



2045 Mills Road West

TEL: (250) 655-5800

Sidney, BC, Canada V8L5X2

TOLL-FREE: 1-888-373-0881

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

<b>Batch ID:</b> WG89473	<b>Date:</b> 03-Jun-2024
<b>Analysis Type:</b> Perfluorinated Organic (Post)	<b>Matrix Type:</b> Biosolids human
<b>BATCH MAKEUP</b>	
<b>Contract:</b> 4066 <b>Samples:</b>  L40547-1 SIWWTP-BIOS_MIS (FC10214-1) L40547-2 HUWWTP-BIOS_MIS (FC10214-2) L40547-3 LAWWTP-BIOS_MIS (FC10214-3) L40547-4 LAWWTP-COMP_MIS (FC10214-4)	<b>Blank:</b> WG89473-101 WG89473-102
	<b>Reference or Spike:</b> WG89473-103
	<b>Duplicate:</b> WG89473-104 WG89473-105
<b>Comments:</b> <ol style="list-style-type: none"> <li>1. Data are considered final.</li> <li>2. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data.</li> <li>3. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples. Native PFPeA and PFHxA were detected in the Lab Blank (SGS AXYS ID: WG89771-101) but are meeting method specifications.</li> <li>4. In the continuing calibration verification (filenames: FC4L_131 S:41) some surrogates are observed above the upper method control limit. As the result for the associated targets are observed within method specifications data is not considered impacted.</li> <li>5. Percent recoveries of a few surrogates in the client samples and Lab QC were observed to be outside the method limits and these surrogates have been flagged with a 'V' on the report forms. As the isotope dilution method of quantification produces data that are recovery corrected, the slight variance from the method acceptance criteria is deemed not to affect the quantification of these analytes. Percent surrogate recoveries are used as a general method performance indicator only.</li> <li>6. In the client samples some of the model precursor compounds (6:2 FTS, PFOSA, N-MeFOSA) were detected marginally above method limits – indicating possible partially incomplete oxidation. Sample data for post-oxidation compounds may be slightly under-reported, although not significantly. In the case of N-MeFOSA these detections are flagged with "R" on report forms indicating these are not meeting peak criteria and are maximum concentrations.</li> <li>7. The reported concentration values represent the acid forms of the compounds.</li> <li>8. Samples underwent multi-increment sampling (MIS) at SGS Orlando before coming to SGS AXYS for analysis.</li> </ol>	

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February 2017

FQA-006 Rev. 4. 20-Sep-2013

**CHAIN OF CUSTODY**

2045 Mills Road West TEL: (250) 655-5800 TOLL FREE 1-888-373-0881  
 Sidney, British Columbia, Canada V8L 5X2 FAX: (250) 655-5811

SGS AXYS CLIENT #: **4066**

<b>REPORT TO:</b>		<b>INVOICE TO:</b>		<b>ANALYSIS REQUESTED</b>				
Company	Hawaii Dull-HEER Office	Company	TetraTech	MLA-110	MLA-111	MLA 1119	SPLP (MLA-110 MLA-111 MLA-119)	method 1314 - mla-110 mla-111 mla-119
Address	2385 Weimano Home Rd #100 Pearl City, HI 96782	Address	737 Bishop St Ste 2340 Honolulu, HI 96813					
Contact	Roger Brewer	Contact	Eric Jensen					
Phone	808-586-4249	Phone	808-225-7084					
FAX		FAX						
E-mail	roger.brewer@doh.hawaii.gov	E-mail	eric.jensen@tetratech.com					
Project Name/Number:		Sampler's Name:						
		Signature:						

Client Sample Identification	Matrix	Sampling Date	Sampling Time	Container Type/No.	SGS AXYS Lab Sample ID (Lab use only)					
<del>LAWWTP-BIOS</del> SI WWTP-BIOS 1	biosolids	9/27/23	8:00 am	Freezer bag	L40547 - 1	X	X	X	X	
HU WWTP-BIOS 2	"	9/28/23	11:00 am	"	- 2	X	X	X	X	
LAWWTP-BIOS 3	"	9/20/23	12:00 pm	"	- 3	X	X	X	X	
LAWWTP-COMP 4	compost	9/20/23	12:00 pm	"	- 4	X	X	X	X	X
										INITIAL ASSESSMENT <b>JD</b>
										LABEL VERIFICATION <b>SP</b>

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time	Courier	Waybill No.
<i>[Signature]</i>	10/3/23	9:00 am	<i>[Signature]</i>	10/5/23	11:20		
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time	Sample Receipt	
<i>[Signature]</i>			<i>[Signature]</i>			Temp °C	Cooler
						Custody Seal #	5.2 TR#1
						Seal Intact Y/N	
						Sample Tags	Y/N

Remarks

- Process using multi-increment sampling procedures (see method 1314)
- Test minimum 5g subsample <sup>sieved material</sup>
- Recombine compost sample and send to Rob Caldwell at the Lakeview, Ontario lab for a soil column test. (two leachate samples generated)
- Test leachate samples using MLA-110 and MLA-111 and MLA 119
- send subsamples of leachate to Eurofins, Sacramento, for PEAS MTA analysis (TOPS + AUF)
- SGS-Axys should also test the leachate for TOPS + TOF (filter before testing)

Eurofins bottles + CDC included with compost sample

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
SIWWTP-BIOS\_MIS (FC10214-1)  
Sample Collection:  
27-Sep-2023 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

L40547-1

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.59 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:34:40

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 47

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g (dry weight basis)

% Moisture:

8.29

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA		44.0	0.876 (Q)		1.004
PFPeA		47.2	0.438 (Q)		1.000
PFHxA		34.4	0.219 (Q)	4.36	1.000
PFHpA		11.0	0.219 (Q)	2.05	1.000
PFOA		12.3	0.219 (Q)	1.90	
PFNA		4.75	0.219 (Q)	2.73	
PFDA		3.97	0.219 (Q)	3.33	1.000
PFUnA		2.51	0.219 (Q)	4.03	1.000
PFDoA		2.56	0.175 (Q)	6.93	1.000
PFTTrDA		1.30	0.219 (Q)	4.03	0.957
PFTeDA		1.38	0.219 (Q)	2.61	1.000
PFBS		3.19	0.219 (Q)	2.53	1.000
PFPeS	U		0.220 (Q)		
PFHxS	J	0.684	0.219 (Q)	2.59	
PFHpS	U		0.219 (Q)		
PFOS		16.4	0.219 (Q)	2.80	
PFNS	U		0.219 (Q)		
PFDS	R J	0.707	0.219 (Q)	3.64	1.080
PFDoS	U		0.219 (Q)		
4:2 FTS	U		0.876 (Q)		
6:2 FTS	U		0.790 (Q)		
8:2 FTS	U		0.745 (Q)		
PFOSA	J	0.400	0.219 (Q)		
N-MeFOSA	R J	0.246	0.219 (Q)	0.99	
N-EtFOSA	U		0.613 (Q)		
MeFOSAA	U		0.219 (Q)		
EtFOSAA	U		0.219 (Q)		
N-MeFOSE	U		2.19 (Q)		
N-EtFOSE	U		2.19 (Q)		
3:3 FTCA	U		0.876 (Q)		
5:3 FTCA	U		5.48 (Q)		
7:3 FTCA	U		5.48 (Q)		

(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.

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
SIWWTP-BIOS\_MIS (FC10214-1)  
Sample Collection:  
27-Sep-2023 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

L40547-1

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.59 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:34:40

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 47

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

% Moisture:

8.29

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	158	78.8		1.000
13C5-PFPeA		100	84.0	84.0		0.851
13C5-PFHxA		50.0	39.3	78.5	13.2	1.000
13C4-PFHpA		50.0	38.3	76.6		0.884
13C8-PFOA		50.0	37.2	74.3		0.999
13C9-PFNA		25.0	20.3	81.4		1.000
13C6-PFDA		25.0	21.4	85.7		1.000
13C7-PFUnA		25.0	16.6	66.2		1.044
13C2-PFDoA	V	25.0	7.58	30.3		1.077
13C2-PFTeDA	V	25.0	6.10	24.4		1.170
13C3-PFBS		50.1	41.5	82.8	2.58	0.783
13C3-PFHxS		50.1	45.6	91.0	2.38	1.000
13C8-PFOS		50.3	46.4	92.2	2.25	0.999
13C2-4:2 FTS		101	97.1	96.3	1.88	0.823
13C2-6:2 FTS		100	97.8	97.8	2.33	1.001
13C2-8:2 FTS		100	80.9	80.7	3.87	1.271
13C8-PFOA	V	50.0	76.2	152		1.160
D3-N-MeFOSA		50.0	48.4	96.9		1.347
D5-N-EtFOSA		50.0	45.9	91.7		1.381
D3-MeFOSAA	V	100	190	190		1.313
D5-EtFOSAA	V	100	221	221		1.337
d7-NMe-FOSE		502	673	134		1.331
d9-NEt-FOSE		500	721	144		1.366

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
HUWWTP-BIOS\_MIS (FC10214-  
2)Sample Collection:  
28-Sep-2023 11:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

L40547-2 (A)

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.27 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:48:01

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 48

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g (dry weight basis)

% Moisture:

14.6

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COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA		96.9	0.938 (Q)		1.004
PFPeA		73.1	0.469 (Q)		1.001
PFHxA		53.0	0.235 (Q)	4.27	1.000
PFHpA		20.8	0.235 (Q)	2.10	1.001
PFOA		29.3	0.235 (Q)	1.91	
PFNA		10.1	0.235 (Q)	2.70	
PFDA		8.82	0.235 (Q)	2.95	0.999
PFUnA		4.12	0.235 (Q)	4.11	1.000
PFDaA		4.75	0.188 (Q)	6.83	1.000
PFTTrDA		1.85	0.235 (Q)	3.83	0.958
PFTTeDA		1.94	0.235 (Q)	2.27	1.000
PFBS		16.0	0.235 (Q)	2.64	1.000
PFPeS	U		0.236 (Q)		
PFHxS	J	0.322	0.235 (Q)	2.95	
PFHpS	U		0.235 (Q)		
PFOS		9.26	0.235 (Q)	2.67	
PFNS	U		0.235 (Q)		
PFDS		1.60	0.235 (Q)	2.46	1.082
PFDoS	U		0.235 (Q)		
4:2 FTS	U		0.938 (Q)		
6:2 FTS	R J	1.54	0.846 (Q)	0.60	0.999
8:2 FTS	U		0.798 (Q)		
PFOSA	J	0.400	0.235 (Q)		
N-MeFOSA	U		0.235 (Q)		
N-EtFOSA	U		0.657 (Q)		
MeFOSAA	U		0.235 (Q)		
EtFOSAA	U		0.235 (Q)		
N-MeFOSE	U		2.35 (Q)		
N-EtFOSE	U		2.35 (Q)		
3:3 FTCA	U		0.938 (Q)		
5:3 FTCA	U		5.87 (Q)		
7:3 FTCA	U		5.87 (Q)		

(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.

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
HUWWTP-BIOS\_MIS (FC10214-  
2)  
Sample Collection:  
28-Sep-2023 11:00

## SGS AXYS ANALYTICAL SERVICES

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

Project No.

WWTP BIOS AND COMP

Contract No.: 4066

Lab Sample I.D.:

L40547-2 (A)

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.27 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:48:01

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 48

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

% Moisture:

14.6

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	144	72.2		1.000
13C5-PFPeA		100	76.8	76.8		0.851
13C5-PFHxA		50.0	34.9	69.9	12.6	1.000
13C4-PFHpA		50.0	35.8	71.6		0.884
13C8-PFOA		50.0	33.6	67.1		0.999
13C9-PFNA		25.0	19.0	75.9		1.000
13C6-PFDA		25.0	19.7	78.7		1.000
13C7-PFUnA		25.0	19.6	78.2		1.045
13C2-PFDoA		25.0	18.3	73.3		1.081
13C2-PFTeDA	V	25.0	9.72	38.9		1.170
13C3-PFBS		50.1	33.5	66.9	2.59	0.783
13C3-PFHxS		50.1	38.2	76.3	2.26	1.000
13C8-PFOS		50.3	41.3	82.1	2.11	1.000
13C2-4:2 FTS		101	97.3	96.5	1.95	0.823
13C2-6:2 FTS		100	98.4	98.4	2.24	1.002
13C2-8:2 FTS		100	94.1	93.9	3.81	1.271
13C8-PFOSA		50.0	70.7	141		1.160
D3-N-MeFOSA		50.0	53.6	107		1.347
D5-N-EtFOSA		50.0	47.9	95.8		1.380
D3-MeFOSAA		100	124	124		1.313
D5-EtFOSAA		100	126	126		1.339
d7-NMe-FOSE		502	718	143		1.331
d9-NEt-FOSE	V	500	759	152		1.366

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
HUWWTP-BIOS\_MIS (FC10214-  
2) (Duplicate)  
Sample Collection:  
28-Sep-2023 11:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

WG89473-104 (DUP L40547-2)

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.27 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:01:22

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 49

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g (dry weight basis)

% Moisture:

0

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA		86.9	0.937 (Q)		1.004
PFPeA		67.8	0.469 (Q)		1.000
PFHxA		46.9	0.234 (Q)	4.41	1.000
PFHpA		19.9	0.234 (Q)	2.11	1.000
PFOA		25.8	0.234 (Q)	1.91	
PFNA		9.04	0.234 (Q)	2.74	
PFDA		8.78	0.234 (Q)	2.79	1.001
PFUnA		4.13	0.234 (Q)	4.56	1.000
PFDoA		4.66	0.187 (Q)	6.83	1.000
PFTTrDA		1.74	0.234 (Q)	3.07	0.959
PFTTeDA		2.13	0.234 (Q)	2.66	1.001
PFBS		11.8	0.234 (Q)	2.65	1.000
PFPeS	U		0.236 (Q)		
PFHxS	J	0.344	0.234 (Q)	2.48	
PFHpS	U		0.234 (Q)		
PFOS		7.98	0.234 (Q)	2.46	
PFNS	U		0.234 (Q)		
PFDS		1.55	0.234 (Q)	2.43	1.081
PFDoS	U		0.234 (Q)		
4:2 FTS	U		0.937 (Q)		
6:2 FTS	U		0.845 (Q)		
8:2 FTS	U		0.797 (Q)		
PFOSA	J	0.342	0.234 (Q)		
N-MeFOSA	U		0.234 (Q)		
N-EtFOSA	U		0.656 (Q)		
MeFOSAA	U		0.234 (Q)		
EtFOSAA	U		0.234 (Q)		
N-MeFOSE	U		2.34 (Q)		
N-EtFOSE	U		2.34 (Q)		
3:3 FTCA	U		0.937 (Q)		
5:3 FTCA	U		5.86 (Q)		
7:3 FTCA	U		5.86 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than limit of quantification.

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
HUWWTP-BIOS\_MIS (FC10214-  
2) (Duplicate)  
Sample Collection:  
28-Sep-2023 11:00

## SGS AXYS ANALYTICAL SERVICES

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

Project No.

WWTP BIOS AND COMP

Contract No.: 4066

Lab Sample I.D.:

WG89473-104 (DUP L40547-2)

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.27 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:01:22

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 49

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

% Moisture:

0

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	120	60.1		1.000
13C5-PFPeA		100	73.9	73.9		0.851
13C5-PFHxA		50.0	34.6	69.1	12.5	1.000
13C4-PFHpA		50.0	36.1	72.2		0.885
13C8-PFOA		50.0	34.7	69.3		1.000
13C9-PFNA		25.0	19.7	78.7		1.000
13C6-PFDA		25.0	17.5	70.0		0.999
13C7-PFUnA		25.0	18.8	75.2		1.046
13C2-PFDoA		25.0	17.1	68.4		1.081
13C2-PFTeDA	V	25.0	9.05	36.2		1.170
13C3-PFBS		50.1	34.7	69.2	2.70	0.783
13C3-PFHxS		50.1	38.4	76.7	2.39	0.999
13C8-PFOS		50.3	42.2	83.9	2.14	1.000
13C2-4:2 FTS		101	91.3	90.6	1.99	0.823
13C2-6:2 FTS		100	90.9	90.9	2.30	1.002
13C2-8:2 FTS		100	85.4	85.2	4.04	1.271
13C8-PFOSA		50.0	74.2	148		1.160
D3-N-MeFOSA		50.0	57.1	114		1.346
D5-N-EtFOSA		50.0	50.3	101		1.380
D3-MeFOSAA		100	113	113		1.314
D5-EtFOSAA		100	121	121		1.339
d7-NMe-FOSE	V	502	760	151		1.330
d9-NEt-FOSE	V	500	831	166		1.366

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

## SGS AXYS METHOD MLA-111 Rev 03

PERFLUORINATED ORGANICS ANALYSIS REPORT  
RELATIVE PERCENT DIFFERENCE

## SGS AXYS ANALYTICAL SERVICES

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

Project No.

WWTP BIOS AND COMP

Contract No.: 4066

Client ID: HUWWTP-BIOS\_MIS (FC10214-2)

Concentration Units: ng/g (dry weight basis)

COMPOUND	L40547-2 (A)		WG89473-104		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG <sup>1</sup>	CONC. FOUND	LAB FLAG <sup>1</sup>	CONC. FOUND		
PFBA		96.9		86.9	91.9	10.9
PFPeA		73.1		67.8	70.5	7.53
PFHxA		53.0		46.9	49.9	12.2
PFHpA		20.8		19.9	20.3	4.07
PFOA		29.3		25.8	27.6	12.5
PFNA		10.1		9.04	9.57	11.1
PFDA		8.82		8.78	8.80	0.422
PFUnA		4.12		4.13	4.13	0.332
PFDoA		4.75		4.66	4.70	1.76
PFTTrDA		1.85		1.74	1.80	6.09
PFTeDA		1.94		2.13	2.03	9.65
PFBS		16.0		11.8	13.9	30.0
PFPeS	U		U			
PFHxS	J	0.322	J	0.344	0.333	6.40
PFHpS	U		U			
PFOS		9.26		7.98	8.62	14.9
PFNS	U		U			
PFDS		1.60		1.55	1.58	2.90
PFDoS	U		U			
4:2 FTS	U		U			
6:2 FTS	R J	1.54	U			
8:2 FTS	U		U			
PFOSA	J	0.400	J	0.342	0.371	15.7
N-MeFOSA	U		U			
N-EtFOSA	U		U			
MeFOSAA	U		U			
EtFOSAA	U		U			
N-MeFOSE	U		U			
N-EtFOSE	U		U			
3:3 FTCA	U		U			
5:3 FTCA	U		U			
7:3 FTCA	U		U			

(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.

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

Signed: Aaron Kyle

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: RPD.xsl; Created: 03-Jun-2024 14:59:18; Application: XMLTransformer-1.18.50;  
Report Filename: RPD\_FC\_LC\_PFAS\_POSTTOP-RPD\_WG89473-104\_L40547-2\_.html; Workgroup: WG89473; Design ID: 4411 ]

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
HUWWTP-BIOS\_MIS (FC10214-  
2) (Duplicate2)  
Sample Collection:  
28-Sep-2023 11:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

WG89473-105 (DUP L40547-2)

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.27 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:14:52

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 50

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g (dry weight basis)

% Moisture:

0

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA		107	0.937 (Q)		1.004
PFPeA		78.2	0.469 (Q)		1.001
PFHxA		50.4	0.234 (Q)	4.33	1.001
PFHpA		22.3	0.234 (Q)	2.05	1.000
PFOA		27.1	0.234 (Q)	1.87	
PFNA		11.1	0.234 (Q)	2.61	
PFDA		9.60	0.234 (Q)	2.90	1.000
PFUnA		4.73	0.234 (Q)	4.50	1.000
PFDaA		4.87	0.187 (Q)	7.53	1.000
PFTTrDA		2.00	0.234 (Q)	3.45	0.959
PFTTeDA		2.34	0.234 (Q)	2.25	1.000
PFBS		14.0	0.234 (Q)	2.75	1.000
PFPeS	U		0.235 (Q)		
PFHxS	J	0.391	0.234 (Q)	3.09	
PFHpS	U		0.234 (Q)		
PFOS		8.21	0.234 (Q)	2.53	
PFNS	U		0.234 (Q)		
PFDS		1.59	0.234 (Q)	2.57	1.081
PFDoS	U		0.234 (Q)		
4:2 FTS	U		0.937 (Q)		
6:2 FTS	U		0.845 (Q)		
8:2 FTS	U		0.797 (Q)		
PFOSA	J	0.429	0.234 (Q)		
N-MeFOSA	R J	0.250	0.234 (Q)	1.03	
N-EtFOSA	U		0.656 (Q)		
MeFOSAA	U		0.234 (Q)		
EtFOSAA	U		0.234 (Q)		
N-MeFOSE	U		2.34 (Q)		
N-EtFOSE	U		2.34 (Q)		
3:3 FTCA	U		0.937 (Q)		
5:3 FTCA	U		5.86 (Q)		
7:3 FTCA	U		5.86 (Q)		

(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.

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
HUWWTP-BIOS\_MIS (FC10214-  
2) (Duplicate2)  
Sample Collection:  
28-Sep-2023 11:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

WG89473-105 (DUP L40547-2)

Matrix: BIOSOLIDS HUMAN

Sample Size:

4.27 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:14:52

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 50

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

% Moisture:

0

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA	V	200	26.0	13.0		0.996
13C5-PFPeA		100	67.3	67.3		0.850
13C5-PFHxA		50.0	33.2	66.4	12.6	0.999
13C4-PFHpA		50.0	33.5	67.1		0.885
13C8-PFOA		50.0	33.3	66.6		1.000
13C9-PFNA		25.0	18.0	71.9		1.000
13C6-PFDA		25.0	17.6	70.4		1.000
13C7-PFUnA		25.0	18.5	74.1		1.046
13C2-PFDoA		25.0	16.2	65.0		1.081
13C2-PFTeDA	V	25.0	5.91	23.6		1.171
13C3-PFBS		50.1	33.9	67.6	2.79	0.784
13C3-PFHxS		50.1	37.2	74.3	2.39	1.000
13C8-PFOS		50.3	40.5	80.6	2.20	1.000
13C2-4:2 FTS		101	96.8	96.0	1.99	0.823
13C2-6:2 FTS		100	91.8	91.8	2.15	1.002
13C2-8:2 FTS		100	86.0	85.8	3.59	1.272
13C8-PFOA		50.0	74.7	149		1.160
D3-N-MeFOSA		50.0	53.3	107		1.347
D5-N-EtFOSA		50.0	46.7	93.4		1.380
D3-MeFOSAA		100	117	117		1.315
D5-EtFOSAA		100	137	137		1.339
d7-NMe-FOSE		502	752	150		1.331
d9-NEt-FOSE	V	500	775	155		1.366

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

## SGS AXYS METHOD MLA-111 Rev 03

PERFLUORINATED ORGANICS ANALYSIS REPORT  
RELATIVE PERCENT DIFFERENCE

## SGS AXYS ANALYTICAL SERVICES

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

Project No.

WWTP BIOS AND COMP

Contract No.: 4066

Client ID: HUWWTP-BIOS\_MIS (FC10214-2)

Concentration Units: ng/g (dry weight basis)

COMPOUND	L40547-2 (A)		WG89473-105		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG <sup>1</sup>	CONC. FOUND	LAB FLAG <sup>1</sup>	CONC. FOUND		
PFBA		96.9		107	102	9.52
PFPeA		73.1		78.2	75.7	6.73
PFHxA		53.0		50.4	51.7	5.04
PFHpA		20.8		22.3	21.5	7.03
PFOA		29.3		27.1	28.2	7.68
PFNA		10.1		11.1	10.6	9.68
PFDA		8.82		9.60	9.21	8.45
PFUnA		4.12		4.73	4.43	13.8
PFDoA		4.75		4.87	4.81	2.65
PFTTrDA		1.85		2.00	1.92	7.49
PFTeDA		1.94		2.34	2.14	19.1
PFBS		16.0		14.0	15.0	13.2
PFPeS	U		U			
PFHxS	J	0.322	J	0.391	0.357	19.3
PFHpS	U		U			
PFOS		9.26		8.21	8.74	12.0
PFNS	U		U			
PFDS		1.60		1.59	1.59	0.805
PFDoS	U		U			
4:2 FTS	U		U			
6:2 FTS	R J	1.54	U			
8:2 FTS	U		U			
PFOSA	J	0.400	J	0.429	0.414	6.88
N-MeFOSA	U		R J	0.250		
N-EtFOSA	U		U			
MeFOSAA	U		U			
EtFOSAA	U		U			
N-MeFOSE	U		U			
N-EtFOSE	U		U			
3:3 FTCA	U		U			
5:3 FTCA	U		U			
7:3 FTCA	U		U			

(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.

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

Signed: Aaron Kyle

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: RPD.xsl; Created: 03-Jun-2024 14:59:18; Application: XMLTransformer-1.18.50;  
Report Filename: RPD\_FC\_LC\_PFAS\_POSTTOP-RPD\_WG89473-105\_L40547-2\_.html; Workgroup: WG89473; Design ID: 4411 ]

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
LAWWTP-BIOS\_MIS (FC10214-3)  
Sample Collection:  
20-Sep-2023 12:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

L40547-3

Matrix: BIOSOLIDS HUMAN

Sample Size:

2.23 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:28:21

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 51

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g (dry weight basis)

% Moisture:

55.4

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA		145	1.79 (Q)		1.004
PFPeA		129	0.897 (Q)		1.001
PFHxA		51.7	0.449 (Q)	4.37	1.000
PFHpA		22.4	0.449 (Q)	2.12	1.000
PFOA		15.2	0.449 (Q)	1.90	
PFNA		8.27	0.449 (Q)	2.65	
PFDA		10.6	0.449 (Q)	2.95	1.000
PFUnA		3.99	0.449 (Q)	3.67	1.000
PFDaA		5.49	0.359 (Q)	7.55	1.000
PFTTrDA	J	1.74	0.449 (Q)	2.78	0.958
PFTeDA		2.17	0.449 (Q)	2.14	1.000
PFBS		8.21	0.449 (Q)	2.53	1.000
PFPeS	U		0.451 (Q)		
PFHxS	U		0.449 (Q)		
PFHpS	U		0.449 (Q)		
PFOS		4.94	0.449 (Q)	2.48	
PFNS	U		0.449 (Q)		
PFDS	U		0.449 (Q)		
PFDoS	U		0.449 (Q)		
4:2 FTS	U		1.79 (Q)		
6:2 FTS	U		1.62 (Q)		
8:2 FTS	U		1.53 (Q)		
PFOSA	U		0.449 (Q)		
N-MeFOSA	U		0.449 (Q)		
N-EtFOSA	U		1.26 (Q)		
MeFOSAA	U		0.449 (Q)		
EtFOSAA	U		0.449 (Q)		
N-MeFOSE	U		4.49 (Q)		
N-EtFOSE	U		4.49 (Q)		
3:3 FTCA	U		1.79 (Q)		
5:3 FTCA	U		11.2 (Q)		
7:3 FTCA	U		11.2 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than limit of quantification.

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
LAWWTP-BIOS\_MIS (FC10214-  
3)  
Sample Collection:  
20-Sep-2023 12:00

## SGS AXYS ANALYTICAL SERVICES

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

Project No.

WWTP BIOS AND COMP

Contract No.: 4066

Lab Sample I.D.:

L40547-3

Matrix: BIOSOLIDS HUMAN

Sample Size:

2.23 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:28:21

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 51

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

% Moisture:

55.4

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	187	93.5		1.000
13C5-PFPeA		100	95.6	95.6		0.851
13C5-PFHxA		50.0	46.0	92.1	13.0	1.000
13C4-PFHpA		50.0	47.3	94.5		0.885
13C8-PFOA		50.0	45.6	91.3		1.000
13C9-PFNA		25.0	25.0	100		1.000
13C6-PFDA		25.0	22.3	89.2		1.000
13C7-PFUnA		25.0	22.2	88.8		1.046
13C2-PFDoA		25.0	20.3	81.1		1.082
13C2-PFTeDA		25.0	15.6	62.3		1.171
13C3-PFBS		50.1	48.4	96.6	2.69	0.783
13C3-PFHxS		50.1	55.3	110	2.38	0.999
13C8-PFOS		50.3	54.1	108	2.16	1.000
13C2-4:2 FTS		101	90.5	89.7	1.94	0.823
13C2-6:2 FTS		100	93.6	93.7	2.33	1.001
13C2-8:2 FTS		100	98.2	98.0	3.81	1.271
13C8-PFOSA		50.0	69.9	140		1.160
D3-N-MeFOSA		50.0	54.5	109		1.346
D5-N-EtFOSA		50.0	50.8	102		1.380
D3-MeFOSAA		100	123	123		1.313
D5-EtFOSAA		100	124	124		1.338
d7-NMe-FOSE		502	745	149		1.330
d9-NEt-FOSE	V	500	809	162		1.366

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
LAWWTP-COMP\_MIS (FC10214-  
4)  
Sample Collection:  
20-Sep-2023 12:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

L40547-4

Matrix: COMPOST

Sample Size:

4.39 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:41:50

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 52

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g (dry weight basis)

% Moisture:

12.3

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA		12.7	0.912 (Q)		1.004
PFPeA		14.1	0.456 (Q)		1.000
PFHxA		15.8	0.228 (Q)	4.18	1.000
PFHpA		2.68	0.228 (Q)	2.17	1.000
PFOA		7.16	0.228 (Q)	1.91	
PFNA		1.61	0.228 (Q)	2.92	
PFDA		4.25	0.228 (Q)	2.97	1.000
PFUnA		0.949	0.228 (Q)	3.86	1.000
PFDaA		1.85	0.182 (Q)	6.65	1.000
PFTTrDA	J	0.431	0.228 (Q)	2.65	0.958
PFTeDA	J	0.821	0.228 (Q)	2.55	1.000
PFBS		7.94	0.228 (Q)	2.67	1.001
PFPeS	U		0.229 (Q)		
PFHxS	U		0.228 (Q)		
PFHpS	U		0.228 (Q)		
PFOS		4.16	0.228 (Q)	2.76	
PFNS	U		0.228 (Q)		
PFDS	U		0.228 (Q)		
PFDoS	U		0.228 (Q)		
4:2 FTS	U		0.912 (Q)		
6:2 FTS	U		0.822 (Q)		
8:2 FTS	U		0.775 (Q)		
PFOSA	U		0.228 (Q)		
N-MeFOSA	U		0.228 (Q)		
N-EtFOSA	U		0.638 (Q)		
MeFOSAA	U		0.228 (Q)		
EtFOSAA	U		0.228 (Q)		
N-MeFOSE	U		2.28 (Q)		
N-EtFOSE	U		2.28 (Q)		
3:3 FTCA	U		0.912 (Q)		
5:3 FTCA	U		5.70 (Q)		
7:3 FTCA	U		5.70 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than limit of quantification.

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORTCLIENT SAMPLE NO.  
LAWWTP-COMP\_MIS (FC10214-  
4)  
Sample Collection:  
20-Sep-2023 12:00

## 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.

WWTP BIOS AND COMP

Lab Sample I.D.:

L40547-4

Matrix: COMPOST

Sample Size:

4.39 g (dry)

Sample Receipt Date: 15-Nov-2023

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 01:41:50

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 52

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

% Moisture:

12.3

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	165	82.3		0.996
13C5-PFPeA		100	90.4	90.4		0.850
13C5-PFHxA		50.0	43.3	86.6	13.7	1.000
13C4-PFHpA		50.0	42.0	84.1		0.885
13C8-PFOA		50.0	40.3	80.5		1.000
13C9-PFNA		25.0	23.3	93.2		1.000
13C6-PFDA		25.0	22.5	89.8		1.000
13C7-PFUnA		25.0	21.8	87.3		1.046
13C2-PFDoA		25.0	22.3	89.0		1.082
13C2-PFTeDA		25.0	17.1	68.5		1.172
13C3-PFBS		50.1	43.9	87.6	2.77	0.783
13C3-PFHxS		50.1	48.3	96.4	2.42	1.000
13C8-PFOS		50.3	52.8	105	2.25	1.000
13C2-4:2 FTS		101	97.2	96.4	1.89	0.823
13C2-6:2 FTS		100	99.7	99.8	2.39	1.002
13C2-8:2 FTS		100	106	106	3.55	1.271
13C8-PFOSA		50.0	71.7	143		1.160
D3-N-MeFOSA		50.0	57.0	114		1.346
D5-N-EtFOSA		50.0	52.7	105		1.380
D3-MeFOSAA		100	133	133		1.313
D5-EtFOSAA		100	136	136		1.338
d7-NMe-FOSE	V	502	788	157		1.331
d9-NEt-FOSE	V	500	848	169		1.366

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

CLIENT SAMPLE NO.

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORT

Lab Blank

Sample Collection:

N/A

## SGS AXYS ANALYTICAL SERVICES

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

Project No.

N/A

Contract No.: 4066

Lab Sample I.D.:

WG89473-101

Matrix: AQUEOUS (SOLID METHOD)

Sample Size:

5.00 g

Sample Receipt Date: N/A

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:07:25

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 45

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA	U		0.800 (Q)		
PFPeA	J	0.967	0.400 (Q)		1.000
PFHxA	J	0.351	0.200 (Q)	3.96	1.000
PFHpA	U		0.200 (Q)		
PFOA	U		0.200 (Q)		
PFNA	U		0.200 (Q)		
PFDA	U		0.200 (Q)		
PFUnA	U		0.200 (Q)		
PFDaA	U		0.160 (Q)		
PFTTrDA	U		0.200 (Q)		
PFTeDA	U		0.200 (Q)		
PFBS	U		0.200 (Q)		
PFPeS	U		0.201 (Q)		
PFHxS	U		0.200 (Q)		
PFHpS	U		0.200 (Q)		
PFOS	U		0.200 (Q)		
PFNS	U		0.200 (Q)		
PFDS	U		0.200 (Q)		
PFDoS	U		0.200 (Q)		
4:2 FTS	U		0.800 (Q)		
6:2 FTS	U		0.721 (Q)		
8:2 FTS	U		0.680 (Q)		
PFOSA	U		0.200 (Q)		
N-MeFOSA	U		0.200 (Q)		
N-EtFOSA	U		0.560 (Q)		
MeFOSAA	U		0.200 (Q)		
EtFOSAA	U		0.200 (Q)		
N-MeFOSE	U		2.00 (Q)		
N-EtFOSE	U		2.00 (Q)		
3:3 FTCA	U		0.800 (Q)		
5:3 FTCA	U		5.00 (Q)		
7:3 FTCA	U		5.00 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than limit of quantification.

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORT

CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

## 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.:

WG89473-101

Matrix: AQUEOUS (SOLID METHOD)

Sample Size:

5.00 g

Sample Receipt Date: N/A

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:07:25

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 45

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	168	84.1		1.000
13C5-PFPeA		100	88.9	88.9		0.852
13C5-PFHxA		50.0	41.0	82.0	12.9	1.000
13C4-PFHpA		50.0	41.7	83.4		0.885
13C8-PFOA		50.0	41.0	82.0		0.999
13C9-PFNA		25.0	22.8	91.2		1.000
13C6-PFDA		25.0	20.2	80.7		1.000
13C7-PFUnA		25.0	17.8	71.2		1.046
13C2-PFDoA		25.0	15.3	61.1		1.082
13C2-PFTeDA	V	25.0	11.0	43.9		1.171
13C3-PFBS		50.1	42.0	83.8	2.68	0.783
13C3-PFHxS		50.1	46.0	91.9	2.38	0.999
13C8-PFOS		50.3	46.1	91.6	2.15	1.000
13C2-4:2 FTS		101	99.6	98.8	1.81	0.823
13C2-6:2 FTS		100	94.7	94.7	2.14	1.002
13C2-8:2 FTS		100	102	101	3.82	1.271
13C8-PFOSA		50.0	64.6	129		1.160
D3-N-MeFOSA		50.0	53.2	106		1.347
D5-N-EtFOSA		50.0	48.6	97.2		1.380
D3-MeFOSAA		100	124	124		1.314
D5-EtFOSAA		100	132	132		1.339
d7-NMe-FOSE		502	680	135		1.331
d9-NEt-FOSE		500	700	140		1.366

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

SGS AXYS METHOD MLA-111 Rev 03

Form 1A

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORT

CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

## 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.:

WG89473-102

Matrix: SOLID

Sample Size:

5.00 g

Sample Receipt Date: N/A

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:21:11

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 46

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	RATIO	RRT
PFBA	J	0.885	0.800 (Q)		1.004
PFPeA	B J	1.46	0.400 (Q)		1.001
PFHxA	B J	0.533	0.200 (Q)	4.47	1.000
PFHpA	U		0.200 (Q)		
PFOA	U		0.200 (Q)		
PFNA	U		0.200 (Q)		
PFDA	U		0.200 (Q)		
PFUnA	U		0.200 (Q)		
PFDoA	U		0.160 (Q)		
PFTTrDA	U		0.200 (Q)		
PFTTeDA	U		0.200 (Q)		
PFBS	U		0.200 (Q)		
PFPeS	U		0.201 (Q)		
PFHxS	U		0.200 (Q)		
PFHpS	U		0.200 (Q)		
PFOS	U		0.200 (Q)		
PFNS	U		0.200 (Q)		
PFDS	U		0.200 (Q)		
PFDoS	U		0.200 (Q)		
4:2 FTS	U		0.800 (Q)		
6:2 FTS	J	0.752	0.721 (Q)	0.40	1.000
8:2 FTS	U		0.680 (Q)		
PFOSA	U		0.200 (Q)		
N-MeFOSA	U		0.200 (Q)		
N-EtFOSA	U		0.560 (Q)		
MeFOSAA	U		0.200 (Q)		
EtFOSAA	U		0.200 (Q)		
N-MeFOSE	U		2.00 (Q)		
N-EtFOSE	U		2.00 (Q)		
3:3 FTCA	U		0.800 (Q)		
5:3 FTCA	U		5.00 (Q)		
7:3 FTCA	U		5.00 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; B = analyte found in the blank; J = concentration less than limit of quantification.

(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: \_\_\_\_\_Aaron Kyle\_\_\_\_\_



SGS AXYS METHOD MLA-111 Rev 03

Form 2

TOTAL OXIDIZABLE PRECURSOR - POSTOXIDATION ANALYSIS  
REPORT

CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

## 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.:

WG89473-102

Matrix: SOLID

Sample Size:

5.00 g

Sample Receipt Date: N/A

Initial Calibration Date:

01-Mar-2023

Extraction Date: 29-Apr-2024

Instrument ID:

LCMS/MS

Analysis Date: 03-May-2024 Time: 00:21:11

Column ID:

C18

Extract Volume (uL): 4000

Sample Data Filename:

FC4L\_131 S: 46

Injection Volume (uL): 2

Blank Data Filename:

FC4L\_131 S: 46

Dilution Factor: N/A

Cal. Ver. Data Filename:

FC4L\_131 S: 41

Concentration Units: ng absolute

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	RATIO	RRT
13C4-PFBA		200	147	73.7		0.996
13C5-PFPeA		100	79.9	79.9		0.851
13C5-PFHxA		50.0	37.8	75.5	13.2	1.000
13C4-PFHpA		50.0	37.0	74.1		0.885
13C8-PFOA		50.0	35.6	71.2		0.999
13C9-PFNA		25.0	21.6	86.3		1.000
13C6-PFDA		25.0	20.4	81.5		0.999
13C7-PFUnA		25.0	20.6	82.3		1.045
13C2-PFDoA		25.0	19.8	79.4		1.082
13C2-PFTeDA		25.0	13.4	53.7		1.170
13C3-PFBS		50.1	43.5	86.8	2.72	0.783
13C3-PFHxS		50.1	48.0	95.9	2.33	1.000
13C8-PFOS		50.3	49.2	97.9	2.05	1.000
13C2-4:2 FTS		101	106	105	1.89	0.823
13C2-6:2 FTS		100	99.4	99.4	2.37	1.002
13C2-8:2 FTS		100	109	109	3.99	1.271
13C8-PFOSA		50.0	68.8	138		1.160
D3-N-MeFOSA		50.0	54.7	109		1.347
D5-N-EtFOSA		50.0	51.0	102		1.380
D3-MeFOSAA		100	131	131		1.314
D5-EtFOSAA		100	134	134		1.339
d7-NMe-FOSE		502	718	143		1.331
d9-NEt-FOSE		500	730	146		1.366

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

## SGS AXYS METHOD MLA-111 Rev 03

## 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

<b>Contract No.:</b>	4066	<b>Lab Sample I.D.:</b>	WG89473-103
<b>Matrix:</b>	SOLID	<b>Initial Calibration Date:</b>	01-Mar-2023
<b>Extraction Date:</b>	29-Apr-2024	<b>Instrument ID:</b>	LCMS/MS
<b>Analysis Date:</b>	02-May-2024 Time: 23:40:20	<b>Column ID:</b>	C18
<b>Extract Volume (uL):</b>	4000	<b>OPR Data Filename:</b>	FC4L_131 S: 43
<b>Injection Volume (uL):</b>	2	<b>Blank Data Filename:</b>	FC4L_131 S: 46
<b>Dilution Factor:</b>	N/A	<b>Cal. Ver. Data Filename:</b>	FC4L_131 S: 41

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

COMPOUND	LAB FLAG <sup>1</sup>	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
PFBA			226	264	117	1.004
PFPeA			167	179	108	1.001
PFHxA		4.41	160	147	91.8	1.000
PFHpA		2.09	144	124	86.1	1.000
PFOA		2.00	502	534	106	
PFNA		2.63	39.4	40.8	103	
PFDA		2.82	25.0	23.6	94.6	1.001
PFUnA		4.09	25.0	25.4	101	1.001
PFDoA		7.69	25.0	22.0	88.2	0.999
PFTTrDA		3.03	25.0	26.1	104	0.958
PFTeDA		2.63	25.0	25.7	103	1.000
PFBS		2.84	25.0	24.5	98.0	1.000
PFPeS		2.40	24.9	26.8	107	0.875
PFHxS		2.56	25.0	23.4	93.8	
PFHpS		2.16	25.0	28.4	114	0.926
PFOS		2.65	27.1	28.1	104	
PFNS		2.29	25.0	22.6	90.5	1.044
PFDS		2.33	25.0	23.1	92.3	1.082
PFDoS		2.26	25.0	18.4	73.7	1.177
4:2 FTS	U		100		0	
6:2 FTS	U		100		0	
8:2 FTS		0.41	100	4.89	4.9	1.000
MeFOSAA	U		70.0		0	
EtFOSAA	U		70.0		0	

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.

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

Signed: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

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-111 Rev 03

## 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

<b>Contract No.:</b>	4066	<b>Lab Sample I.D.:</b>	WG89473-103
<b>Matrix:</b>	SOLID	<b>Initial Calibration Date:</b>	01-Mar-2023
<b>Extraction Date:</b>	29-Apr-2024	<b>Instrument ID:</b>	LCMS/MS
<b>Analysis Date:</b>	02-May-2024 Time: 23:40:20	<b>Column ID:</b>	C18
<b>Extract Volume (uL):</b>	4000	<b>OPR Data Filename:</b>	FC4L_131 S: 43
<b>Injection Volume (uL):</b>	2	<b>Blank Data Filename:</b>	FC4L_131 S: 46
<b>Dilution Factor:</b>	N/A	<b>Cal. Ver. Data Filename:</b>	FC4L_131 S: 41

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

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	% RECOVERY	RRT
13C4-PFBA			200	158	78.8	1.000
13C5-PFPeA			100	82.8	82.8	0.851
13C5-PFHxA		12.9	50.0	40.7	81.4	1.000
13C4-PFHpA			50.0	41.1	82.1	0.885
13C8-PFOA			50.0	39.4	78.9	1.000
13C9-PFNA			25.0	21.2	84.8	1.001
13C6-PFDA			25.0	21.2	84.8	0.999
13C7-PFUnA			25.0	20.7	82.7	1.045
13C2-PFDoA			25.0	18.1	72.3	1.082
13C2-PFTeDA	V		25.0	11.7	46.9	1.170
13C3-PFBS		2.63	50.1	42.9	85.7	0.783
13C3-PFHxS		2.29	50.1	47.0	93.9	1.001
13C8-PFOS		2.22	50.3	47.9	95.2	1.000
13C2-4:2 FTS		1.91	101	100	99.6	0.822
13C2-6:2 FTS		2.21	100	90.0	90.0	1.001
13C2-8:2 FTS		3.86	100	98.7	98.5	1.271
D3-MeFOSAA			100	119	119	1.314
D5-EtFOSAA			100	117	117	1.339

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

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

Signed: \_\_\_\_\_Aaron Kyle\_\_\_\_\_

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-111 Rev 03

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: 01-Mar-2023

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: N/A

CS1 Data Filename: FC3L\_107 S: 16

CS2 Data Filename: FC3L\_107 S: 17

CS3 Data Filename: FC3L\_107 S: 18

CS4 Data Filename: FC3L\_107 S: 19

CS5 Data Filename: FC3L\_107 S: 20

CS6 Data Filename: FC3L\_107 S: 21

CS7 Data Filename: FC3L\_107 S: 22

CS8 Data Filename: FC3L\_107 S: 23

COMPOUND	LAB FLAG <sup>1</sup>	RELATIVE RESPONSE (RR)								MEAN RR	CV (%RSD) <sup>2</sup>
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7		
PFBA		0.86	0.83	0.85	0.81	0.85	0.82	0.82	0.82	0.83	2.14
PFPeA		1.14	1.11	1.07	0.98	1.07	1.04	1.00	1.00	1.05	5.39
PFHxA		1.33	1.23	1.13	1.03	1.04	1.00	1.01	1.05	1.10	11.0
PFHpA		1.15	1.24	1.20	1.13	1.16	1.11	1.13	1.13	1.16	3.70
PFOA		1.47	1.32	1.34	1.34	1.26	1.29	1.28	1.27	1.32	5.22
PFNA		1.08	1.00	0.99	1.04	0.99	0.99	0.98	0.97	1.01	3.77
PFDA		0.83	0.74	0.70	0.66	0.74	0.67	0.70	0.68	0.71	7.38
PFUnA		0.78	0.76	0.77	0.70	0.75	0.71	0.70	0.70	0.73	4.69
PFDoA		1.18	1.14	1.11	1.12	1.17	1.09	1.07	1.02	1.11	4.78
PFTrDA		0.98	0.92	0.84	0.81	0.83	0.80	0.80	0.75	0.84	8.87
PFTeDA		0.87	0.83	0.77	0.75	0.78	0.76	0.74	0.68	0.77	7.62
PFBS		1.14	1.01	1.05	1.05	1.08	1.04	1.06	1.04	1.06	3.67
PFPeS		1.00	0.92	0.99	0.95	1.01	0.94	0.96	0.91	0.96	3.99
PFHxS		1.37	1.28	1.26	1.14	1.26	1.16	1.19	1.20	1.23	6.14
PFHpS		1.11	1.09	1.00	0.97	1.02	0.99	1.00	0.93	1.01	5.99
PFOS		1.25	1.14	1.12	1.02	1.11	1.17	1.10	1.06	1.12	6.16
PFNS		1.05	1.00	1.02	0.97	1.01	0.96	0.99	0.97	0.99	2.96
PFDS		0.93	0.97	0.92	0.89	0.94	0.93	0.95	0.94	0.94	2.43
PFDoS		0.84	0.82	0.86	0.79	0.86	0.84	0.87	0.87	0.85	3.31
4:2 FTS		0.53	0.50	0.49	0.45	0.49	0.47	0.45	0.42	0.47	7.27
6:2 FTS		0.51	0.46	0.48	0.43	0.46	0.44	0.43	0.40	0.45	7.25
8:2 FTS		0.35	0.30	0.32	0.30	0.32	0.30	0.30	0.25	0.31	9.70
PFOSA		0.97	0.96	0.93	0.89	0.92	0.90	0.90	0.91	0.92	3.33
N-MeFOSA		0.90	1.05	0.93	0.93	0.92	0.96	0.95	0.90	0.94	4.82
N-EtFOSA		1.15	1.14	1.08	1.10	1.18	1.10	1.18	1.13	1.13	3.25
MeFOSAA		0.87	0.93	1.00	0.91	0.94	0.88	0.86		0.91	5.56
EtFOSAA		0.77	0.75	0.68	0.75	0.78	0.73	0.74		0.74	4.16
N-MeFOSE		0.81	0.78	0.77	0.74	0.77	0.76	0.74	0.73	0.76	3.65
N-EtFOSE		1.08	1.03	1.03	0.99	1.04	1.02	1.01	0.98	1.02	3.19
3:3 FTCA		0.07	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.07	8.61
5:3 FTCA		0.18	0.16	0.17	0.17	0.17	0.17	0.18	0.21	0.18	7.83
7:3 FTCA		0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.12	0.10	7.99

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

(2) For contract CV specifications, see SGS AXYS METHOD MLA-111 Rev 03

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

Signed: \_\_\_\_\_ Jordan Berends \_\_\_\_\_

## SGS AXYS METHOD MLA-111 Rev 03

## 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: 01-Mar-2023

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: N/A  
CS1 Data Filename: FC3L\_107 S: 16  
CS2 Data Filename: FC3L\_107 S: 17  
CS3 Data Filename: FC3L\_107 S: 18  
CS4 Data Filename: FC3L\_107 S: 19  
CS5 Data Filename: FC3L\_107 S: 20  
CS6 Data Filename: FC3L\_107 S: 21  
CS7 Data Filename: FC3L\_107 S: 22  
CS8 Data Filename: FC3L\_107 S: 23

Labeled Compound	LAB FLAG <sup>1</sup>	RELATIVE RESPONSE (RR)								MEAN RR	CV (%RSD) <sup>2</sup>	
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7			CS8
13C4-PFBA			1.07	1.11	1.08	1.05	1.08	1.09	1.09	1.07	1.08	1.60
13C5-PFPeA			0.93	0.95	0.93	0.92	0.94	0.93	0.95	0.90	0.93	1.71
13C5-PFHxA			0.65	0.70	0.66	0.64	0.69	0.66	0.66	0.63	0.66	3.33
13C4-PFHpA			3.41	3.65	3.45	3.36	3.21	3.53	3.36	3.31	3.41	3.96
13C8-PFOA			3.71	3.92	3.85	3.61	3.62	3.81	3.68	3.81	3.75	3.04
13C9-PFNA			1.02	1.04	1.03	1.05	1.06	1.05	1.04	1.02	1.04	1.56
13C6-PFDA			0.99	1.10	1.05	1.02	1.02	1.04	1.00	1.01	1.03	3.30
13C7-PFUnA			1.07	1.14	1.11	1.07	1.10	1.09	1.06	1.04	1.08	3.02
13C2-PFDoA			0.88	0.94	0.91	0.85	0.87	0.90	0.88	0.95	0.90	3.90
13C2-PFTeDA			0.92	0.98	0.98	0.94	0.98	0.96	0.96	1.06	0.97	4.24
13C3-PFBS			1.31	1.40	1.31	1.24	1.37	1.30	1.25	1.08	1.28	7.48
13C3-PFHxS			1.10	1.15	1.12	1.07	1.12	1.11	1.12	1.10	1.11	2.19
13C8-PFOS			1.04	1.03	1.05	1.06	1.05	1.04	0.99	1.05	1.04	1.93
13C2-4:2 FTS			1.22	1.17	1.10	1.15	1.11	1.01	0.95	0.92	1.08	9.94
13C2-6:2 FTS			1.00	1.00	0.94	0.97	0.98	0.93	0.97	1.01	0.98	2.97
13C2-8:2 FTS			1.49	1.45	1.42	1.44	1.43	1.34	1.33	1.40	1.41	3.76
13C8-PFOA			1.72	1.76	1.77	1.72	1.77	1.75	1.73	1.93	1.77	3.87
D3-N-MeFOA			0.24	0.26	0.27	0.26	0.27	0.25	0.25	0.28	0.26	5.17
D5-N-EtFOA			0.25	0.26	0.26	0.25	0.25	0.26	0.24	0.26	0.25	3.36
D3-MeFOA			0.45	0.45	0.46	0.42	0.47	0.50	0.62		0.48	13.6
D5-EtFOA			0.40	0.40	0.39	0.39	0.42	0.43	0.52		0.42	10.7
d7-NMe-FOSE			2.21	2.19	2.26	2.22	2.24	2.17	2.19	2.37	2.23	2.77
d9-Net-FOSE			1.85	1.84	1.90	1.88	1.88	1.83	1.80	1.95	1.87	2.49

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

(2) For contract CV specifications, see SGS AXYS METHOD MLA-111 Rev 03.

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

Signed: \_\_\_\_\_ Jordan Berends \_\_\_\_\_

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: 01-Mar-2023

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: N/A  
CS1 Data Filename: FC3L\_107 S: 16  
CS2 Data Filename: FC3L\_107 S: 17  
CS3 Data Filename: FC3L\_107 S: 18  
CS4 Data Filename: FC3L\_107 S: 19  
CS5 Data Filename: FC3L\_107 S: 20  
CS6 Data Filename: FC3L\_107 S: 21  
CS7 Data Filename: FC3L\_107 S: 22  
CS8 Data Filename: FC3L\_107 S: 23

COMPOUND	LAB FLAG <sup>1</sup>	RATIOS								
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8
PFBA										
PFPeA										
PFHxA			5.24	5.95	5.71	5.10	5.29	5.21	5.37	5.23
PFHpA			2.11	2.24	2.38	2.36	2.23	2.23	2.23	2.21
PFOA			2.14	1.90	2.05	2.03	1.95	1.99	2.00	1.99
PFNA			2.97	2.71	2.79	2.82	2.69	2.84	2.83	2.78
PFDA			3.28	3.99	2.90	3.07	3.10	2.98	3.12	3.01
PFUnA			5.66	5.27	4.47	4.61	4.63	4.60	4.49	4.49
PFDoA			7.35	7.43	7.38	7.72	7.38	7.27	7.30	7.39
PFTTrDA			3.39	3.56	3.13	3.19	3.16	3.16	3.17	3.20
PFTeDA			2.56	2.87	2.55	2.81	2.83	2.83	2.78	2.79
PFBS			2.64	2.75	2.72	2.70	2.75	2.74	2.76	2.72
PFPeS			2.35	2.06	2.47	2.30	2.27	2.33	2.37	2.34
PFHxS			2.33	2.29	2.49	2.42	2.61	2.44	2.50	2.45
PFHpS			2.38	2.02	2.09	2.03	2.15	2.08	2.09	2.07
PFOS			2.07	2.49	2.62	2.63	2.60	2.67	2.61	2.60
PFNS			2.39	2.19	2.34	2.41	2.27	2.28	2.24	2.30
PFDS			2.05	2.40	2.30	2.33	2.30	2.30	2.31	2.30
PFDoS			1.86	2.05	2.15	2.13	2.14	2.23	2.18	2.21
4:2 FTS			0.45	0.45	0.45	0.43	0.45	0.45	0.44	0.45
6:2 FTS			0.44	0.42	0.43	0.40	0.41	0.41	0.41	0.42
8:2 FTS			0.55	0.48	0.51	0.53	0.52	0.53	0.53	0.54
PFOSA										
N-MeFOSA			0.48	0.60	0.52	0.53	0.53	0.53	0.54	0.53
N-EtFOSA			0.49	0.53	0.49	0.51	0.52	0.53	0.54	0.53
MeFOSAA			1.36	2.00	2.51	2.02	1.92	1.89	1.91	
EtFOSAA			1.43	1.05	1.05	1.25	1.14	1.12	1.15	
N-MeFOSE										
N-EtFOSE										
3:3 FTCA			1.60	1.42	1.60	1.50	1.59	1.60	1.57	1.60
5:3 FTCA			1.37	1.31	1.40	1.40	1.39	1.40	1.41	1.41
7:3 FTCA			0.62	0.67	0.65	0.68	0.66	0.64	0.66	0.66

(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: \_\_\_\_\_ Jordan Berends \_\_\_\_\_

## SGS AXYS METHOD MLA-111 Rev 03

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: 01-Mar-2023

Instrument ID: LC MS/MS

LC Column ID: C18

CS0 Data Filename: N/A  
 CS1 Data Filename: FC3L\_107 S: 16  
 CS2 Data Filename: FC3L\_107 S: 17  
 CS3 Data Filename: FC3L\_107 S: 18  
 CS4 Data Filename: FC3L\_107 S: 19  
 CS5 Data Filename: FC3L\_107 S: 20  
 CS6 Data Filename: FC3L\_107 S: 21  
 CS7 Data Filename: FC3L\_107 S: 22  
 CS8 Data Filename: FC3L\_107 S: 23

LABELED COMPOUND	LAB FLAG <sup>1</sup>	RATIOS								
		CS0	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8
13C4-PFBA										
13C5-PFPeA										
13C5-PFHxA			14.8	14.6	14.9	13.9	14.9	15.4	16.1	14.7
13C4-PFHpA										
13C8-PFOA										
13C9-PFNA										
13C6-PFDA										
13C7-PFUnA										
13C2-PFDoA										
13C2-PFTeDA										
13C3-PFBS			2.83	2.71	2.68	2.63	2.82	2.82	2.70	2.77
13C3-PFHxS			2.45	2.41	2.44	2.36	2.39	2.49	2.50	2.50
13C8-PFOS			2.24	2.18	2.09	2.25	2.16	2.28	2.19	2.17
13C2-4:2 FTS			1.85	1.81	1.78	1.77	1.74	1.51	1.22	0.55
13C2-6:2 FTS			2.22	2.19	2.07	2.13	2.03	1.83	1.52	0.74
13C2-8:2 FTS			3.37	3.31	3.31	3.25	3.06	2.99	2.34	1.27
13C8-PFOSA										
D3-N-MeFOSA										
D5-N-EtFOSA										
D3-MeFOSAA										
D5-EtFOSAA										
d7-NMe-FOSE										
d9-NEt-FOSE										

(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: \_\_\_\_\_ Jordan Berends \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: FC2-Form3D.xsl; Created: 03-Jun-2024 14:55:31; Application: XMLTransformer-1.18.50; Report Filename: PFOA\_FC\_LC\_01-Mar-2023\_FC3L\_Form3D\_GS109094.html; Workgroup: WG89473; Design ID: 4411 ]

## SGS AXYS METHOD MLA-111 Rev 03

## 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: 01-Mar-2023

VER Data Filename: FC4L\_131 S: 41

Instrument ID: LCMS/MS

Analysis Date: 02-May-2024

LC Column ID: C18

Analysis Time: 23:12:57

COMPOUND	LAB FLAG <sup>1</sup>	RRT	QUANT TRANSITION	RATIO	EXPECTED CONC. (ng)	CONC. FOUND (ng)	RECOVERY (%)
PFBA		1.004	213 > 169		20.0	21.5	107
PFPeA		1.001	263 > 219		10.0	9.89	98.9
PFHxA		1.000	313 > 269	4.20	5.00	4.82	96.3
PFHpA		1.000	363 > 319	2.14	5.00	5.44	109
PFOA		1.000	413 > 369	1.96	5.00	5.59	112
PFNA		1.001	463 > 419	2.90	5.00	5.59	112
PFDA		1.000	513 > 469	2.85	5.00	4.56	91.2
PFUnA		1.000	563 > 519	4.28	5.00	5.00	100
PFDoA		1.000	613 > 569	6.50	4.06	4.34	107
PFTTrDA		0.959	663 > 619	2.96	5.00	5.21	104
PFTTeDA		1.000	713 > 669	2.42	5.00	5.07	101
PFBS		1.000	299 > 80	2.62	5.00	4.91	98.1
PFPeS		0.876	349 > 80	2.15	5.00	5.38	108
PFHxS		1.001	399 > 80	2.46	5.00	4.88	97.5
PFHpS		0.926	449 > 80	2.00	5.00	5.89	118
PFOS		1.001	499 > 80	2.66	5.00	4.95	98.9
PFNS		1.044	549 > 80	2.21	5.00	4.85	96.9
PFDS		1.082	599 > 80	2.34	5.00	5.39	108
PFDoS		1.177	699 > 80	2.08	5.00	4.81	96.1
4:2 FTS		1.000	327 > 307	0.43	20.0	20.1	100
6:2 FTS		0.999	427 > 407	0.43	18.0	18.7	104
8:2 FTS		1.000	527 > 507	0.48	17.0	16.1	95.2
PFOSA		1.001	498 > 78		5.00	5.52	110
N-MeFOSA		1.000	512 > 219	0.56	5.00	5.93	119
N-EtFOSA		1.001	526 > 219	0.53	14.0	14.4	103
MeFOSAA		1.001	570 > 419	1.97	5.00	4.64	92.8
EtFOSAA		1.001	584 > 419	1.22	5.00	4.67	93.5
N-MeFOSE		1.002	616 > 59		50.0	53.2	106
N-EtFOSE		1.002	630 > 59		50.0	50.2	100
3:3 FTCA			241 > 177	1.52	20.0	18.2	91.0
5:3 FTCA		1.057	341 > 237	1.38	125	131	105
7:3 FTCA		1.373	441 > 317	0.67	125	115	91.8

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_

## SGS AXYS METHOD MLA-111 Rev 03

## 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: 01-Mar-2023

VER Data Filename: FC4L\_131 S: 41

Instrument ID: LCMS/MS

Analysis Date: 02-May-2024

LC Column ID: C18

Analysis Time: 23:12:57

LABELED COMPOUND	LAB FLAG <sup>1</sup>	RRT	QUANT TRANSITION	RATIO	EXPECTED CONC. (ng)	CONC. FOUND (ng)	RECOVERY (%)
13C4-PFBA		0.996	217 > 172		40.0	38.8	96.9
13C5-PFPeA		0.852	268 > 223		20.0	21.5	107
13C5-PFHxA		1.000	318 > 273	12.4	10.0	9.61	96.1
13C4-PFHpA		0.885	367 > 322		10.0	9.62	96.2
13C8-PFOA		1.000	421 > 376		10.0	9.11	91.1
13C9-PFNA		1.000	472 > 427		5.00	5.14	103
13C6-PFDA		1.000	519 > 474		5.00	5.07	101
13C7-PFUnA		1.046	570 > 525		5.00	4.99	99.8
13C2-PFDoA		1.082	615 > 570		5.00	4.86	97.2
13C2-PFTeDA		1.170	715 > 670		5.00	4.05	81.0
13C3-PFBS		0.783	302 > 80	2.66	10.0	9.68	96.6
13C3-PFHxS		0.999	402 > 80	2.48	10.0	10.4	103
13C8-PFOS		0.999	507 > 80	2.14	10.1	10.8	107
13C2-4:2 FTS		0.823	329 > 81	1.78	20.2	20.0	98.9
13C2-6:2 FTS		1.002	429 > 81	2.25	20.0	21.0	105
13C2-8:2 FTS		1.271	529 > 81	3.81	20.0	20.0	99.7
13C8-PFOSA		1.159	506 > 78		10.0	12.3	123
D3-N-MeFOSA		1.346	515 > 219		10.0	8.87	88.7
D5-N-EtFOSA		1.381	531 > 219		10.0	9.64	96.4
D3-MeFOSAA		1.314	573 > 419		20.0	24.3	122
D5-EtFOSAA		1.339	589 > 419		20.0	26.5	133
d7-NMe-FOSE		1.330	623 > 59		100	118	118
d9-NEt-FOSE		1.365	639 > 59		100	113	113

(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: \_\_\_\_\_ Aaron Kyle \_\_\_\_\_













































































**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-103 Rev. 73

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue and Tissue Flora	Urine	Water	Water, Non-Portable
				CALA	ANAB DoD/DOE ** ANAB ISO 17025 CALA California WB Florida DOH Maine DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE	ANAB DoD/DOE ** ANAB ISO 17025 CALA Florida DOH Minnesota DOH New Jersey DEP Virginia DGS	CALA	CALA	Alaska DEC ANAB DoD/DOE ** 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/DOE ** ANAB ISO 17025

**Legend**

- Y Accreditation scope
- AFFF Aqueous film forming foam
- AO Antiozonants
- BFR Brominated flame retardants (non-PBDPE)
- BPA and mPE Bisphenol A and mono-Phthalate Esters
- OC Pesticides Organochlorine Pesticides
- PAH Polycyclic Aromatic Hydrocarbons
- PBDPE Polybrominated diphenylethers
- PCB Polychlorinated Biphenyls
- PCDDF Polychlorinated dibenzodioxins/furans
- PFAS Per- and Polyfluoroalkyl Substances
- PPCP Pharmaceutical and Personal Care Products
- TOP Total Oxidizable Precursors
- California WB California Water Boards, Lab ID 2911
- Florida DOH Florida Department of Health, Lab ID E871007, (NELAC Standard)
- Pennsylvania DEP Pennsylvania Department of Environmental Protection
- Minnesota DOH Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
- New Jersey DEP New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
- New York DOH New York Department of Health, Lab ID 11674, (NELAC Standard)
- Washington DE Washington Department of Ecology, Lab ID C404
- 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, 5.4, US DoD/DOE QSM 6.0 Standard)



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

