159
D3-N-MeFOSA		10.0	4.40	44.0		1.346
D5-N-EtFOSA	V	10.0	3.73	37.3		1.384
D3-MeFOSAA	V	20.0	4.39	22.0		1.316
D5-EtFOSAA	V	20.0	4.12	20.6		1.339
d7-NMe-FOSE	V	100	35.9	35.9		1.328
d9-NEt-FOSE	V	100	27.2	27.2		1.368
13C3-HFPO-DA		40.0	24.1	60.3	2.73	1.029

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.
LIWWTP-BIOS-1A (FA89217-2) -
SPLP_DUP
Sample Collection:
07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Lab Sample I.D.:

L35976-4

Matrix: AQUEOUS

Sample Size: 0.491 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:59:39

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 26

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA	H	44.9	3.52 (Q)		1.011
PFPeA		25.6	3.33 (S)		1.003
PFHxA		154	1.16 (S)	4.40	1.000
PFHpA		9.14	0.879 (Q)	2.59	1.000
PFOA		27.5	0.879 (Q)	1.87	
PFNA	J	2.45	0.879 (Q)	3.15	
PFDA		5.57	0.879 (Q)	3.22	1.000
PFUnA	J	1.01	0.879 (Q)	6.19	1.001
PFDoA	R J	1.48	0.879 (Q)	14.5	0.999
PFTTrDA	U		0.879 (Q)		
PFTeDA	U H		1.82 (S)		
PFBS		25.6	1.79 (S)	3.07	1.000
PFPeS	U		0.884 (Q)		
PFHxS	J	3.11	0.879 (Q)	2.43	
PFHpS	R J	1.15	0.879 (Q)	27.9	0.919
PFOS		21.9	0.879 (Q)	2.65	
PFNS	U		0.879 (Q)		
PFDS	U		0.879 (Q)		
PFDoS	U		0.879 (Q)		
4:2 FTS	U		3.52 (Q)		
6:2 FTS		76.0	3.17 (Q)	0.41	1.000
8:2 FTS	U		3.52 (Q)		
PFOSA	U		0.879 (Q)		
N-MeFOSA	U		1.01 (Q)		
N-EtFOSA	U		2.20 (Q)		
MeFOSAA		4.41	0.879 (Q)	2.57	
EtFOSAA	J	1.25	0.879 (Q)	0.71	
N-MeFOSE	U		8.79 (Q)		
N-EtFOSE	U		6.58 (Q)		
HFPO-DA	U		3.34 (Q)		
ADONA	U		3.52 (Q)		
9CI-PF3ONS	U		3.53 (Q)		
11CI-PF3OUdS	U		3.52 (Q)		
3:3 FTCA	U		4.17 (S)		
5:3 FTCA		2680	22.0 (Q)	1.28	1.051
7:3 FTCA		176	22.0 (Q)	0.70	1.340
PFEESA	U		0.879 (Q)		
PFMPA	U		1.76 (Q)		
PFMBA	U		0.879 (Q)		

NFDHA

NQ

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; R = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than limit of quantification; H = concentration is estimated; NQ = data not quantifiable.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

For Axy's Internal Use Only [XSL Template: FC2-Form1A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFC_FC_LC_PFAS_L35976-4_Form1A_FC2L_019S26_SJ3014305.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 2

CLIENT SAMPLE NO.
LIWWTP-BIOS-1A (FA89217-2) -
SPLP_DUP
Sample Collection:
07-Oct-2021 08:00

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Contract No.: 4066

Lab Sample I.D.:

L35976-4

Matrix: AQUEOUS

Sample Size: 0.491 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:59:39

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 26

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA	V	40.0	3.84	9.59		1.000
13C5-PFPeA	V	20.0	8.46	42.3		0.857
13C5-PFHxA		10.0	10.3	103	19.4	1.000
13C4-PFHpA		10.0	8.66	86.6		0.899
13C8-PFOA		10.0	8.74	87.4		0.999
13C9-PFNA		5.00	4.75	94.9		1.002
13C6-PFDA		5.00	4.61	92.2		1.000
13C7-PFUnA		5.00	3.06	61.2		1.049
13C2-PFDoA	V	5.00	1.43	28.5		1.085
13C2-PFTeDA	V	5.00	0.421	8.41		1.160
13C3-PFBS		10.0	7.91	78.9	3.35	0.807
13C3-PFHxS		10.0	9.76	97.5	2.30	1.000
13C8-PFOS		10.1	9.16	91.1	2.13	1.000
13C2-4:2 FTS		20.2	12.2	60.3	1.71	0.841
13C2-6:2 FTS		20.0	20.8	104	2.11	1.001
13C2-8:2 FTS		20.0	14.3	71.6	3.16	1.266
13C8-PFOA		10.0	11.0	110		1.156
D3-N-MeFOSA		10.0	5.33	53.3		1.343
D5-N-EtFOSA		10.0	4.24	42.4		1.381
D3-MeFOSAA	V	20.0	6.21	31.1		1.316
D5-EtFOSAA	V	20.0	5.99	29.9		1.342
d7-NMe-FOSE	V	100	40.8	40.8		1.326
d9-NEt-FOSE	V	100	26.3	26.3		1.365
13C3-HFPO-DA		40.0	33.2	82.9	3.30	1.030

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.
HIWWTP-BIOS-1 (FA89217-5) -
SPLP
Sample Collection:
07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)

Contract No.: 4066

Lab Sample I.D.:

L35976-5

Matrix: AQUEOUS

Sample Size: 0.496 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 20:13:01

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 27

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA	H	14.4	7.61 (S)		1.017
PFPeA	U		4.61 (S)		
PFHxA		33.1	1.00 (S)	4.70	1.000
PFHpA		1.87	0.403 (Q)	2.23	0.999
PFOA		4.01	0.403 (Q)	2.03	
PFNA	J	0.613	0.403 (Q)	2.22	
PFDA	J	0.968	0.403 (Q)	3.80	1.000
PFUnA	U		0.403 (Q)		
PFDoA	U		0.403 (Q)		
PFTTrDA	U		0.420 (S)		
PFTeDA	U		0.618 (S)		
PFBS	U		2.02 (S)		
PFPeS	U		1.73 (S)		
PFHxS	J	1.06	0.403 (Q)	2.09	
PFHpS	R J	1.54	0.755 (S)	84.7	0.921
PFOS		15.4	0.403 (Q)	2.96	
PFNS	U		0.403 (Q)		
PFDS	U		0.403 (Q)		
PFDoS	U		0.403 (Q)		
4:2 FTS	U		1.61 (Q)		
6:2 FTS	J	1.63	1.45 (Q)	0.34	1.001
8:2 FTS	U		1.61 (Q)		
PFOSA	J	0.448	0.403 (Q)		
N-MeFOSA	U		0.464 (Q)		
N-EtFOSA	U		1.01 (Q)		
MeFOSAA	R J	0.954	0.403 (Q)	4.93	
EtFOSAA	U		0.403 (Q)		
N-MeFOSE	U		4.03 (Q)		
N-EtFOSE	U		3.02 (Q)		
HFPO-DA	U		1.53 (Q)		
ADONA	U		1.61 (Q)		
9CI-PF3ONS	U		1.62 (Q)		
11CI-PF3OUdS	U		1.61 (Q)		
3:3 FTCA	U		5.43 (S)		
5:3 FTCA		634	10.1 (Q)	1.04	1.051
7:3 FTCA		112	10.1 (Q)	0.67	1.340
PFEESA	U		0.403 (Q)		
PFMPA	U		0.806 (Q)		
PFMBA	U		0.403 (Q)		

NFDHA

NQ

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; R = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than limit of quantification; H = concentration is estimated; NQ = data not quantifiable.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

For Axy's Internal Use Only [XSL Template: FC2-Form1A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFC_FC_LC_PFAS_L35976-5_Form1A_FC2L_019S27_SJ3014306.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 2

CLIENT SAMPLE NO.
HIWWTP-BIOS-1 (FA89217-5) -
SPLP
Sample Collection:
07-Oct-2021 08:00

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)
L35976-5

Lab Sample I.D.:

Matrix: AQUEOUS

Sample Size: 0.496 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 20:13:01

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 27

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA	V	40.0	0.906	2.26		1.000
13C5-PFPeA	V	20.0	2.04	10.2		0.857
13C5-PFHxA	V	10.0	4.74	47.4	21.9	1.000
13C4-PFHpA		10.0	6.94	69.4		0.901
13C8-PFOA		10.0	7.59	75.9		1.000
13C9-PFNA		5.00	3.92	78.4		1.001
13C6-PFDA		5.00	4.14	82.7		1.000
13C7-PFUnA		5.00	3.30	66.0		1.050
13C2-PFDoA	V	5.00	1.79	35.7		1.085
13C2-PFTeDA	V	5.00	0.681	13.6		1.160
13C3-PFBS		10.0	6.42	64.0	2.84	0.807
13C3-PFHxS		10.0	8.70	86.8	2.33	1.000
13C8-PFOS		10.1	8.19	81.4	2.30	1.000
13C2-4:2 FTS	V	20.2	2.53	12.5	1.87	0.841
13C2-6:2 FTS		20.0	15.2	76.1	2.07	1.001
13C2-8:2 FTS		20.0	12.6	62.9	3.19	1.266
13C8-PFOA		10.0	9.61	96.1		1.157
D3-N-MeFOSA	V	10.0	3.29	32.9		1.344
D5-N-EtFOSA	V	10.0	2.76	27.6		1.382
D3-MeFOSAA	V	20.0	4.41	22.0		1.315
D5-EtFOSAA	V	20.0	4.97	24.9		1.342
d7-NMe-FOSE	V	100	33.7	33.7		1.326
d9-NEt-FOSE	V	100	23.0	23.0		1.366
13C3-HFPO-DA	V	40.0	14.4	35.9	2.61	1.030

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

PERFLUORINATED ORGANICS ANALYSIS REPORT

CLIENT SAMPLE NO.
KIWWTP-BIOS-1A (FA89217-6) -
SPLP
Sample Collection:
07-Oct-2021 08:00

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)
L35976-6

Lab Sample I.D.:

Matrix: AQUEOUS

Sample Size: 0.0707 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 20:26:23

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 28

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA	J	32.9	11.3 (Q)		1.017
PFPeA		79.9	5.66 (Q)		1.000
PFHxA		47.1	2.83 (Q)	3.85	1.000
PFHpA	J	11.1	2.83 (Q)	2.37	0.999
PFOA		58.8	2.83 (Q)	1.99	
PFNA	J	4.22	2.83 (Q)	3.02	
PFDA		49.0	2.83 (Q)	2.79	1.001
PFUnA	J	3.99	2.83 (Q)	6.00	1.000
PFDoA		20.4	2.83 (Q)	4.86	1.000
PFTTrDA	R J	6.21	2.83 (Q)	8.18	0.963
PFTeDA	J	8.25	2.83 (Q)	2.11	1.000
PFBS		25.2	2.83 (Q)	3.01	0.999
PFPeS	U		2.84 (Q)		
PFHxS	U		2.83 (Q)		
PFHpS	U		2.83 (Q)		
PFOS		28.5	2.83 (Q)	2.33	
PFNS	U		2.83 (Q)		
PFDS	U		2.83 (Q)		
PFDoS	U		2.83 (Q)		
4:2 FTS	U		11.3 (Q)		
6:2 FTS	U		10.2 (Q)		
8:2 FTS	U		11.3 (Q)		
PFOSA	U		2.83 (Q)		
N-MeFOSA	U		3.25 (Q)		
N-EtFOSA	U		7.07 (Q)		
MeFOSAA	J	6.99	2.83 (Q)	2.63	
EtFOSAA	J	5.10	2.83 (Q)	0.91	
N-MeFOSE	U		28.3 (Q)		
N-EtFOSE	U		21.2 (Q)		
HFPO-DA	U		10.8 (Q)		
ADONA	U		11.3 (Q)		
9CI-PF3ONS	U		11.3 (Q)		
11CI-PF3OUdS	U		11.3 (Q)		
3:3 FTCA	U		11.3 (Q)		
5:3 FTCA		454	70.7 (Q)	1.23	1.051
7:3 FTCA	J	85.9	70.7 (Q)	0.68	1.339
PFEESA	U		2.83 (Q)		
PFMPA	U		5.66 (Q)		
PFMBA	U		2.83 (Q)		

NFDHA

NQ

- (1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; R = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than limit of quantification; NQ = data not quantifiable.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

For Axys Internal Use Only [XSL Template: FC2-Form1A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFC_FC_LC_PFAS_L35976-6_Form1A_FC2L_019S28_SJ3014307.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 2

CLIENT SAMPLE NO.
KIWWTP-BIOS-1A (FA89217-6) -
SPLP
Sample Collection:
07-Oct-2021 08:00

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

HDOH - PFAS IN MULTIMEDIA
(TO-17403)
L35976-6

Contract No.: 4066

Lab Sample I.D.:

Matrix: AQUEOUS

Sample Size: 0.0707 L

Sample Receipt Date: 14-Oct-2021

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 20:26:23

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 28

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA		40.0	28.8	72.0		0.994
13C5-PFPeA		20.0	13.6	68.2		0.863
13C5-PFHxA		10.0	9.25	92.5	25.6	1.000
13C4-PFHpA		10.0	8.15	81.5		0.900
13C8-PFOA		10.0	7.67	76.7		0.999
13C9-PFNA		5.00	4.08	81.6		1.000
13C6-PFDA		5.00	4.01	80.1		0.999
13C7-PFUnA		5.00	3.40	67.9		1.049
13C2-PFDoA		5.00	2.87	57.3		1.083
13C2-PFTeDA	V	5.00	1.83	36.6		1.158
13C3-PFBS		10.0	7.61	75.9	3.00	0.807
13C3-PFHxS		10.0	8.27	82.6	2.34	0.999
13C8-PFOS		10.1	8.19	81.4	2.15	1.000
13C2-4:2 FTS		20.2	12.2	60.4	1.33	0.843
13C2-6:2 FTS		20.0	17.4	86.9	2.14	1.001
13C2-8:2 FTS		20.0	15.5	77.2	3.01	1.264
13C8-PFOA		10.0	10.4	104		1.155
D3-N-MeFOSA		10.0	5.45	54.5		1.343
D5-N-EtFOSA		10.0	4.11	41.1		1.381
D3-MeFOSAA	V	20.0	7.44	37.2		1.314
D5-EtFOSAA	V	20.0	7.96	39.8		1.342
d7-NMe-FOSE	V	100	49.9	49.9		1.325
d9-NEt-FOSE	V	100	34.2	34.2		1.364
13C3-HFPO-DA		40.0	25.4	63.5	2.97	1.030

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 1A

CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No.

N/A

Lab Sample I.D.:

WG79487-101

Matrix: AQUEOUS

Sample Size:

0.500 L

Sample Receipt Date: N/A

Initial Calibration Date:

22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID:

LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:06:13

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC2L_019 S: 22

Injection Volume (uL): 2

Blank Data Filename:

FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC2L_019 S: 16

Concentration Units: ng/L

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	RATIO	RRT
PFBA	U		1.60 (Q)		
PFPeA	U		0.800 (Q)		
PFHxA	U		0.400 (Q)		
PFHpA	U		0.400 (Q)		
PFOA	U		0.400 (Q)		
PFNA	U		0.400 (Q)		
PFDA	U		0.400 (Q)		
PFUnA	U		0.400 (Q)		
PFDaA	U		0.400 (Q)		
PFTTrDA	U		0.400 (Q)		
PFTeDA	U		0.400 (Q)		
PFBS	U		0.400 (Q)		
PFPeS	U		0.402 (Q)		
PFHxS	U		0.400 (Q)		
PFHpS	U		0.400 (Q)		
PFOS	U		0.400 (Q)		
PFNS	U		0.400 (Q)		
PFDS	U		0.400 (Q)		
PFDoS	U		0.400 (Q)		
4:2 FTS	U		1.60 (Q)		
6:2 FTS	U		1.44 (Q)		
8:2 FTS	U		1.60 (Q)		
PFOSA	U		0.400 (Q)		
N-MeFOSA	U		0.460 (Q)		
N-EtFOSA	U		1.00 (Q)		
MeFOSAA	U		0.400 (Q)		
EtFOSAA	U		0.400 (Q)		
N-MeFOSE	U		4.00 (Q)		
N-EtFOSE	U		2.99 (Q)		
HFPO-DA	U		1.52 (Q)		
ADONA	U		1.60 (Q)		
9CI-PF3ONS	U		1.60 (Q)		
11CI-PF3OUdS	U		1.60 (Q)		
3:3 FTCA	U		1.60 (Q)		
5:3 FTCA	U		10.0 (Q)		
7:3 FTCA	U		10.0 (Q)		
PFEESA	U		0.400 (Q)		
PFMPA	U		0.800 (Q)		
PFMBA	U		0.400 (Q)		
NFDHA	NQ				

- (1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; NQ = data not quantifiable.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

For Axy's Internal Use Only [XSL Template: FC2-Form1A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31;
Report Filename: PFC_FC_LC_PFAS_WG79487-101_Form1A_FC2L_019S22_SJ3014299.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 2

CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

PERFLUORINATED ORGANICS ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4066

Project No. N/A

Lab Sample I.D.: WG79487-101

Matrix: AQUEOUS

Sample Size: 0.500 L

Sample Receipt Date: N/A

Initial Calibration Date: 22-Feb-2021

Extraction Date: 14-Jan-2022

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022 Time: 19:06:13

Column ID: C18

Extract Volume (uL): 4000

Sample Data Filename: FC2L_019 S: 22

Injection Volume (uL): 2

Blank Data Filename: FC2L_019 S: 22

Dilution Factor: N/A

Cal. Ver. Data Filename: FC2L_019 S: 16

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	RATIO	RRT
13C4-PFBA		40.0	37.7	94.3		0.994
13C5-PFPeA		20.0	15.4	77.1		0.863
13C5-PFHxA		10.0	9.40	94.0	19.2	1.000
13C4-PFHpA		10.0	9.10	91.0		0.900
13C8-PFOA		10.0	8.61	86.1		1.000
13C9-PFNA		5.00	4.46	89.2		0.999
13C6-PFDA		5.00	4.75	95.1		1.000
13C7-PFUnA		5.00	4.82	96.3		1.049
13C2-PFDoA		5.00	4.26	85.3		1.083
13C2-PFTeDA		5.00	3.29	65.8		1.158
13C3-PFBS		10.0	9.84	98.1	2.79	0.806
13C3-PFHxS		10.0	9.12	91.0	2.26	0.999
13C8-PFOS		10.1	10.4	104	2.14	0.999
13C2-4:2 FTS		20.2	19.2	95.2	2.29	0.841
13C2-6:2 FTS		20.0	18.3	91.3	2.12	1.001
13C2-8:2 FTS		20.0	16.3	81.3	3.36	1.267
13C8-PFOA		10.0	10.2	102		1.154
D3-N-MeFOSA		10.0	6.77	67.7		1.341
D5-N-EtFOSA		10.0	6.20	62.0		1.379
D3-MeFOSAA		20.0	11.4	57.2		1.316
D5-EtFOSAA		20.0	11.8	59.0		1.342
d7-NMe-FOSE		100	67.2	67.2		1.324
d9-NEt-FOSE		100	56.9	56.9		1.363
13C3-HFPO-DA		40.0	30.1	75.1	2.70	1.030

(1) Where applicable, custom lab flags have been used on this report.

(2) R(%) = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 8A

PERFLUORINATED ORGANICS ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4066	Lab Sample I.D.:	WG79487-102
Matrix:	AQUEOUS	Initial Calibration Date:	22-Feb-2021
Extraction Date:	14-Jan-2022	Instrument ID:	LCMS/MS
Analysis Date:	14-Jan-2022 Time: 18:39:30	Column ID:	C18
Extract Volume (uL):	4000	OPR Data Filename:	FC2L_019 S: 20
Injection Volume (uL):	2	Blank Data Filename:	FC2L_019 S: 22
Dilution Factor:	N/A	Cal. Ver. Data Filename:	FC2L_019 S: 16

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 1 mL EXTRACT VOLUME.

COMPOUND	LAB FLAG ¹	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
PFBA			20.0	20.2	101	1.006
PFPeA			10.0	9.90	99.0	1.003
PFHxA		4.66	5.00	4.79	95.7	1.000
PFHpA		2.06	5.00	5.08	102	1.000
PFOA		1.88	5.00	4.57	91.3	
PFNA		2.80	5.00	4.62	92.3	
PFDA		3.01	5.00	5.04	101	1.000
PFUnA		4.69	5.00	5.31	106	1.000
PFDoA		7.05	5.00	5.07	101	0.999
PFTTrDA		2.90	5.00	5.25	105	0.963
PFTTeDA		2.72	5.00	5.42	108	1.000
PFBS		2.75	5.00	4.72	94.4	1.000
PFPeS		2.24	5.01	5.29	106	0.891
PFHxS		2.35	5.00	5.03	101	
PFHpS		2.00	5.01	4.90	97.7	0.918
PFOS		2.53	5.00	4.84	96.8	
PFNS		2.21	5.01	4.80	95.8	1.047
PFDS		2.24	5.00	4.82	96.4	1.081
PFDoS		2.26	5.01	4.41	88.1	1.164
4:2 FTS		0.39	20.0	24.9	125	0.999
6:2 FTS		0.43	18.0	18.0	99.9	1.000
8:2 FTS		0.54	20.0	22.5	112	1.000
PFOSA			5.00	4.86	97.3	
N-MeFOSA		0.50	5.75	5.72	99.4	
N-EtFOSA		0.54	12.5	12.2	97.6	
MeFOSAA		1.82	5.00	5.06	101	
EtFOSAA		1.24	5.00	5.01	100	
N-MeFOSE			50.0	50.8	102	
N-EtFOSE			37.5	44.8	120	
HFPO-DA		1.87	19.0	16.2	85.2	1.000
ADONA		1.00	20.1	25.1	125	1.093
9CI-PF3ONS		3.23	20.0	24.3	121	0.965
11CI-PF3OUdS		3.12	20.0	22.0	110	1.031
3:3 FTCA		1.64	20.0	17.1	85.5	0.820
5:3 FTCA		1.05	125	98.8	79.0	1.049

COMPOUND	LAB FLAG ¹	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
7:3 FTCA		0.69	125	105	83.7	1.339
PFEESA		8.78	5.00	5.01	100	1.033
PFMPA			10.0	10.4	104	0.582
PFMBA			5.00	4.98	99.5	1.067
NFDHA	NQ					

(1) Where applicable, custom lab flags have been used on this report; NQ = data not quantifiable.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

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SGS AXYS METHOD MLA-110 Rev 02

Form 8B

PERFLUORINATED ORGANICS ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4066	Lab Sample I.D.:	WG79487-102
Matrix:	AQUEOUS	Initial Calibration Date:	22-Feb-2021
Extraction Date:	14-Jan-2022	Instrument ID:	LCMS/MS
Analysis Date:	14-Jan-2022 Time: 18:39:30	Column ID:	C18
Extract Volume (uL):	4000	OPR Data Filename:	FC2L_019 S: 20
Injection Volume (uL):	2	Blank Data Filename:	FC2L_019 S: 22
Dilution Factor:	N/A	Cal. Ver. Data Filename:	FC2L_019 S: 16

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 1 mL EXTRACT VOLUME.

LABELLED COMPOUND	LAB FLAG ¹	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
13C4-PFBA			40.0	37.2	93.0	0.994
13C5-PFPeA			20.0	15.0	75.1	0.863
13C5-PFHxA		21.5	10.0	8.90	89.0	1.000
13C4-PFHpA			10.0	9.42	94.2	0.899
13C8-PFOA			10.0	8.68	86.8	1.000
13C9-PFNA			5.00	4.47	89.4	0.999
13C6-PFDA			5.00	4.85	97.0	1.000
13C7-PFUnA			5.00	4.78	95.5	1.050
13C2-PFDoA			5.00	4.24	84.8	1.085
13C2-PFTeDA			5.00	3.40	68.1	1.160
13C3-PFBS		2.86	10.0	9.63	96.0	0.806
13C3-PFHxS		2.36	10.0	9.10	90.9	0.999
13C8-PFOS		2.07	10.1	10.0	99.6	1.000
13C2-4:2 FTS		1.56	20.2	18.4	91.1	0.842
13C2-6:2 FTS		2.05	20.0	19.3	96.4	1.001
13C2-8:2 FTS		3.06	20.0	17.1	85.5	1.266
13C8-PFOSA			10.0	9.82	98.2	1.155
D3-N-MeFOSA			10.0	6.65	66.5	1.343
D5-N-EtFOSA			10.0	6.31	63.1	1.381
D3-MeFOSAA			20.0	11.6	57.8	1.314
D5-EtFOSAA			20.0	12.5	62.4	1.342
d7-NMe-FOSE			100	67.6	67.6	1.326
d9-NEt-FOSE			100	56.6	56.6	1.364
13C3-HFPO-DA		2.74	40.0	28.6	71.4	1.031

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Henry Huang_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

SGS AXYS METHOD MLA-110 Rev 02

Form 8A

PERFLUORINATED ORGANICS ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4066	Lab Sample I.D.:	WG79487-103
Matrix:	AQUEOUS	Initial Calibration Date:	22-Feb-2021
Extraction Date:	14-Jan-2022	Instrument ID:	LCMS/MS
Analysis Date:	14-Jan-2022 Time: 18:26:08	Column ID:	C18
Extract Volume (uL):	4000	OPR Data Filename:	FC2L_019 S: 19
Injection Volume (uL):	2	Blank Data Filename:	FC2L_019 S: 22
Dilution Factor:	N/A	Cal. Ver. Data Filename:	FC2L_019 S: 16

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 1 mL EXTRACT VOLUME.

COMPOUND	LAB FLAG ¹	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
PFBA			6.40	6.63	104	1.005
PFPeA			3.20	3.01	94.2	1.001
PFHxA		4.79	1.60	1.38	86.3	1.000
PFHpA		1.94	1.60	1.52	95.3	0.999
PFOA		1.87	1.60	1.53	95.3	
PFNA		2.42	1.60	1.42	88.8	
PFDA		3.22	1.60	1.79	112	0.999
PFUnA		4.31	1.60	1.67	104	1.000
PFDoA		7.93	1.60	1.73	108	0.999
PFTTrDA		3.25	1.60	1.67	104	0.963
PFTTeDA		2.69	1.60	1.73	108	1.000
PFBS		2.59	1.60	1.52	94.9	1.000
PFPeS		2.31	1.60	1.82	113	0.890
PFHxS		2.34	1.60	1.66	104	
PFHpS		2.06	1.60	1.53	95.5	0.919
PFOS		2.53	1.60	1.47	91.9	
PFNS		2.40	1.60	1.48	92.6	1.047
PFDS		2.34	1.60	1.44	90.0	1.081
PFDoS		2.17	1.60	1.17	73.1	1.165
4:2 FTS		0.42	6.40	6.13	95.8	1.000
6:2 FTS		0.38	5.77	4.98	86.3	1.000
8:2 FTS		0.49	6.40	6.84	107	1.000
PFOSA			1.60	1.60	99.9	
N-MeFOSA		0.54	1.84	1.65	89.9	
N-EtFOSA		0.55	4.00	3.71	92.7	
MeFOSAA		1.71	1.60	1.52	95.2	
EtFOSAA		1.36	1.60	1.75	110	
N-MeFOSE			16.0	16.2	101	
N-EtFOSE			12.0	13.5	113	
HFPO-DA		2.18	6.08	5.89	96.8	1.000
ADONA		1.07	6.42	8.14	127	1.094
9CI-PF3ONS		3.10	6.41	7.28	114	0.966
11CI-PF3OUdS		3.13	6.41	6.53	102	1.030
3:3 FTCA		1.63	6.40	5.01	78.2	0.823
5:3 FTCA		1.22	40.0	31.1	77.8	1.049

COMPOUND	LAB FLAG ¹	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
7:3 FTCA		0.69	40.0	28.4	71.0	1.342
PFEESA		7.74	1.60	1.34	83.6	1.033
PFMPA			3.20	3.11	97.2	0.577
PFMBA			1.60	1.75	109	1.066
NFDHA	NQ					

(1) Where applicable, custom lab flags have been used on this report; NQ = data not quantifiable.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: FC2-Form8A.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFC_FC_LC_PFAS_WG79487-103_Form8A_SJ3014294.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 8B

PERFLUORINATED ORGANICS ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4066	Lab Sample I.D.:	WG79487-103
Matrix:	AQUEOUS	Initial Calibration Date:	22-Feb-2021
Extraction Date:	14-Jan-2022	Instrument ID:	LCMS/MS
Analysis Date:	14-Jan-2022 Time: 18:26:08	Column ID:	C18
Extract Volume (uL):	4000	OPR Data Filename:	FC2L_019 S: 19
Injection Volume (uL):	2	Blank Data Filename:	FC2L_019 S: 22
Dilution Factor:	N/A	Cal. Ver. Data Filename:	FC2L_019 S: 16

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 1 mL EXTRACT VOLUME.

LABELLED COMPOUND	LAB FLAG ¹	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
13C4-PFBA			40.0	36.5	91.2	1.000
13C5-PFPeA			20.0	21.0	105	0.863
13C5-PFHxA		28.6	10.0	13.8	138	0.999
13C4-PFHpA			10.0	9.41	94.1	0.899
13C8-PFOA			10.0	8.30	83.0	1.000
13C9-PFNA			5.00	4.19	83.9	1.000
13C6-PFDA			5.00	4.65	93.1	1.000
13C7-PFUnA			5.00	4.65	93.1	1.049
13C2-PFDoA			5.00	4.01	80.1	1.083
13C2-PFTeDA			5.00	3.35	67.1	1.158
13C3-PFBS		2.97	10.0	9.05	90.2	0.806
13C3-PFHxS		2.25	10.0	8.42	84.1	1.000
13C8-PFOS		2.24	10.1	9.89	98.3	1.000
13C2-4:2 FTS		1.65	20.2	19.4	96.0	0.841
13C2-6:2 FTS		2.16	20.0	18.4	92.2	1.001
13C2-8:2 FTS		3.12	20.0	15.5	77.1	1.267
13C8-PFOSA			10.0	9.43	94.3	1.155
D3-N-MeFOSA			10.0	6.74	67.4	1.343
D5-N-EtFOSA			10.0	6.19	61.9	1.381
D3-MeFOSAA			20.0	11.0	54.8	1.316
D5-EtFOSAA			20.0	11.5	57.5	1.342
d7-NMe-FOSE			100	62.0	62.0	1.325
d9-NEt-FOSE			100	52.6	52.6	1.364
13C3-HFPO-DA		2.77	40.0	37.7	94.4	1.029

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

SGS AXYS METHOD MLA-110 Rev 02

Form 3A

INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 22-Feb-2021

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: FC1L_080 S: 16

CS1 Data Filename: FC1L_080 S: 17

CS2 Data Filename: FC1L_080 S: 18

CS3 Data Filename: FC1L_080 S: 19

CS4 Data Filename: FC1L_080 S: 20

CS5 Data Filename: FC1L_080 S: 21

CS6 Data Filename: FC1L_080 S: 22

CS7 Data Filename: FC1L_080 S: 23

CS8 Data Filename: FC1L_080 S: 24

COMPOUND	LAB FLAG ¹	RELATIVE RESPONSE (RR)								MEAN RR	CV (%RSD) ²	
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7			CS8
PFBA		1.06	1.05	1.05	1.00	1.01	0.98	0.99	0.96	0.94	1.00	4.20
PFPeA		1.37	1.29	1.24	1.19	1.21	1.17	1.20	1.15	1.12	1.21	6.24
PFHxA		1.16	1.28	1.12	1.05	1.03	0.97	1.04	0.97	0.94	1.06	10.2
PFHpA		1.19	1.14	1.09	1.14	1.10	1.11	1.08	1.05	0.96	1.10	5.97
PFOA		1.57	1.71	1.56	1.40	1.43	1.41	1.37	1.39	1.32	1.46	8.45
PFNA		0.99	1.13	1.10	1.01	0.99	1.02	1.06	0.97	0.99	1.03	5.34
PFDA		0.89	0.87	0.91	0.82	0.83	0.83	0.84	0.83	0.72	0.84	6.35
PFUnA		0.76	0.78	0.88	0.69	0.76	0.74	0.75	0.75		0.76	7.31
PFDoA		1.02	1.34	1.15	1.05	1.09	1.04	1.08	0.99	0.86	1.07	12.1
PFTrDA		0.97	0.93	0.92	0.86	0.83	0.81	0.82	0.61		0.84	13.1
PFTeDA		0.86	0.77	0.79	0.73	0.76	0.72	0.72	0.62		0.74	9.15
PFBS		1.24	1.18	1.13	1.14	1.21	1.14	1.16	1.11	1.10	1.16	4.01
PFPeS		0.96	1.07	1.12	1.04	1.03	1.02	1.01	0.88	0.77	0.99	10.8
PFHxS		1.26	1.23	1.21	1.20	1.14	1.15	1.15	1.08	1.14	1.17	4.74
PFHpS		1.11	1.07	1.14	1.10	1.09	1.12	1.05	1.05	1.10	1.09	2.81
PFOS		1.25	1.39	1.30	1.17	1.28	1.24	1.20	1.16	1.26	1.25	5.50
PFNS		1.31	1.22	1.18	1.17	1.25	1.18	1.18	1.10	1.10	1.19	5.56
PFDS		1.10	1.23	1.17	1.14	1.16	1.16	1.12	1.04	1.08	1.13	5.03
PFDoS		0.95	0.93	0.96	0.88	0.93	0.93	0.90	0.91	1.00	0.93	3.65
4:2 FTS		0.43	0.50	0.50	0.51	0.52	0.47	0.45	0.42		0.48	8.19
6:2 FTS		0.63	0.54	0.58	0.50	0.52	0.49	0.47	0.40		0.52	13.6
8:2 FTS		0.30	0.27	0.26	0.27	0.25	0.28	0.27	0.23		0.27	7.98
PFOSA		1.04	1.05	1.02	0.99	0.98	0.99	0.97	0.94		1.00	3.72
N-MeFOSA		1.09	1.26	1.14	1.11	1.12	1.09	1.10	0.98		1.11	6.86
N-EtFOSA		1.20	1.27	1.24	1.19	1.18	1.19	1.23	1.15	1.16	1.20	3.34
MeFOSAA		0.86	0.81	0.86	0.84	0.91	0.89	0.86	0.81	0.81	0.85	4.20
EtFOSAA		0.78	0.63	0.92	0.72	0.73	0.74	0.78	0.68		0.75	11.3
N-MeFOSE		1.14	1.16	1.16	1.11	1.12	1.10	1.09	1.03	0.98	1.10	5.47
N-EtFOSE		1.25	1.25	1.27	1.21	1.21	1.18	1.20	1.10	1.04	1.19	6.47
HFPO-DA		1.16	1.24	1.13	1.10	1.08	1.02	1.05	0.96		1.09	7.93
ADONA		7.27	7.33	6.94	6.75	7.00	6.76	7.15	6.93		7.02	3.07
9CI-PF3ONS		2.07	2.11	2.07	2.00	1.93	1.86	1.98	1.90		1.99	4.46
11CI-PF3OUdS		1.05	1.11	1.06	1.04	1.02	1.06	1.12	1.14		1.07	3.83
3:3 FTCA		0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.10		0.08	9.63
5:3 FTCA		0.19	0.18	0.17	0.17	0.16	0.16	0.17	0.17		0.17	6.49
7:3 FTCA		0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.11		0.10	4.46
PFEESA		3.72	3.25	3.11	3.23	3.09	2.95	3.20	2.99	2.87	3.16	7.86
PFMPA		1.78	1.77	1.75	1.69	1.72	1.72	1.78	1.94	2.27	1.82	10.1

RELATIVE RESPONSE (RR)

COMPOUND	LAB FLAG ¹	RELATIVE RESPONSE (RR)									MEAN RR	CV (%RSD) ²
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8		
PFMBA		2.48	2.43	2.35	2.30	2.32	2.33	2.26	2.60	2.81	2.43	7.22
NFDHA		0.05	0.04	0.04	0.04	0.05	0.05	0.04			0.04	17.6

(1) Where applicable, custom lab flags have been used on this report.

(2) For contract CV specifications, see SGS AXYS METHOD MLA-110 Rev 02

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

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SGS AXYS METHOD MLA-110 Rev 02

Form 3B

INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 22-Feb-2021

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: FC1L_080 S: 16

CS1 Data Filename: FC1L_080 S: 17

CS2 Data Filename: FC1L_080 S: 18

CS3 Data Filename: FC1L_080 S: 19

CS4 Data Filename: FC1L_080 S: 20

CS5 Data Filename: FC1L_080 S: 21

CS6 Data Filename: FC1L_080 S: 22

CS7 Data Filename: FC1L_080 S: 23

CS8 Data Filename: FC1L_080 S: 24

RELATIVE RESPONSE (RR)

LABELED COMPOUND	LAB FLAG ¹	RELATIVE RESPONSE (RR)								MEAN RR	CV (%RSD) ²	
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7			CS8
13C4-PFBA		1.17	1.16	1.14	1.16	1.13	1.13	1.13	1.13	1.11	1.14	1.73
13C5-PFPeA		0.83	0.85	0.85	0.88	0.87	0.84	0.81	0.79	0.69	0.82	7.00
13C5-PFHxA		0.67	0.69	0.72	0.70	0.74	0.73	0.68	0.70	0.66	0.70	3.78
13C4-PFHpA		3.63	3.49	3.60	3.42	3.44	3.25	3.33	2.97	2.73	3.32	8.93
13C8-PFOA		3.82	3.60	3.79	3.80	3.79	3.66	3.71	3.61	3.76	3.73	2.31
13C9-PFNA		1.16	1.15	1.14	1.17	1.16	1.13	1.10	1.17	1.15	1.15	2.03
13C6-PFDA		1.13	1.06	0.97	1.06	0.99	0.99	0.92	1.02	0.90	1.01	7.22
13C7-PFUnA		1.23	1.22	1.07	1.22	1.08	1.08	0.99	0.84		1.09	12.2
13C2-PFDoA		1.04	0.95	0.90	0.92	0.94	0.93	0.89	0.98	0.91	0.94	5.00
13C2-PFTeDA		0.86	0.85	0.81	0.83	0.80	0.77	0.74	0.94	1.11	0.86	13.0
13C3-PFBS		1.33	1.36	1.31	1.41	1.25	1.29	1.31	1.00	0.99	1.25	12.1
13C3-PFHxS		1.20	1.16	1.10	1.15	1.12	1.15	1.17	1.16	1.05	1.14	3.86
13C8-PFOS		0.96	0.91	0.93	0.94	0.92	0.87	0.93	0.94	0.90	0.92	3.08
13C2-4:2 FTS		1.25	1.08	1.11	1.04	1.05	1.03	1.06	1.14	1.47	1.14	12.5
13C2-6:2 FTS		0.98	0.88	0.86	0.84	0.90	0.84	0.91	1.06		0.91	8.52
13C2-8:2 FTS		1.50	1.37	1.48	1.38	1.53	1.32	1.40	1.52		1.44	5.42
13C8-PFOA		1.84	1.83	1.86	1.78	1.80	1.74	1.82	2.08		1.84	5.54
D3-N-MeFOSA		0.29	0.28	0.28	0.27	0.28	0.27	0.27	0.32		0.28	6.63
D5-N-EtFOSA		0.28	0.28	0.28	0.27	0.28	0.26	0.27	0.30	0.33	0.28	6.96
D3-MeFOSAA		0.96	0.84	0.87	0.86	0.91	0.83	0.97	1.12	1.21	0.95	13.9
D5-EtFOSAA		0.82	0.76	0.72	0.74	0.77	0.70	0.77	1.00		0.78	12.0
d7-NMe-FOSE		1.93	1.87	1.80	1.81	1.86	1.76	1.81	1.95	2.09	1.88	5.39
d9-NEt-FOSE		2.46	2.39	2.35	2.36	2.44	2.27	2.30	2.52	2.79	2.43	6.37
13C3-HFPO-DA		0.33	0.33	0.34	0.34	0.36	0.33	0.31	0.27		0.33	8.42

(1) Where applicable, custom lab flags have been used on this report.

(2) For contract CV specifications, see SGS AXYS METHOD MLA-110 Rev 02.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

Form 3C
LC MS/MS INITIAL CALIBRATION RATIOS

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 22-Feb-2021

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: FC1L_080 S: 16

CS1 Data Filename: FC1L_080 S: 17

CS2 Data Filename: FC1L_080 S: 18

CS3 Data Filename: FC1L_080 S: 19

CS4 Data Filename: FC1L_080 S: 20

CS5 Data Filename: FC1L_080 S: 21

CS6 Data Filename: FC1L_080 S: 22

CS7 Data Filename: FC1L_080 S: 23

CS8 Data Filename: FC1L_080 S: 24

COMPOUND	LAB FLAG ¹	RATIOS								
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8
PFBA										
PFPeA										
PFHxA		4.58	5.38	6.09	4.84	4.81	4.94	4.81	4.64	4.80
PFHpA		2.19	2.08	2.00	2.16	2.04	1.97	2.06	2.06	2.02
PFOA		1.85	2.15	2.04	1.95	2.03	2.00	1.96	2.06	2.02
PFNA		2.97	2.96	2.87	2.85	2.95	2.94	2.87	2.87	2.86
PFDA		3.23	3.02	3.02	3.06	3.07	3.16	2.96	3.21	3.03
PFUnA		4.29	4.50	4.89	4.31	4.74	4.28	4.73	4.49	
PFDoA		5.72	8.83	6.70	7.41	7.85	7.83	7.95	7.48	7.67
PFTTrDA		3.32	3.58	2.95	3.08	3.04	3.14	3.22	3.02	
PFTeDA		2.75	2.65	2.75	2.82	2.80	2.68	2.71	2.70	
PFBS		2.27	2.65	2.32	2.59	2.71	2.59	2.67	2.60	2.59
PFPeS		1.83	2.06	2.39	2.25	2.35	2.31	2.27	2.26	2.33
PFHxS		2.64	2.36	2.44	2.39	2.28	2.34	2.44	2.32	2.38
PFHpS		2.08	1.90	2.00	2.12	2.08	2.20	2.08	2.10	2.08
PFOS		2.29	2.51	2.55	2.58	2.67	2.70	2.60	2.59	2.66
PFNS		2.07	2.08	2.27	2.36	2.41	2.26	2.32	2.18	2.30
PFDS		2.08	2.80	2.21	2.35	2.38	2.17	2.36	2.18	2.30
PFDoS		2.31	2.11	2.33	2.23	2.18	2.26	2.25	2.27	2.28
4:2 FTS		0.38	0.41	0.44	0.43	0.45	0.46	0.43	0.45	
6:2 FTS		0.51	0.43	0.47	0.44	0.43	0.47	0.45	0.44	
8:2 FTS		0.58	0.48	0.55	0.57	0.53	0.57	0.54	0.54	
PFOSA										
N-MeFOSA		0.52	0.55	0.50	0.54	0.53	0.53	0.53	0.53	
N-EtFOSA		0.52	0.56	0.54	0.53	0.53	0.53	0.53	0.53	0.54
MeFOSAA		1.88	2.07	2.11	1.85	1.98	2.02	1.98	1.94	1.94
EtFOSAA		1.85	1.56	1.58	1.09	1.16	1.10	1.15	1.10	
N-MeFOSE										
N-EtFOSE										
HFPO-DA		2.58	3.07	2.82	2.87	2.67	2.50	2.63	2.75	
ADONA		1.15	1.12	1.08	1.08	1.20	1.11	1.13	1.06	
9CI-PF3ONS		3.24	3.13	3.02	3.20	3.02	3.04	3.13	3.07	
11CI-PF3OUdS		2.63	3.01	3.14	3.13	3.06	3.19	3.14	3.05	
3:3 FTCA		1.69	1.51	1.64	1.78	1.89	1.91	1.92	1.96	
5:3 FTCA		0.85	1.08	1.14	1.21	1.22	1.24	1.26	1.31	

COMPOUND	LAB FLAG ¹	RATIOS								
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8
7:3 FTCA		0.69	0.69	0.70	0.71	0.69	0.68	0.71	0.68	
PFEESA		8.11	7.52	8.32	9.28	8.69	8.99	9.71	9.18	9.28
PFMPA										
PFMBA										
NFDHA		0.83	1.08	1.12	0.95	1.69	1.32	1.19		

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

For Axys Internal Use Only [XSL Template: FC2-Form3C.xsl; Created: 25-Jan-2022 09:55:18; Application: XMLTransformer-1.18.31; Report Filename: PFOA_FC_LC_22-Feb-2021_FC1L_Form3C_GS95825.html; Workgroup: WG79487; Design ID: 3989]

SGS AXYS METHOD MLA-110 Rev 02

Form 3D
LC MS/MS INITIAL CALIBRATION RATIOS

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 22-Feb-2021

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: FC1L_080 S: 16

CS1 Data Filename: FC1L_080 S: 17

CS2 Data Filename: FC1L_080 S: 18

CS3 Data Filename: FC1L_080 S: 19

CS4 Data Filename: FC1L_080 S: 20

CS5 Data Filename: FC1L_080 S: 21

CS6 Data Filename: FC1L_080 S: 22

CS7 Data Filename: FC1L_080 S: 23

CS8 Data Filename: FC1L_080 S: 24

LABELED COMPOUND	LAB FLAG ¹	RATIOS								
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8
13C4-PFBA										
13C5-PFPeA										
13C5-PFHxA		24.2	23.3	27.8	23.3	25.6	26.9	25.6	24.5	26.7
13C4-PFHpA										
13C8-PFOA										
13C9-PFNA										
13C6-PFDA										
13C7-PFUnA										
13C2-PFDoA										
13C2-PFTeDA										
13C3-PFBS		2.57	2.71	2.73	2.73	2.72	2.72	2.79	2.69	2.85
13C3-PFHxS		2.40	2.29	2.34	2.38	2.29	2.40	2.49	2.36	2.28
13C8-PFOS		2.08	2.05	2.09	2.33	2.09	2.15	2.22	2.37	2.14
13C2-4:2 FTS		1.84	1.90	1.74	1.62	1.51	1.55	1.25	0.54	0.24
13C2-6:2 FTS		1.93	2.03	1.87	1.87	1.80	1.74	1.44	0.71	
13C2-8:2 FTS		3.89	3.55	3.84	3.75	3.20	3.03	2.50	1.10	
13C8-PFOSA										
D3-N-MeFOSA										
D5-N-EtFOSA										
D3-MeFOSAA										
D5-EtFOSAA										
d7-NMe-FOSE										
d9-NEt-FOSE										
13C3-HFPO-DA		2.67	2.74	2.54	2.64	2.57	2.89	2.76	2.91	

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 4A

LC MS/MS CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 22-Feb-2021

VER Data Filename: FC2L_019 S: 16

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022

LC Column ID: C18

Analysis Time: 17:32:43

COMPOUND	LAB FLAG ¹	RRT	QUANT TRANSITION	RATIO	EXPECTED CONC. (ng)	CONC. FOUND (ng)	RECOVERY (%)
PFBA		1.006	213 > 169		20.0	20.3	101
PFPeA		1.001	263 > 219		10.0	9.35	93.5
PFHxA		1.000	313 > 269	4.79	5.00	4.77	95.5
PFHpA		1.001	363 > 319	1.79	5.00	4.24	84.7
PFOA		1.000	413 > 369	1.85	5.00	4.58	91.5
PFNA		1.000	463 > 419	2.87	5.00	5.07	101
PFDA		1.000	513 > 469	3.16	5.00	5.70	114
PFUnA		1.000	563 > 519	4.40	5.00	5.16	103
PFDoA		0.999	613 > 569	6.87	5.00	5.25	105
PFTTrDA		0.963	663 > 619	3.05	5.00	5.33	107
PFTTeDA		1.000	713 > 669	2.55	5.00	5.03	101
PFBS		1.000	299 > 80	2.94	5.00	6.15	123
PFPeS		0.890	349 > 80	2.35	5.01	5.80	116
PFHxS		1.002	399 > 80	2.30	5.00	5.31	106
PFHpS		0.918	449 > 80	2.07	5.01	4.76	95.1
PFOS		1.000	499 > 80	2.47	5.00	4.71	94.2
PFNS		1.047	549 > 80	2.25	5.01	4.75	94.8
PFDS		1.081	599 > 80	2.17	5.00	4.81	96.3
PFDoS		1.165	699 > 80	2.23	5.01	4.51	90.1
4:2 FTS		1.000	327 > 307	0.44	20.0	20.2	101
6:2 FTS		1.000	427 > 407	0.42	18.0	18.0	100
8:2 FTS		1.000	527 > 507	0.50	20.0	21.7	109
PFOSA		1.001	498 > 78		5.00	5.14	103
N-MeFOSA		1.000	512 > 219	0.50	5.75	5.62	97.7
N-EtFOSA		1.001	526 > 219	0.52	12.5	12.1	97.2
MeFOSAA		1.000	570 > 419	1.67	5.00	4.27	85.4
EtFOSAA		1.001	584 > 419	1.24	5.00	4.78	95.6
N-MeFOSE		1.002	616 > 59		50.0	51.3	103
N-EtFOSE		1.002	630 > 59		37.5	44.2	118
HFPO-DA		1.000	285 > 169	2.74	19.0	19.3	102
ADONA		1.094	377 > 251	1.06	20.0	24.0	120
9CI-PF3ONS		0.965	531 > 351	3.21	20.0	22.7	113
11CI-PF3OUdS		1.031	631 > 451	3.20	20.0	21.6	108
3:3 FTCA		0.826	241 > 177	2.01	20.0	15.8	79.2
5:3 FTCA		1.049	341 > 237	1.22	125	96.8	77.4
7:3 FTCA		1.340	441 > 317	0.70	125	93.3	74.6
PFEESA		1.031	315 > 135	9.05	5.00	4.77	95.5
PFMPA		0.579	229 > 85		10.0	10.6	106
PFMBA		1.067	279 > 85		5.00	5.05	101
NFDHA	NDR	0.989	295 > 201	1.90	10.0	3.14	31.4

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

SGS AXYS METHOD MLA-110 Rev 02

Form 4B

LC MS/MS CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 22-Feb-2021

VER Data Filename: FC2L_019 S: 16

Instrument ID: LCMS/MS

Analysis Date: 14-Jan-2022

LC Column ID: C18

Analysis Time: 17:32:43

LABELED COMPOUND	LAB FLAG ¹	RRT	QUANT TRANSITION	RATIO	EXPECTED CONC. (ng)	CONC. FOUND (ng)	RECOVERY (%)
13C4-PFBA		1.000	217 > 172		40.0	41.0	102
13C5-PFPeA		0.863	268 > 223		20.0	17.2	85.9
13C5-PFHxA		1.000	318 > 273	22.4	10.0	9.92	99.2
13C4-PFHpA		0.898	367 > 322		10.0	10.7	107
13C8-PFOA		1.000	421 > 376		10.0	9.34	93.4
13C9-PFNA		1.000	472 > 427		5.00	4.66	93.2
13C6-PFDA		0.999	519 > 474		5.00	4.89	97.7
13C7-PFUnA		1.049	570 > 525		5.00	5.21	104
13C2-PFDoA		1.083	615 > 570		5.00	4.65	93.1
13C2-PFTeDA		1.158	715 > 670		5.00	4.12	82.5
13C3-PFBS		0.806	302 > 80	2.21	10.0	9.31	92.8
13C3-PFHxS		0.999	402 > 80	2.41	10.0	10.2	102
13C8-PFOS		1.000	507 > 80	2.08	10.1	10.8	107
13C2-4:2 FTS		0.842	329 > 81	1.69	20.2	21.3	106
13C2-6:2 FTS		1.003	429 > 81	2.02	20.0	21.5	108
13C2-8:2 FTS		1.269	529 > 81	3.08	20.0	17.9	89.3
13C8-PFOSA		1.155	506 > 78		10.0	10.1	101
D3-N-MeFOSA		1.343	515 > 219		10.0	7.97	79.7
D5-N-EtFOSA		1.381	531 > 219		10.0	7.68	76.8
D3-MeFOSAA		1.317	573 > 419		20.0	12.3	61.4
D5-EtFOSAA		1.343	589 > 419		20.0	13.3	66.4
d7-NMe-FOSE		1.325	623 > 59		100	73.7	73.7
d9-NEt-FOSE		1.364	639 > 59		100	61.3	61.3
13C3-HFPO-DA		1.030	287 > 169	3.55	40.0	34.0	85.0

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Henry Huang _____

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-103 Rev. 60

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	Alaska DEC	ANAB DoD **	ANAB ISO 17025	CALA	California WB	Florida DOH	Maine DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	ANAB DoD **	ANAB ISO 17025	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	CALA	CALA	Alaska DEC	ANAB DoD **	ANAB ISO 17025	California WB	Florida DOH	Maine DOH	Minnesota DOH	New Jersey DEP	New York DOH	Pennsylvania DEP	Virginia DGS	Washington DE *	ANAB DoD **	AFFF	ANAB ISO 17025
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)																																							
Alaska DEC	Alaska Department of Environmental Conservation, Contaminated Sites Laboratory Approval 17-014																																							
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003																																							

ANAB DoD ANSI National Accreditation Board, certificate ADE-1861, (US DoD QSM 5.3 Standard)



CALA Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2017 Standard)

