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## Technical Report for

**APTIM**

**TCWTS; Coupeville, WA**

**SGS Job Number: FA69274**

**Sampling Date: 10/23/19**

**Report to:**

**APTIM**

**natasha.sullivan@aptim.com**

**ATTN: Natasha Sullivan**

**Total number of pages in report: 74**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink that reads "Caitlin Brice".

**Caitlin Brice, M.S.**  
**General Manager**

**Client Service contact: Heather Wandrey 407-425-6700**

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)  
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Test results relate only to samples analyzed.

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## Sample Summary

APTIM

Job No: FA69274

TCWTS; Coupeville, WA

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA69274-1	10/23/19	11:45 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-01-102319
FA69274-2	10/23/19	11:47 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-INF200-102319
FA69274-3	10/23/19	11:50 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-02-102319
FA69274-4	10/23/19	11:52 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-MP205-102319
FA69274-5	10/23/19	11:56 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-03-102319
FA69274-6	10/23/19	11:59 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-EF209-102319
FA69274-7	10/23/19	12:06 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-04-102319
FA69274-8	10/23/19	12:10 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-EF002-102319
FA69274-8D	10/23/19	12:10 MB	10/24/19	DW	Drinking Water Dup.	WI-CV-FCWTP-EF002-102319
FA69274-8S	10/23/19	12:10 MB	10/24/19	DW	Drinking Water MS	WI-CV-FCWTP-EF002-102319
FA69274-9	10/23/19	12:17 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-05-102319
FA69274-10	10/23/19	12:19 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-INF001-102319
FA69274-11	10/23/19	12:19 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-INF001P-102319



## Sample Summary

(continued)

APTIM

**Job No:** FA69274

TCWTS; Coupeville, WA

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA69274-12	10/23/19	12:25 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-06-102319
FA69274-13	10/23/19	12:28 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-INF100-102319
FA69274-14	10/23/19	12:30 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-07-102319
FA69274-15	10/23/19	12:33 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-MP105-102319
FA69274-16	10/23/19	12:37 MB	10/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-08-102319
FA69274-17	10/23/19	12:40 MB	10/24/19	DW	Drinking Water	WI-CV-FCWTP-EF109-102319

## SAMPLE DELIVERY GROUP CASE NARRATIVE

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**Client:** APTIM

**Job No:** FA69274

**Site:** TCWTS; Coupeville, WA

**Report Date** 11/7/2019 8:09:01 AM

9 Samples and 8 Field Blanks were collected on 10/23/2019 and were received at SGS North America Inc - Orlando on 10/24/2019 properly preserved, at 2.2 Deg. C and intact. These Samples received an SGS Orlando job number of FA69274. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### MS Semi-volatiles By Method EPA 537.1 REV 1.0

**Matrix:** DW

**Batch ID:** OP77459

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) FA69274-8MS, FA69274-8MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Perfluorotetradecanoic acid are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for Perfluorotetradecanoic acid, Perfluoroundecanoic acid are outside control limits.

Probable cause is due to matrix interference.

Sample(s) FA69274-10, FA69274-12, FA69274-15, FA69274-2, FA69274-5, FA69274-6, FA69274-7, FA69274-8 have surrogates outside control limits.

FA69274-2 for 13C3-HFPO-DA: Outside control limits. However, sample was ND for referenced target analytes.

FA69274-5 for 13C2-PFDA: Outside control limits high, sample is ND.

FA69274-5 for 13C3-HFPO-DA: Outside control limits high, sample is ND.

FA69274-5 for d5-NEtFOSAA: Outside control limits high, sample is ND.

FA69274-6 for 13C3-HFPO-DA: Outside control limits. However, sample was ND for referenced target analytes.

FA69274-7 for 13C3-HFPO-DA: Outside control limits. However, sample was ND for referenced target analytes.

FA69274-8 for 13C3-HFPO-DA: Outside control limits. However, sample was ND for referenced target analytes.

FA69274-10 for d5-NEtFOSAA: Outside control limits. However, sample was ND for referenced target analytes.

FA69274-12 for 13C3-HFPO-DA: Outside control limits high, sample is ND.

FA69274-12 for d5-NEtFOSAA: Outside control limits high, sample is ND.

FA69274-15 for 13C3-HFPO-DA: Outside control limits high, sample is ND.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

\_\_\_\_\_  
Ariel Hartney, Client Services (*Signature on File*)

## Summary of Hits

**Job Number:** FA69274  
**Account:** APTIM  
**Project:** TCWTS; Coupeville, WA  
**Collected:** 10/23/19



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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**FA69274-1 WI-CV-FCWTP-FB-01-102319**

No hits reported in this sample.

**FA69274-2 WI-CV-FCWTP-INF200-102319**

Perfluorohexanoic acid	40.2	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	12.3	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	75.9	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	18.5	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	67.7	3.7	1.9	ng/l	EPA 537.1 REV 1.0

**FA69274-3 WI-CV-FCWTP-FB-02-102319**

No hits reported in this sample.

**FA69274-4 WI-CV-FCWTP-MP205-102319**

No hits reported in this sample.

**FA69274-5 WI-CV-FCWTP-FB-03-102319**

No hits reported in this sample.

**FA69274-6 WI-CV-FCWTP-EF209-102319**

No hits reported in this sample.

**FA69274-7 WI-CV-FCWTP-FB-04-102319**

No hits reported in this sample.

**FA69274-8 WI-CV-FCWTP-EF002-102319**

No hits reported in this sample.

**FA69274-9 WI-CV-FCWTP-FB-05-102319**

No hits reported in this sample.

**FA69274-10 WI-CV-FCWTP-INF001-102319**

Perfluorohexanoic acid	40.2	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	12.0	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	75.8	3.7	1.9	ng/l	EPA 537.1 REV 1.0

## Summary of Hits

**Job Number:** FA69274  
**Account:** APTIM  
**Project:** TCWTS; Coupeville, WA  
**Collected:** 10/23/19



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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Perfluorobutanesulfonic acid		20.0	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid		76.9	3.7	1.9	ng/l	EPA 537.1 REV 1.0

### FA69274-11 WI-CV-FCWTP-INF001P-102319

Perfluorohexanoic acid		39.9	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid		12.2	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid		75.3	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid		19.7	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid		73.5	3.7	1.9	ng/l	EPA 537.1 REV 1.0

### FA69274-12 WI-CV-FCWTP-FB-06-102319

No hits reported in this sample.

### FA69274-13 WI-CV-FCWTP-INF100-102319

Perfluorohexanoic acid		37.4	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid		11.4	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid		70.2	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid		19.6	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid		70.6	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid		1.40 J	3.7	1.9	ng/l	EPA 537.1 REV 1.0

### FA69274-14 WI-CV-FCWTP-FB-07-102319

No hits reported in this sample.

### FA69274-15 WI-CV-FCWTP-MP105-102319

No hits reported in this sample.

### FA69274-16 WI-CV-FCWTP-FB-08-102319

No hits reported in this sample.

### FA69274-17 WI-CV-FCWTP-EF109-102319

No hits reported in this sample.

Sample Results

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Report of Analysis

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# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-01-102319	
<b>Lab Sample ID:</b> FA69274-1	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65111.D	1	10/30/19 13:13	NAF	10/26/19 11:45	OP77459	SQ1470
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	108%		70-130%
	13C2-PFDA	109%		70-130%
	d5-EtFOSAA	101%		70-130%
	13C3-HFPO-DA	119%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-INF200-102319	
<b>Lab Sample ID:</b> FA69274-2	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65112.D	1	10/30/19 13:29	NAF	10/26/19 11:45	OP77459	SQ1470
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	40.2		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	12.3		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	75.9		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	18.5		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	67.7		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	120%		70-130%
	13C2-PFDA	122%		70-130%
	d5-EtFOSAA	119%		70-130%
	13C3-HFPO-DA	133% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-INF200-102319		
<b>Lab Sample ID:</b>	FA69274-2	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits. However, sample was ND for referenced target analytes.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-02-102319	
<b>Lab Sample ID:</b> FA69274-3	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65073.D	1	10/29/19 12:21	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

### CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA	107%		70-130%
13C2-PFDA	101%		70-130%
d5-EtFOSAA	106%		70-130%
13C3-HFPO-DA	117%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

4.3  
4

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-MP205-102319	
<b>Lab Sample ID:</b> FA69274-4	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65074.D	1	10/29/19 12:37	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	111%		70-130%
	13C2-PFDA	117%		70-130%
	d5-EtFOSAA	122%		70-130%
	13C3-HFPO-DA	123%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-03-102319	
<b>Lab Sample ID:</b> FA69274-5	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65075.D	1	10/29/19 12:53	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	120%		70-130%
	13C2-PFDA	139% <sup>a</sup>		70-130%
	d5-EtFOSAA	135% <sup>a</sup>		70-130%
	13C3-HFPO-DA	134% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

4.5  
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## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-FB-03-102319		
<b>Lab Sample ID:</b>	FA69274-5	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water FB	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits high, sample is ND.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-EF209-102319	
<b>Lab Sample ID:</b> FA69274-6	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65113.D	1	10/30/19 13:46	NAF	10/26/19 11:45	OP77459	SQ1470
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

### CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA	118%		70-130%
13C2-PFDA	113%		70-130%
d5-EtFOSAA	107%		70-130%
13C3-HFPO-DA	133% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

4.6  
4



## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-EF209-102319		
<b>Lab Sample ID:</b>	FA69274-6	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits. However, sample was ND for referenced target analytes.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-04-102319	
<b>Lab Sample ID:</b> FA69274-7	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65114.D	1	10/30/19 14:02	NAF	10/26/19 11:45	OP77459	SQ1470
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

<b>PERFLUOROALKYLSULFONATES</b>								
375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

<b>PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS</b>								
2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

<b>NEXT GENERATION PFAS ANALYTES</b>								
13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	119%		70-130%
	13C2-PFDA	120%		70-130%
	d5-EtFOSAA	116%		70-130%
	13C3-HFPO-DA	132% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
MCL = Maximum Contamination Level (40 CFR 141)      B = Indicates analyte found in associated method blank  
E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.7  
4

## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-FB-04-102319		
<b>Lab Sample ID:</b>	FA69274-7	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water FB	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits. However, sample was ND for referenced target analytes.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-EF002-102319	
<b>Lab Sample ID:</b> FA69274-8	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65115.D	1	10/30/19 14:18	NAF	10/26/19 11:45	OP77459	SQ1470
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	119%		70-130%
	13C2-PFDA	111%		70-130%
	d5-EtFOSAA	111%		70-130%
	13C3-HFPO-DA	132% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-EF002-102319		
<b>Lab Sample ID:</b>	FA69274-8	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits. However, sample was ND for referenced target analytes.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-05-102319	
<b>Lab Sample ID:</b> FA69274-9	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65083.D	1	10/29/19 15:00	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	117%		70-130%
	13C2-PFDA	111%		70-130%
	d5-EtFOSAA	120%		70-130%
	13C3-HFPO-DA	126%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

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# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-INF001-102319	<b>Date Sampled:</b> 10/23/19
<b>Lab Sample ID:</b> FA69274-10	<b>Date Received:</b> 10/24/19
<b>Matrix:</b> DW - Drinking Water	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65084.D	1	10/29/19 15:16	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	40.2		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	12.0		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	75.8		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	20.0		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	76.9		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

### CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA	117%		70-130%
13C2-PFDA	123%		70-130%
d5-EtFOSAA	131% <sup>a</sup>		70-130%
13C3-HFPO-DA	129%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-INF001-102319		
<b>Lab Sample ID:</b>	FA69274-10	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits. However, sample was ND for referenced target analytes.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-INF001P-102319	
<b>Lab Sample ID:</b> FA69274-11	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65085.D	1	10/29/19 15:32	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	39.9		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	12.2		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	75.3		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

## PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	19.7		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	73.5		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

## PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	118%		70-130%
	13C2-PFDA	120%		70-130%
	d5-EtFOSAA	125%		70-130%
	13C3-HFPO-DA	128%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

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# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-06-102319	<b>Date Sampled:</b> 10/23/19
<b>Lab Sample ID:</b> FA69274-12	<b>Date Received:</b> 10/24/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65086.D	1	10/29/19 15:48	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	140 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	3.6 U		7.1	3.6	1.8	ng/l	
375-85-9	Perfluoroheptanoic acid	3.6 U		7.1	3.6	1.8	ng/l	
335-67-1	Perfluorooctanoic acid	3.6 U		7.1	3.6	1.8	ng/l	
375-95-1	Perfluorononanoic acid	3.6 U		7.1	3.6	1.8	ng/l	
335-76-2	Perfluorodecanoic acid	3.6 U		7.1	3.6	1.8	ng/l	
2058-94-8	Perfluoroundecanoic acid	5.4 U		7.1	5.4	3.6	ng/l	
307-55-1	Perfluorododecanoic acid	5.4 U		7.1	5.4	3.6	ng/l	
72629-94-8	Perfluorotridecanoic acid	5.4 U		7.1	5.4	3.6	ng/l	
376-06-7	Perfluorotetradecanoic acid	5.4 U		7.1	5.4	3.6	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	3.6 U		7.1	3.6	1.8	ng/l	
355-46-4	Perfluorohexanesulfonic acid	3.6 U		7.1	3.6	1.8	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	3.6 U		7.1	3.6	2.7	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	11 U		14	11	7.1	ng/l	
2991-50-6	EtFOSAA	11 U		14	11	7.1	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	18 U		36	18	11	ng/l	
919005-14-4	ADONA	7.1 U		14	7.1	3.6	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	7.1 U		14	7.1	3.6	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	7.1 U		14	7.1	5.4	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	125%		70-130%
	13C2-PFDA	118%		70-130%
	d5-EtFOSAA	132% <sup>a</sup>		70-130%
	13C3-HFPO-DA	135% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-FB-06-102319	<b>Date Sampled:</b>	10/23/19
<b>Lab Sample ID:</b>	FA69274-12	<b>Date Received:</b>	10/24/19
<b>Matrix:</b>	DW - Drinking Water FB	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537		
<b>Project:</b>	TCWTS; Coupeville, WA		

**Perfluorinated Alkyl Acids**

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits high, sample is ND.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-INF100-102319	<b>Date Sampled:</b> 10/23/19
<b>Lab Sample ID:</b> FA69274-13	<b>Date Received:</b> 10/24/19
<b>Matrix:</b> DW - Drinking Water	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65087.D	1	10/29/19 16:03	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	37.4		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	11.4		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	70.2		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	19.6		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	70.6		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.40		3.7	1.9	1.4	ng/l	J

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	113%		70-130%
	13C2-PFDA	107%		70-130%
	d5-EtFOSAA	114%		70-130%
	13C3-HFPO-DA	123%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

4.13  
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# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-07-102319	
<b>Lab Sample ID:</b> FA69274-14	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65088.D	1	10/29/19 16:19	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	112%		70-130%
	13C2-PFDA	109%		70-130%
	d5-EtFOSAA	116%		70-130%
	13C3-HFPO-DA	120%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-MP105-102319	<b>Date Sampled:</b> 10/23/19
<b>Lab Sample ID:</b> FA69274-15	<b>Date Received:</b> 10/24/19
<b>Matrix:</b> DW - Drinking Water	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65089.D	1	10/29/19 16:35	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

### CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA	126%		70-130%
13C2-PFDA	125%		70-130%
d5-EtFOSAA	130%		70-130%
13C3-HFPO-DA	133% <sup>a</sup>		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	WI-CV-FCWTP-MP105-102319		
<b>Lab Sample ID:</b>	FA69274-15	<b>Date Sampled:</b>	10/23/19
<b>Matrix:</b>	DW - Drinking Water	<b>Date Received:</b>	10/24/19
<b>Method:</b>	EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b>	n/a
<b>Project:</b>	TCWTS; Coupeville, WA		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
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(a) Outside control limits high, sample is ND.

U = Not detected      LOD = Limit of Detection  
 MCL = Maximum Contamination Level (40 CFR 141)  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-FB-08-102319	<b>Date Sampled:</b> 10/23/19
<b>Lab Sample ID:</b> FA69274-16	<b>Date Received:</b> 10/24/19
<b>Matrix:</b> DW - Drinking Water FB	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65092.D	1	10/29/19 17:23	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

<b>PERFLUOROALKYLSULFONATES</b>								
375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

<b>PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS</b>								
2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

<b>NEXT GENERATION PFAS ANALYTES</b>								
13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	111%		70-130%
	13C2-PFDA	108%		70-130%
	d5-EtFOSAA	118%		70-130%
	13C3-HFPO-DA	116%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

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# Report of Analysis

<b>Client Sample ID:</b> WI-CV-FCWTP-EF109-102319	
<b>Lab Sample ID:</b> FA69274-17	<b>Date Sampled:</b> 10/23/19
<b>Matrix:</b> DW - Drinking Water	<b>Date Received:</b> 10/24/19
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> TCWTS; Coupeville, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q65093.D	1	10/29/19 17:39	NAF	10/26/19 11:45	OP77459	SQ1469
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>								
307-24-4	Perfluorohexanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U		3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.8 U		3.7	2.8	1.9	ng/l	

### PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U		3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U		3.7	1.9	1.4	ng/l	

### PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	5.6 U		7.4	5.6	3.7	ng/l	
2991-50-6	EtFOSAA	5.6 U		7.4	5.6	3.7	ng/l	

### NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U		19	9.3	5.6	ng/l	
919005-14-4	ADONA	3.7 U		7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U		7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U		7.4	3.7	2.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	106%		70-130%
	13C2-PFDA	101%		70-130%
	d5-EtFOSAA	109%		70-130%
	13C3-HFPO-DA	110%		70-130%

U = Not detected      LOD = Limit of Detection  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits



CHAIN OF CUSTODY

Ref. Document # 501207-10232019

Page 1 of 1

FA69274

Project Manager Jeff Gilliam

Project Number: 501207
Project Name: TCWIS
Subcontract Agreement #: TBD
Waybill Number:
SGS North America, Inc
Lab Destination: 4405 Vineland Road, Suite C-15
Orlando, FL 32811
Lab Contact Name / ph. #: Heather Wardrey 609-495-5321

Table with columns for Analytes Requested (PFAS EPA 537.1, TRIZMA, etc.) and Cooler Temperature.

Send Report To: Natasha Sullivan
Phone/Fax Number: natasha.sullivan@aptim.com
Address: 434 Wanamaker Rd
City: Coupeville, WA 98239

Main data table with columns: Sampler's Name(s), Collection Information (Date, Time, Method), Matrix, # of containers, Preservative, Container Type, and various Analyte columns (TRIZMA, etc.).

Special Instructions: Level 4 Reporting
Turnaround Time: STANDARD TAT
Method Codes: LF=low flow, G=Grab
Matrix Codes: DW=Drinking Water, SO=Soil, etc.

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FA69274: Chain of Custody

Page 1 of 2



## SGS Sample Receipt Summary

Job Number: FA69274

Client: APTIM

Project: TCWTS

Date / Time Received: 10/24/2019 9:00:00 AM

Delivery Method: FED EX

Airbill #'s: N/A

Therm ID: IR 1;

Therm CF: -0.8;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.2);

**Cooler Information**

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

**Trip Blank Information**

Y or N N/A

- 1. Trip Blank present / cooler
  - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

**Sample Information**

Y or N N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Intact
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 230315  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Number of 5035 Field Kits: \_\_\_\_\_  
 pH 10-12 219813A

Number of Lab Filtered Metals: \_\_\_\_\_  
 Other: (Specify) \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 10/24/2019 9:00:00 A

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

**FA69274: Chain of Custody**

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# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FA69274  
**Account:** APTIM  
**Project:** TCWTS; Coupeville, WA  
**Collected:** 10/23/19

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
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No DOD QSM5.x Limits Found.

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\* Sample used for QC is not from job FA69274

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## MS Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

## Method Blank Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP77459-MB	Q65094.D	1	10/29/19	NAF	10/26/19	OP77459	SQ1469

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA69274-1, FA69274-2, FA69274-3, FA69274-4, FA69274-5, FA69274-6, FA69274-7, FA69274-8, FA69274-9, FA69274-10, FA69274-11, FA69274-12, FA69274-13, FA69274-14, FA69274-15, FA69274-16, FA69274-17

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0037	0.00093	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0037	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0037	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0037	0.00093	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0037	0.0019	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0037	0.0019	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0037	0.0019	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0037	0.0019	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0037	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0037	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0037	0.0014	ug/l	
2355-31-9	MeFOSAA	ND	0.0074	0.0037	ug/l	
2991-50-6	EtFOSAA	ND	0.0074	0.0037	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.019	0.0056	ug/l	
919005-14-4	ADONA	ND	0.0074	0.0019	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0074	0.0019	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0074	0.0028	ug/l	

CAS No.	Surrogate Recoveries	Limits	
	13C2-PFHxA	108%	70-130%
	13C2-PFDA	114%	70-130%
	d5-EtFOSAA	120%	70-130%
	13C3-HFPO-DA	111%	70-130%

# Blank Spike Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP77459-BS	Q65069.D	1	10/29/19	NAF	10/26/19	OP77459	SQ1469

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA69274-1, FA69274-2, FA69274-3, FA69274-4, FA69274-5, FA69274-6, FA69274-7, FA69274-8, FA69274-9, FA69274-10, FA69274-11, FA69274-12, FA69274-13, FA69274-14, FA69274-15, FA69274-16, FA69274-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0861	108	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0860	108	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0913	114	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0841	105	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0761	95	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0847	106	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0808	101	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0752	94	70-130
376-06-7	Perfluorotetradecanoic acid	0.08	0.0756	95	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0908	114	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0898	112	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0735	92	70-130
2355-31-9	MeFOSAA	0.08	0.0741	93	70-130
2991-50-6	EtFOSAA	0.08	0.0800	100	70-130
13252-13-6	HFPO-DA (GenX)	0.4	0.407	102	70-130
919005-14-4	ADONA	0.08	0.0739	92	70-130
756426-58-19	Cl-PF3ONS (F-53B Major)	0.08	0.0626	78	70-130
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.08	0.0574	72	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	112%	70-130%
	13C2-PFDA	107%	70-130%
	d5-EtFOSAA	115%	70-130%
	13C3-HFPO-DA	114%	70-130%

\* = Outside of Control Limits.



# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP77459-MS	Q65081.D	1	10/29/19	NAF	10/26/19	OP77459	SQ1469
OP77459-MSD	Q65082.D	1	10/29/19	NAF	10/26/19	OP77459	SQ1469
FA69274-8	Q65115.D	1	10/30/19	NAF	10/26/19	OP77459	SQ1470

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA69274-1, FA69274-2, FA69274-3, FA69274-4, FA69274-5, FA69274-6, FA69274-7, FA69274-8, FA69274-9, FA69274-10, FA69274-11, FA69274-12, FA69274-13, FA69274-14, FA69274-15, FA69274-16, FA69274-17

CAS No.	Compound	FA69274-8 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
307-24-4	Perfluorohexanoic acid	0.0037 U	0.0741	0.0895	121	0.0741	0.0935	126	4	70-130/30
375-85-9	Perfluoroheptanoic acid	0.0037 U	0.0741	0.0864	117	0.0741	0.0877	118	1	70-130/30
335-67-1	Perfluorooctanoic acid	0.0037 U	0.0741	0.0914	123	0.0741	0.0934	126	2	70-130/30
375-95-1	Perfluorononanoic acid	0.0037 U	0.0741	0.0868	117	0.0741	0.0871	118	0	70-130/30
335-76-2	Perfluorodecanoic acid	0.0037 U	0.0741	0.0780	105	0.0741	0.0777	105	0	70-130/30
2058-94-8	Perfluoroundecanoic acid	0.0037 U	0.0741	0.0916	124	0.0741	0.0997	135*	8	70-130/30
307-55-1	Perfluorododecanoic acid	0.0037 U	0.0741	0.0792	107	0.0741	0.0843	114	6	70-130/30
72629-94-8	Perfluorotridecanoic acid	0.0037 U	0.0741	0.0640	86	0.0741	0.0637	86	0	70-130/30
376-06-7	Perfluorotetradecanoic acid	0.0037 U	0.0741	0.0459	62*	0.0741	0.0440	59*	4	70-130/30
375-73-5	Perfluorobutanesulfonic acid	0.0037 U	0.0741	0.0915	124	0.0741	0.0963	130	5	70-130/30
355-46-4	Perfluorohexanesulfonic acid	0.0037 U	0.0741	0.0939	127	0.0741	0.0922	124	2	70-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U	0.0741	0.0819	111	0.0741	0.0847	114	3	70-130/30
2355-31-9	MeFOSAA	0.0074 U	0.0741	0.0747	101	0.0741	0.0783	106	5	70-130/30
2991-50-6	EtFOSAA	0.0074 U	0.0741	0.0768	104	0.0741	0.0816	110	6	70-130/30
13252-13-6	HFPO-DA (GenX)	0.019 U	0.37	0.446	120	0.37	0.451	122	1	70-130/30
919005-14-4	ADONA	0.0074 U	0.0741	0.0764	103	0.0741	0.0772	104	1	70-130/30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U	0.0741	0.0631	85	0.0741	0.0647	87	3	70-130/30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U	0.0741	0.0562	76	0.0741	0.0553	75	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	FA69274-8	Limits
	13C2-PFHxA	124%	128%	119%	70-130%
	13C2-PFDA	117%	119%	111%	70-130%
	d5-EtFOSAA	123%	130%	111%	70-130%
	13C3-HFPO-DA	131% * b	135% * b	132% * a	70-130%

(a) Outside control limits. However, sample was ND for referenced target analytes.  
 (b) Outside control limits.

\* = Outside of Control Limits.

# Internal Standard Area Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Check Std:</b> SQ1469-CC1468	<b>Injection Date:</b> 10/29/19
<b>Lab File ID:</b> Q65067.D	<b>Injection Time:</b> 10:41
<b>Instrument ID:</b> GCMSQ	<b>Method:</b> EPA 537.1 REV 1.0

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Initial Cal <sup>a</sup>	70645	4.20	53012	7.30	258348	7.32	54786	7.84	23103	8.24	512390	9.17
Check Std <sup>b</sup>	85032	4.17	64168	7.29	300582	7.30	62024	7.84	30321	8.22	525837	9.16
Upper Limit <sup>c</sup>	119045	5.17	89835	8.29	420815	8.30	86834	8.84	42449	9.22	736172	10.16
Lower Limit <sup>d</sup>	59522	3.17	44918	6.29	210407	6.30	43417	6.84	21225	7.22	368086	8.16

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP77459-BS	65271	4.17	47652	7.30	240771	7.30	49253	7.84	23596	8.24	420437	9.17
FA69274-3	59938	4.18	41590 <sup>e</sup>	7.30	222928	7.32	45280	7.84	21727	8.24	378145	9.17
FA69274-4	67409	4.20	48039	7.31	261114	7.33	53806	7.85	25493	8.24	514415	9.17
FA69274-5	57969 <sup>e</sup>	4.20	42174 <sup>e</sup>	7.30	229480	7.32	49326	7.85	24422	8.24	463333	9.17

- IS 1** = 13C3-PFPeA
- IS 2** = 13C2-6:2FTS
- IS 3** = 13C2-PFOA
- IS 4** = 13C4-PFOS
- IS 5** = d3-MeFOSAA
- IS 6** = 13C2-PFDoDA

- (a) Initial Cal is: SQ1468-ICC1468 Q65008.D 10/28/19 17:48. Area is AVERAGE of initial cal points.
- (b) Check Std Limit = -50 to + 50% of initial cal area.
- (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.
- (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.
- (e) Outside control limits. Internal standard does not reference target analyte.

# Internal Standard Area Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Check Std:</b> SQ1469-CC1468	<b>Injection Date:</b> 10/29/19
<b>Lab File ID:</b> Q65078.D	<b>Injection Time:</b> 13:41
<b>Instrument ID:</b> GCMSQ	<b>Method:</b> EPA 537.1 REV 1.0

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Initial Cal <sup>a</sup>	70645	4.20	53012	7.30	258348	7.32	54786	7.84	23103	8.24	512390	9.17
Check Std <sup>b</sup>	71425	4.18	50310	7.30	272641	7.32	54270	7.85	25053	8.24	433815	9.16
Upper Limit <sup>c</sup>	99995	5.18	70434	8.30	381697	8.32	75978	8.85	35074	9.24	607341	10.16
Lower Limit <sup>d</sup>	49998	3.18	35217	6.30	190849	6.32	37989	6.85	17537	7.24	303671	8.16

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP77459-MS	60482	4.18	43882	7.31	222067	7.32	44889	7.85	21137	8.24	348298	9.16
OP77459-MSD	61605	4.18	44741	7.30	227814	7.32	45398	7.84	20874	8.24	320495	9.16
FA69274-9	61446	4.20	43285	7.31	235453	7.33	46366	7.85	21882	8.24	377576	9.17
FA69274-10	57877	4.17	43165	7.30	234919	7.32	47502	7.84	20990	8.24	350685	9.16
FA69274-11	58149	4.17	42924	7.31	231708	7.32	46088	7.85	21143	8.24	380458	9.16
FA69274-12	62714	4.20	42930	7.31	237695	7.32	47119	7.85	20380	8.24	370018	9.16
FA69274-13	63331	4.17	46359	7.30	251438	7.32	48138	7.85	21600	8.24	381790	9.16
FA69274-14	68658	4.18	48111	7.30	261753	7.32	49051	7.85	22010	8.24	393295	9.14
FA69274-15	63802	4.18	44321	7.31	242944	7.33	45906	7.85	20683	8.24	394372	9.16

- IS 1 = 13C3-PFPeA
- IS 2 = 13C2-6:2FTS
- IS 3 = 13C2-PFOA
- IS 4 = 13C4-PFOS
- IS 5 = d3-MeFOSAA
- IS 6 = 13C2-PFDoDA

(a) Initial Cal is: SQ1468-ICC1468 Q65008.D 10/28/19 17:48. Area is AVERAGE of initial cal points.  
 (b) Check Std Limit = -50 to + 50% of initial cal area.  
 (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.  
 (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.

6.4.2  
6

# Internal Standard Area Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Check Std:</b> SQ1469-CC1468	<b>Injection Date:</b> 10/29/19
<b>Lab File ID:</b> Q65090.D	<b>Injection Time:</b> 16:51
<b>Instrument ID:</b> GCMSQ	<b>Method:</b> EPA 537.1 REV 1.0

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Initial Cal <sup>a</sup>	70645	4.20	53012	7.30	258348	7.32	54786	7.84	23103	8.24	512390	9.17
Check Std <sup>b</sup>	68496	4.18	49016	7.30	254842	7.32	50002	7.85	21635	8.24	426778	9.16
Upper Limit <sup>c</sup>	95894	5.18	68622	8.30	356779	8.32	70003	8.85	30289	9.24	597489	10.16
Lower Limit <sup>d</sup>	47947	3.18	34311	6.30	178389	6.32	35001	6.85	15145	7.24	298745	8.16

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
FA69274-16	71813	4.18	49533	7.31	271596	7.33	51611	7.85	22968	8.24	451300	9.16
FA69274-17	66045	4.20	45974	7.31	254137	7.33	48916	7.85	20752	8.24	375226	9.16
OP77459-MB	82105	4.18	58196	7.31	317026	7.32	62684	7.85	25891	8.24	524352	9.14
SQ1469-ECC1468	65433	4.20	49294	7.31	253236	7.32	50337	7.85	21374	8.24	422930	9.14

- IS 1** = 13C3-PFPeA
- IS 2** = 13C2-6:2FTS
- IS 3** = 13C2-PFOA
- IS 4** = 13C4-PFOS
- IS 5** = d3-MeFOSAA
- IS 6** = 13C2-PFDoDA

(a) Initial Cal is: SQ1468-ICC1468 Q65008.D 10/28/19 17:48. Area is AVERAGE of initial cal points.  
 (b) Check Std Limit = -50 to + 50% of initial cal area.  
 (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.  
 (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.

# Internal Standard Area Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Check Std:</b> SQ1470-ICC1470	<b>Injection Date:</b> 10/30/19
<b>Lab File ID:</b> Q65105.D	<b>Injection Time:</b> 11:38
<b>Instrument ID:</b> GCMSQ	<b>Method:</b> EPA 537.1 REV 1.0

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Initial Cal <sup>a</sup>	91058	4.18	65281	7.30	339972	7.32	69681	7.84	29144	8.24	573991	9.16
Check Std <sup>b</sup>	85073	4.18	60044	7.30	318127	7.32	64797	7.84	27245	8.24	521341	9.16
Upper Limit <sup>c</sup>	119102	5.18	84062	8.30	445378	8.32	90716	8.84	38143	9.24	729877	10.16
Lower Limit <sup>d</sup>	59551	3.18	42031	6.30	222689	6.32	45358	6.84	19072	7.24	364939	8.16

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
FA69274-1	88655	4.21	60529	7.32	335596	7.34	66072	7.86	29369	8.25	495496	9.17
FA69274-2	76477	4.18	54939	7.30	302775	7.32	60235	7.85	25512	8.24	415106	9.16
FA69274-6	81142	4.20	54050	7.32	299249	7.34	56987	7.86	25875	8.25	539612	9.17
FA69274-7	80880	4.18	53832	7.30	300046	7.32	55965	7.84	25488	8.24	509368	9.16
FA69274-8	84852	4.18	55777	7.30	310325	7.32	58054	7.85	24992	8.24	435516	9.16

- IS 1** = 13C3-PFPeA
- IS 2** = 13C2-6:2FTS
- IS 3** = 13C2-PFOA
- IS 4** = 13C4-PFOS
- IS 5** = d3-MeFOSAA
- IS 6** = 13C2-PFDoDA

(a) Initial Cal is: SQ1470-ICC1470 Q65105.D 10/30/19 11:38. Area is AVERAGE of initial cal points.  
 (b) Check Std Limit = -50 to + 50% of initial cal area.  
 (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.  
 (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.

# Surrogate Recovery Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Method:</b> EPA 537.1 REV 1.0	<b>Matrix:</b> DW
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA69274-1	Q65111.D	108	109	101	119
FA69274-2	Q65112.D	120	122	119	133* a
FA69274-3	Q65073.D	107	101	106	117
FA69274-4	Q65074.D	111	117	122	123
FA69274-5	Q65075.D	120	139* b	135* b	134* b
FA69274-6	Q65113.D	118	113	107	133* a
FA69274-7	Q65114.D	119	120	116	132* a
FA69274-8	Q65115.D	119	111	111	132* a
FA69274-9	Q65083.D	117	111	120	126
FA69274-10	Q65084.D	117	123	131* a	129
FA69274-11	Q65085.D	118	120	125	128
FA69274-12	Q65086.D	125	118	132* b	135* b
FA69274-13	Q65087.D	113	107	114	123
FA69274-14	Q65088.D	112	109	116	120
FA69274-15	Q65089.D	126	125	130	133* b
FA69274-16	Q65092.D	111	108	118	116
FA69274-17	Q65093.D	106	101	109	110
OP77459-BS	Q65069.D	112	107	115	114
OP77459-MB	Q65094.D	108	114	120	111
OP77459-MS	Q65081.D	124	117	123	131* c
OP77459-MSD	Q65082.D	128	119	130	135* c

Surrogate Compounds	Recovery Limits
S1 = 13C2-PFHxA	70-130%
S2 = 13C2-PFDA	70-130%
S3 = d5-EtFOSAA	70-130%
S4 = 13C3-HFPO-DA	70-130%

- (a) Outside control limits. However, sample was ND for referenced target analytes.
- (b) Outside control limits high, sample is ND.
- (c) Outside control limits.

6.5.1  
6

# Initial Calibration Summary

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1468-ICC1468  
 Lab FileID: Q65008.D

## Initial Calibration Report

Method Path	Method File	Batch Name	Last Calib Update	Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time				
D:\MassHunter\demethods	537_102819_SQ1468_quantmethod.xml	D:\MassHunter\Data\1028_537_SQ1468	10/29/2019 6:48:35 AM	1	D:\MassHunter\Data\1028_537_SQ1468\Q65003.d	10/28/2019 4:27:01 PM	10/29/2019 6:48:35 AM				
				2	D:\MassHunter\Data\1028_537_SQ1468\Q65004.d	10/28/2019 4:44:41 PM	10/29/2019 6:48:35 AM				
				3	D:\MassHunter\Data\1028_537_SQ1468\Q65005.d	10/28/2019 5:00:32 PM	10/29/2019 6:48:35 AM				
				4	D:\MassHunter\Data\1028_537_SQ1468\Q65006.d	10/28/2019 5:16:24 PM	10/29/2019 6:48:35 AM				
				5	D:\MassHunter\Data\1028_537_SQ1468\Q65007.d	10/28/2019 5:32:16 PM	10/29/2019 6:48:35 AM				
				6	D:\MassHunter\Data\1028_537_SQ1468\Q65008.d	10/28/2019 5:48:08 PM	10/29/2019 6:48:35 AM				
				7	D:\MassHunter\Data\1028_537_SQ1468\Q65009.d	10/28/2019 6:04:00 PM	10/29/2019 6:48:35 AM				
				8	D:\MassHunter\Data\1028_537_SQ1468\Q65010.d	10/28/2019 6:19:52 PM	10/29/2019 6:48:35 AM				
Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I 13C2-6:2FTS	Linear	0.9309	0.8987	0.8148	0.8041	0.7726	0.8273	0.7538	0.7086	0.8138	9.001
T 4:2FTS	Quadratic	1.1488	1.0907	1.0168	0.9965	0.8975	0.9942	0.8609	0.7526	0.9697	13.186
T 6:2FTS	Quadratic	1.0702	1.0648	0.9149	0.8898	0.8304	0.8843	0.7620	0.6570	0.8842	15.860
T 8:2FTS	Quadratic	1.0702	1.0648	0.9149	0.8898	0.8304	0.8843	0.7620	0.6570	0.8842	15.860
I 13C2-PFDoDA	Linear	0.5944	0.5682	0.5715	0.5393	0.5310	0.6057	0.5649	0.5263	0.5627	5.134
T PFUnDA	Linear	1.0086	0.9328	0.8857	0.8941	0.8256	0.9258	0.8641	0.8277	0.8955	6.763
T PFDoDA	Linear	1.2008	1.1147	1.1506	1.0816	1.0199	1.1597	1.0844	1.0509	1.1078	5.440
T PFTrDA	Linear	1.1843	1.1632	1.1765	1.1154	1.0485	1.1906	1.1194	1.0963	1.1368	4.414
T PFTeDA	Linear	1.1843	1.1632	1.1765	1.1154	1.0485	1.1906	1.1194	1.0963	1.1368	4.414
I 13C2-PFOA	Linear	0.2416	0.2297	0.2087	0.2043	0.1897	0.2226	0.2132	0.2254	0.2169	7.508
T PFBA	Linear	0.5167	0.4849	0.4572	0.4535	0.4336	0.4886	0.4589	0.4539	0.4684	5.636
S 13C2-PFHA	Linear	0.4168	0.4127	0.3882	0.3711	0.3533	0.3991	0.3727	0.3727	0.3858	5.780
T PFHA	Linear	0.4168	0.4127	0.3882	0.3711	0.3533	0.3991	0.3727	0.3727	0.3858	5.780
S 13C3-HFPO-DA	Quadratic	0.0906	0.0816	0.0745	0.0703	0.0651	0.0695	0.0578	0.0498	0.0699	18.419
T HFPO-DA	Quadratic	0.1242	0.1111	0.1013	0.0946	0.0884	0.0948	0.0762	0.0647	0.0944	19.864
T PFHpA	Linear	0.8859	0.8124	0.7681	0.7654	0.7275	0.8361	0.7955	0.7996	0.7988	6.044
T ADONA	Linear	0.9331	0.8802	0.8275	0.8054	0.7756	0.8908	0.8602	0.8675	0.8550	5.885
T PFOA	Linear	0.9846	0.9160	0.8898	0.8756	0.8059	0.9276	0.8673	0.8347	0.8877	6.291
T PFNA	Linear	0.9481	0.8395	0.8101	0.8025	0.7408	0.8552	0.8046	0.7857	0.8233	7.408
T 9C+PF3ONS	Linear	0.1277	0.1179	0.1052	0.0990	0.0927	0.1057	0.1007	0.1019	0.1063	10.564
S 13C2-PFDA	Linear	1.1517	1.0555	1.0278	1.0383	0.9308	1.0525	0.9574	0.8700	1.0105	8.668
T PFDA	Quadratic	1.0871	1.0157	0.9902	0.9640	0.8798	0.9866	0.9053	0.8263	0.9569	8.666
T 11C1-PF3OIdS	Linear	0.6114	0.5729	0.5355	0.5355	0.4892	0.5583	0.5280	0.5296	0.5451	6.645
I 13C3-PFPeA	Linear	1.0011	0.9004	0.9047	0.8905	0.8220	0.9135	0.8776	0.8458	0.8945	5.945
T PFPeA	Linear	0.2794	0.2809	0.2716	0.2599	0.2411	0.2750	0.2531	0.2393	0.2625	6.366
T PFPeS	Linear	0.2794	0.2809	0.2716	0.2599	0.2411	0.2750	0.2531	0.2393	0.2625	6.366

# Initial Calibration Summary

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1468-ICC1468  
 Lab FileID: Q65008.D

## Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I 13C4-PFOS											
T PFBS	Linear	0.5260	0.5299	0.4860	0.4571	0.4443	0.4827	0.4439	0.4616	0.4789	7.091
T PFHxS	Linear	0.6379	0.6470	0.5902	0.5641	0.5509	0.5842	0.5606	0.5387	0.5842	6.789
T PFHpS	Quadratic	0.6959	0.6353	0.5961	0.5597	0.5337	0.5759	0.5246	0.5050	0.5783	10.934
T PFOS	Linear	1.1933	1.0808	1.0596	1.0433	0.9609	1.0886	0.9990	0.9859	1.0514	6.983
T PONS	Linear	0.6975	0.6648	0.6825	0.6217	0.5810	0.6368	0.5677	0.5253	0.6222	9.681
T PFDS	Linear	0.2781	0.2646	0.2412	0.2542	0.2478	0.2588	0.2370	0.2246	0.2508	6.721
I d3-MeFOSAA											
T FOSA	Quadratic	2.0300	2.0083	1.8384	1.7827	1.7149	1.8954	1.6642	1.4375	1.7964	10.814
T MeFOSAA	Quadratic	1.3951	1.1219	1.0853	1.0870	0.9470	1.0648	1.0424	0.9749	1.0898	12.539
S d5-EFOSAA	Linear	1.1710	1.0675	1.0418	0.9763	0.8981	0.9738	0.8741	0.8198	0.9778	11.697
T EtFOSAA	Quadratic	1.1372	1.0214	0.9275	0.9438	0.8327	0.9517	0.8629	0.8223	0.9374	11.191

(Redfont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike



# Initial Calibration Summary

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1468-ICC1468  
 Lab FileID: Q65008.D

## Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T PFBA	Linear	$y = 0.222646 * x$	0.990035
T PFPEA	Linear	$y = 0.853912 * x$	0.999415
T PFBS	Linear	$y = 0.458747 * x$	0.995005
T 4:2FTS	Linear	$y = 0.721618 * x$	0.997871
S 13C2-PFHxA	Linear	$y = 0.455729 * x$	0.996693
T PFHxA	Linear	$y = 0.373351 * x$	0.999736
T PFPeS	Linear	$y = 0.243123 * x$	0.998362
S 13C3-HFO-DA	Quadratic	$y = -8.507520E-004 * x^2 + 0.070592 * x$	0.998229
T HFPO-DA	Quadratic	$y = -0.001271 * x^2 + 0.095777 * x$	0.997535
T PFHpA	Linear	$y = 0.799265 * x$	0.999795
T PFHxS	Linear	$y = 0.544501 * x$	0.999344
T ADONA	Linear	$y = 0.865952 * x$	0.999804
T 6:2FTS	Linear	$y = -0.047347 * x^2 + 0.988540 * x$	0.999632
T PFOA	Linear	$y = 0.843692 * x$	0.999138
T PFHpS	Linear	$y = -0.010630 * x^2 + 0.557548 * x$	0.999775
T FOSA	Quadratic	$y = -0.094253 * x^2 + 1.908191 * x$	0.999713
T PFOF	Linear	$y = 0.991546 * x$	0.999471
T PFNA	Linear	$y = 0.791170 * x$	0.999502
T 9Cl-PF3ONS	Linear	$y = 0.101690 * x$	0.999796
T MeFOSAA	Quadratic	$y = -0.022654 * x^2 + 1.089256 * x$	0.999760
T PFNS	Linear	$y = 0.537568 * x$	0.996588
S 13C2-PFDA	Linear	$y = 0.893240 * x$	0.995987
T PFDA	Linear	$y = -0.032132 * x^2 + 0.986938 * x$	0.999791
T 8:2FTS	Quadratic	$y = -0.046101 * x^2 + 0.886620 * x$	0.999697
S d5-ElFOSAA	Linear	$y = 0.835917 * x$	0.997420
T ElFOSAA	Quadratic	$y = -0.019769 * x^2 + 0.920487 * x$	0.999682
T PFDS	Linear	$y = 0.228260 * x$	0.998267
T PFUNDA	Linear	$y = 0.536245 * x$	0.997948
T 11Cl-PF3OUds	Linear	$y = 0.529921 * x$	0.999792
T PFDoDA	Linear	$y = 0.837814 * x$	0.998995
T PFTDA	Linear	$y = 1.060555 * x$	0.999320
T PFTeDA	Linear	$y = 1.103308 * x$	0.999564

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

# Initial Calibration Verification

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1468-ICV1468  
 Lab FileID: Q65012.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1028\_537\_SQ1468\SQ1468.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\1028\_537\_SQ1468\Q65003.d  
 2:D:\MassHunter\Data\1028\_537\_SQ1468\Q65004.d  
 3:D:\MassHunter\Data\1028\_537\_SQ1468\Q65005.d  
 4:D:\MassHunter\Data\1028\_537\_SQ1468\Q65006.d  
 5:D:\MassHunter\Data\1028\_537\_SQ1468\Q65007.d  
 6:D:\MassHunter\Data\1028\_537\_SQ1468\Q65008.d  
 7:D:\MassHunter\Data\1028\_537\_SQ1468\Q65009.d  
 8:D:\MassHunter\Data\1028\_537\_SQ1468\Q65010.d

Data File: Q65012  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	# -100.0	0.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	0.000	# -100.0	0.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	18.206	-9.0	91.0
6:2FTS	20.000	17.545	-12.3	87.7
8:2FTS	20.000	17.147	-14.3	85.7
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	# -100.0	0.0
EtFOSAA	20.000	18.925	-5.4	94.6
FOSA	20.000	18.214	-8.9	91.1
MeFOSAA	20.000	17.906	-10.5	89.5
PFBA	20.000	16.124	-19.4	80.6
PFBS	20.000	15.228	-23.9	76.1
PFDA	20.000	16.997	-15.0	85.0
PFDoDA	20.000	19.546	-2.3	97.7
PFDS	20.000	18.754	-6.2	93.8
PFHpA	20.000	18.187	-9.1	90.9
PFHpS	20.000	16.925	-15.4	84.6
PFHxA	20.000	16.359	-18.2	81.8
PFHxS	20.000	16.542	-17.3	82.7
PFNA	20.000	17.070	-14.6	85.4
PFNS	20.000	20.088	0.4	100.4
PFOA	20.000	18.384	-8.1	91.9
PFOS	20.000	18.778	-6.1	93.9
PFPeA	20.000	18.193	-9.0	91.0
PFPeS	20.000	17.692	-11.5	88.5
PFTeDA	20.000	16.831	-15.8	84.2
PFTTrDA	20.000	20.746	3.7	103.7
PFUnDA	20.000	20.706	3.5	103.5
ADONA	20.000	0.000	# -100.0	0.0
9Cl-PF3ONS	20.000	0.000	# -100.0	0.0
11Cl-PF3OUdS	20.000	0.000	# -100.0	0.0
13C3-HFPO-DA	100.000	0.000	# -100.0	0.0

6.6.2  
6

# Initial Calibration Verification

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1468-ICV1468  
**Lab FileID:** Q65012.D

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HFPO-DA	100.000	0.000	#	-100.0	0.0
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CC Criteria: +/- 30%

# Initial Calibration Verification

Job Number: FA69274  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1468-ICV1468  
Lab FileID: Q65013.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1028\_537\_SQ1468\SQ1468.batch.bin

Level ID: Calibration File  
1:D:\MassHunter\Data\1028\_537\_SQ1468\Q65003.d  
2:D:\MassHunter\Data\1028\_537\_SQ1468\Q65004.d  
3:D:\MassHunter\Data\1028\_537\_SQ1468\Q65005.d  
4:D:\MassHunter\Data\1028\_537\_SQ1468\Q65006.d  
5:D:\MassHunter\Data\1028\_537\_SQ1468\Q65007.d  
6:D:\MassHunter\Data\1028\_537\_SQ1468\Q65008.d  
7:D:\MassHunter\Data\1028\_537\_SQ1468\Q65009.d  
8:D:\MassHunter\Data\1028\_537\_SQ1468\Q65010.d

Data File: Q65013  
Type : QC  
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	# -100.0	0.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	0.000	# -100.0	0.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	0.000	# -100.0	0.0
6:2FTS	20.000	0.000	# -100.0	0.0
8:2FTS	20.000	0.000	# -100.0	0.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	# -100.0	0.0
EtFOSAA	20.000	15.706	-21.5	78.5
FOSA	20.000	0.000	# -100.0	0.0
MeFOSAA	20.000	15.177	-24.1	75.9
PFBA	20.000	0.000	# -100.0	0.0
PFBS	20.000	17.235	-13.8	86.2
PFDA	20.000	17.680	-11.6	88.4
PFDoDA	20.000	18.704	-6.5	93.5
PFDS	20.000	0.000	# -100.0	0.0
PFHpA	20.000	16.793	-16.0	84.0
PFHpS	20.000	0.000	# -100.0	0.0
PFHxA	20.000	17.046	-14.8	85.2
PFHxS	20.000	18.004	-10.0	90.0
PFNA	20.000	18.570	-7.2	92.8
PFNS	20.000	0.000	# -100.0	0.0
PFOA	20.000	18.326	-8.4	91.6
PFOS	20.000	18.024	-9.9	90.1
PFPeA	20.000	0.000	# -100.0	0.0
PFPeS	20.000	0.000	# -100.0	0.0
PFTeDA	20.000	17.690	-11.6	88.4
PFTTrDA	20.000	19.072	-4.6	95.4
PFUnDA	20.000	20.567	2.8	102.8
ADONA	20.000	17.688	-11.6	88.4
9Cl-PF3ONS	20.000	18.015	-9.9	90.1
11Cl-PF3OUdS	20.000	17.954	-10.2	89.8
13C3-HFPO-DA	100.000	0.000	# -100.0	0.0

# Initial Calibration Verification

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1468-ICV1468  
**Lab FileID:** Q65013.D

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HFPO-DA	20.000	18.233	-8.9	91.1
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CC Criteria: +/- 30%

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-CC1468  
**Lab FileID:** Q65067.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1029\_537\_SQ1469\sq1469.batch.bin

Level ID: Calibration File  
1:D:\MassHunter\Data\1028\_537\_SQ1468\Q65003.d  
2:D:\MassHunter\Data\1028\_537\_SQ1468\Q65004.d  
3:D:\MassHunter\Data\1028\_537\_SQ1468\Q65005.d  
4:D:\MassHunter\Data\1028\_537\_SQ1468\Q65006.d  
5:D:\MassHunter\Data\1028\_537\_SQ1468\Q65007.d  
6:D:\MassHunter\Data\1028\_537\_SQ1468\Q65008.d  
7:D:\MassHunter\Data\1028\_537\_SQ1468\Q65009.d  
8:D:\MassHunter\Data\1028\_537\_SQ1468\Q65010.d

Data File: Q65067  
Type : QC  
Level : 7

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	50.000	51.537	3.1	103.1
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	50.000	51.395	2.8	102.8
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	50.000	54.026	8.1	108.1
6:2FTS	50.000	49.571	-0.9	99.1
8:2FTS	50.000	47.697	-4.6	95.4
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	50.000	52.620	5.2	105.2
EtFOSAA	50.000	50.033	0.1	100.1
FOSA	50.000	52.388	4.8	104.8
MeFOSAA	50.000	48.495	-3.0	97.0
PFBA	50.000	48.391	-3.2	96.8
PFBS	50.000	53.267	6.5	106.5
PFDA	50.000	48.126	-3.7	96.3
PFDoDA	50.000	51.151	2.3	102.3
PFDS	50.000	50.306	0.6	100.6
PFHpA	50.000	49.646	-0.7	99.3
PFHpS	50.000	52.537	5.1	105.1
PFHxA	50.000	51.174	2.3	102.3
PFHxS	50.000	51.660	3.3	103.3
PFNA	50.000	49.716	-0.6	99.4
PFNS	50.000	54.670	9.3	109.3
PFOA	50.000	51.324	2.6	102.6
PFOS	50.000	50.629	1.3	101.3
PFPeA	50.000	51.831	3.7	103.7
PFPeS	50.000	52.640	5.3	105.3
PFTeDA	50.000	48.647	-2.7	97.3
PFTTrDA	50.000	50.490	1.0	101.0
PFUnDA	50.000	54.210	8.4	108.4
ADONA	50.000	48.772	-2.5	97.5
9Cl-PF3ONS	50.000	46.277	-7.4	92.6
11Cl-PF3OUdS	50.000	44.831	-10.3	89.7
13C3-HFPO-DA	250.000	248.027	-0.8	99.2

6.6.4  
6

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-CC1468  
**Lab FileID:** Q65067.D

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HFPO-DA	250.000	262.976	5.2	105.2
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CC Criteria: +/- 30%

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-CC1468  
**Lab FileID:** Q65078.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1029\_537\_SQ1469\sq1469.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\1028\_537\_SQ1468\Q65003.d  
 2:D:\MassHunter\Data\1028\_537\_SQ1468\Q65004.d  
 3:D:\MassHunter\Data\1028\_537\_SQ1468\Q65005.d  
 4:D:\MassHunter\Data\1028\_537\_SQ1468\Q65006.d  
 5:D:\MassHunter\Data\1028\_537\_SQ1468\Q65007.d  
 6:D:\MassHunter\Data\1028\_537\_SQ1468\Q65008.d  
 7:D:\MassHunter\Data\1028\_537\_SQ1468\Q65009.d  
 8:D:\MassHunter\Data\1028\_537\_SQ1468\Q65010.d

Data File: Q65078  
 Type : CC  
 Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	1.000	1.107	10.7	110.7
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	1.000	1.052	5.2	105.2
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	1.000	1.272	27.2	127.2
6:2FTS	1.000	1.079	7.9	107.9
8:2FTS	1.000	1.058	5.8	105.8
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	1.000	1.383	38.3	138.3
EtFOSAA	1.000	1.190	19.0	119.0
FOSA	1.000	1.325	32.5	132.5
MeFOSAA	1.000	1.026	2.6	102.6
PFBA	1.000	0.966	-3.4	96.6
PFBS	1.000	1.142	14.2	114.2
PFDA	1.000	0.956	-4.4	95.6
PFDoDA	1.000	1.126	12.6	112.6
PFDS	1.000	1.248	24.8	124.8
PFHpA	1.000	0.985	-1.5	98.5
PFHpS	1.000	1.175	17.5	117.5
PFHxA	1.000	1.081	8.1	108.1
PFHxS	1.000	1.216	21.6	121.6
PFNA	1.000	1.035	3.5	103.5
PFNS	1.000	1.234	23.4	123.4
PFOA	1.000	1.074	7.4	107.4
PFOS	1.000	1.119	11.9	111.9
PFPeA	1.000	1.136	13.6	113.6
PFPeS	1.000	1.257	25.7	125.7
PFTeDA	1.000	1.042	4.2	104.2
PFTTrDA	1.000	1.071	7.1	107.1
PFUnDA	1.000	1.190	19.0	119.0
ADONA	1.000	0.957	-4.3	95.7
9Cl-PF3ONS	1.000	0.980	-2.0	98.0
11Cl-PF3OUdS	1.000	0.920	-8.0	92.0
13C3-HFPO-DA	5.000	5.203	4.1	104.1

6.6.5  
6



# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-CC1468  
**Lab FileID:** Q65078.D

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HFPO-DA	5.000	5.386	7.7	107.7
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CC Criteria: +/- 50%

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-CC1468  
**Lab FileID:** Q65090.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1029\_537\_SQ1469\sq1469.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\1028\_537\_SQ1468\Q65003.d  
 2:D:\MassHunter\Data\1028\_537\_SQ1468\Q65004.d  
 3:D:\MassHunter\Data\1028\_537\_SQ1468\Q65005.d  
 4:D:\MassHunter\Data\1028\_537\_SQ1468\Q65006.d  
 5:D:\MassHunter\Data\1028\_537\_SQ1468\Q65007.d  
 6:D:\MassHunter\Data\1028\_537\_SQ1468\Q65008.d  
 7:D:\MassHunter\Data\1028\_537\_SQ1468\Q65009.d  
 8:D:\MassHunter\Data\1028\_537\_SQ1468\Q65010.d

Data File: Q65090  
 Type : CC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	22.572	12.9	112.9
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	21.620	8.1	108.1
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	24.350	21.8	121.8
6:2FTS	20.000	21.513	7.6	107.6
8:2FTS	20.000	20.564	2.8	102.8
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	23.224	16.1	116.1
EtFOSAA	20.000	21.418	7.1	107.1
FOSA	20.000	22.780	13.9	113.9
MeFOSAA	20.000	20.429	2.1	102.1
PFBA	20.000	19.833	-0.8	99.2
PFBS	20.000	22.692	13.5	113.5
PFDA	20.000	20.214	1.1	101.1
PFDoDA	20.000	22.235	11.2	111.2
PFDS	20.000	22.827	14.1	114.1
PFHpA	20.000	20.760	3.8	103.8
PFHpS	20.000	22.823	14.1	114.1
PFHxA	20.000	21.579	7.9	107.9
PFHxS	20.000	23.335	16.7	116.7
PFNA	20.000	21.426	7.1	107.1
PFNS	20.000	24.586	22.9	122.9
PFOA	20.000	22.254	11.3	111.3
PFOS	20.000	21.677	8.4	108.4
PFPeA	20.000	21.301	6.5	106.5
PFPeS	20.000	22.928	14.6	114.6
PFTeDA	20.000	21.457	7.3	107.3
PFTTrDA	20.000	21.333	6.7	106.7
PFUnDA	20.000	23.866	19.3	119.3
ADONA	20.000	20.155	0.8	100.8
9Cl-PF3ONS	20.000	18.906	-5.5	94.5
11Cl-PF3OUdS	20.000	18.719	-6.4	93.6
13C3-HFPO-DA	100.000	102.020	2.0	102.0

6.6.6  
6

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-CC1468  
**Lab FileID:** Q65090.D

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HFPO-DA	100.000	106.808	6.8	106.8
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CC Criteria: +/- 30%

# Continuing Calibration Summary

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1469-ECC1468  
 Lab FileID: Q65095.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1029\_537\_SQ1469\sq1469.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\1028\_537\_SQ1468\Q65003.d  
 2:D:\MassHunter\Data\1028\_537\_SQ1468\Q65004.d  
 3:D:\MassHunter\Data\1028\_537\_SQ1468\Q65005.d  
 4:D:\MassHunter\Data\1028\_537\_SQ1468\Q65006.d  
 5:D:\MassHunter\Data\1028\_537\_SQ1468\Q65007.d  
 6:D:\MassHunter\Data\1028\_537\_SQ1468\Q65008.d  
 7:D:\MassHunter\Data\1028\_537\_SQ1468\Q65009.d  
 8:D:\MassHunter\Data\1028\_537\_SQ1468\Q65010.d

Data File: Q65095  
 Type : CC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	22.569	12.8	112.8
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	20.951	4.8	104.8
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	23.360	16.8	116.8
6:2FTS	20.000	20.843	4.2	104.2
8:2FTS	20.000	20.235	1.2	101.2
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	23.815	19.1	119.1
EtFOSAA	20.000	21.249	6.2	106.2
FOSA	20.000	23.195	16.0	116.0
MeFOSAA	20.000	19.774	-1.1	98.9
PFBA	20.000	19.228	-3.9	96.1
PFBS	20.000	21.849	9.2	109.2
PFDA	20.000	20.266	1.3	101.3
PFDoDA	20.000	21.911	9.6	109.6
PFDS	20.000	22.144	10.7	110.7
PFHpA	20.000	20.478	2.4	102.4
PFHpS	20.000	22.091	10.5	110.5
PFHxA	20.000	21.228	6.1	106.1
PFHxS	20.000	22.964	14.8	114.8
PFNA	20.000	21.113	5.6	105.6
PFNS	20.000	24.771	23.9	123.9
PFOA	20.000	22.221	11.1	111.1
PFOS	20.000	21.731	8.7	108.7
PFPeA	20.000	21.934	9.7	109.7
PFPeS	20.000	23.396	17.0	117.0
PFTeDA	20.000	20.340	1.7	101.7
PFTTrDA	20.000	21.240	6.2	106.2
PFUnDA	20.000	23.893	19.5	119.5
ADONA	20.000	19.732	-1.3	98.7
9Cl-PF3ONS	20.000	19.553	-2.2	97.8
11Cl-PF3OUdS	20.000	18.339	-8.3	91.7
13C3-HFPO-DA	100.000	97.890	-2.1	97.9

6.6.7  
6

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1469-ECC1468  
**Lab FileID:** Q65095.D

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HFPO-DA	100.000	104.223	4.2	104.2
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CC Criteria: +/- 30%



# Initial Calibration Summary

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1470-ICC1470  
 Lab FileID: Q65105.D

## Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I 13C4-PFOS											
T PFBS	Linear	0.5395	0.4999	0.4783	0.4738	0.4313	0.4936	0.4713	0.4914	0.4849	6.307
T PFHxS	Linear	0.6454	0.5979	0.6067	0.6050	0.5506	0.5805	0.5762	0.5827	0.5931	4.700
T PFHpS	Linear	0.6844	0.6050	0.5768	0.5672	0.5289	0.5891	0.5414	0.5307	0.5779	8.844
T PFOS	Linear	1.2797	1.0034	1.0321	1.0340	0.9441	1.0668	0.9946	0.9949	1.0437	9.772
T PONS	Linear	0.6931	0.6889	0.6622	0.6274	0.5944	0.6574	0.5942	0.5588	0.6345	7.698
T PFDS	Quadratic	0.2972	0.2427	0.2443	0.2359	0.2206	0.2421	0.2261	0.2195	0.2411	10.275
I d3-MeFOSAA											
T FOSA	Quadratic	2.2764	2.0924	1.9721	1.9975	1.8251	2.0534	1.7090	1.4954	1.9277	12.656
T MeFOSAA	Linear	1.2643	1.0667	1.0094	1.0211	0.9607	1.1008	1.0075	0.9673	1.0497	9.381
S d5-EFOSAA	Quadratic	1.1698	0.9881	1.0077	0.9503	0.8490	0.9582	0.8564	0.8007	0.9475	12.255
T EtFOSAA	Linear	1.0630	0.9645	0.9378	0.9174	0.8391	0.9581	0.8450	0.8230	0.9185	8.804

(Redfont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

# Initial Calibration Summary

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1470-ICC1470  
 Lab FileID: Q65105.D

## Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T PFBA	Linear	$y = 0.209983 * x$	0.999126
T PFPEA	Linear	$y = 0.895069 * x$	0.999455
T PFBS	Linear	$y = 0.487090 * x$	0.999448
T 4:2FTS	Linear	$y = 0.748943 * x$	0.996689
S 13C2-PFHxA	Linear	$y = 0.459983 * x$	0.999704
T PFHxA	Linear	$y = 0.373520 * x$	0.999687
T PFPeS	Quadratic	$y = -0.005204 * x^2 + 0.279834 * x$	0.999755
S 13C3-HFO-DA	Quadratic	$y = -7.315349E-004 * x^2 + 0.070359 * x$	0.999518
T HFO-DA	Quadratic	$y = -0.001091 * x^2 + 0.100253 * x$	0.999535
T PFHpA	Linear	$y = 0.795067 * x$	0.999760
T PFHxS	Linear	$y = 0.581206 * x$	0.999932
T ADONA	Linear	$y = 0.835866 * x$	0.999736
T 6:2FTS	Quadratic	$y = -0.049289 * x^2 + 1.004174 * x$	0.999537
T PFOA	Linear	$y = 0.840203 * x$	0.998991
T PFHpS	Linear	$y = 0.534620 * x$	0.999379
T FOSA	Quadratic	$y = -0.100023 * x^2 + 1.992465 * x$	0.999254
T PFOs	Linear	$y = 0.996722 * x$	0.999724
T PFNA	Linear	$y = 0.779633 * x$	0.999493
T 9Cl-PF3ONS	Linear	$y = 0.089023 * x$	0.999724
T MeFOSAA	Linear	$y = 0.979177 * x$	0.998835
T PFNS	Linear	$y = 0.569042 * x$	0.997801
S 13C2-PFDA	Linear	$y = 0.852267 * x$	0.996995
T PFDA	Linear	$y = 0.819606 * x$	0.997247
T 8:2FTS	Quadratic	$y = -0.046133 * x^2 + 0.837015 * x$	0.999789
S d5-ElFOSAA	Quadratic	$y = -0.026366 * x^2 + 0.931672 * x$	0.999661
T ElFOSAA	Linear	$y = 0.831750 * x$	0.998652
T PFDS	Quadratic	$y = -0.003301 * x^2 + 0.235877 * x$	0.999850
T PFUNDA	Linear	$y = 0.553217 * x$	0.997296
T 11Cl-PF3OLdS	Linear	$y = 0.464459 * x$	0.999832
T PFDoDA	Linear	$y = 0.834276 * x$	0.998541
T PFTfDA	Linear	$y = 1.065410 * x$	0.999579
T PFTeDA	Linear	$y = 1.059663 * x$	0.999411

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike



# Initial Calibration Verification

Job Number: FA69274  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1470-ICV1470  
 Lab FileID: Q65109.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1030\_537\_SQ1470\sq1470.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\1030\_537\_SQ1470\Q65100.d  
 2:D:\MassHunter\Data\1030\_537\_SQ1470\Q65101.d  
 3:D:\MassHunter\Data\1030\_537\_SQ1470\Q65102.d  
 4:D:\MassHunter\Data\1030\_537\_SQ1470\Q65103.d  
 5:D:\MassHunter\Data\1030\_537\_SQ1470\Q65104.d  
 6:D:\MassHunter\Data\1030\_537\_SQ1470\Q65105.d  
 7:D:\MassHunter\Data\1030\_537\_SQ1470\Q65106.d  
 8:D:\MassHunter\Data\1030\_537\_SQ1470\Q65107.d

Data File: Q65109  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	# -100.0	0.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	0.000	# -100.0	0.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	18.284	-8.6	91.4
6:2FTS	20.000	17.171	-14.1	85.9
8:2FTS	20.000	17.031	-14.8	85.2
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	# -100.0	0.0
EtFOSAA	20.000	19.943	-0.3	99.7
FOSA	20.000	18.697	-6.5	93.5
MeFOSAA	20.000	18.874	-5.6	94.4
PFBA	20.000	16.472	-17.6	82.4
PFBS	20.000	14.878	-25.6	74.4
PFDA	20.000	19.013	-4.9	95.1
PFDoDA	20.000	19.554	-2.2	97.8
PFDS	20.000	17.765	-11.2	88.8
PFHpA	20.000	18.471	-7.6	92.4
PFHpS	20.000	17.761	-11.2	88.8
PFHxA	20.000	16.219	-18.9	81.1
PFHxS	20.000	15.307	-23.5	76.5
PFNA	20.000	17.182	-14.1	85.9
PFNS	20.000	19.321	-3.4	96.6
PFOA	20.000	18.461	-7.7	92.3
PFOS	20.000	18.291	-8.5	91.5
PFPeA	20.000	17.882	-10.6	89.4
PFPeS	20.000	16.224	-18.9	81.1
PFTeDA	20.000	17.638	-11.8	88.2
PFTTrDA	20.000	20.732	3.7	103.7
PFUnDA	20.000	20.997	5.0	105.0
ADONA	20.000	0.000	# -100.0	0.0
9Cl-PF3ONS	20.000	0.000	# -100.0	0.0
11Cl-PF3OUdS	20.000	0.000	# -100.0	0.0
13C3-HFPO-DA	100.000	0.000	# -100.0	0.0

# Initial Calibration Verification

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1470-ICV1470  
**Lab FileID:** Q65109.D

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HFPO-DA	100.000	0.000	#	-100.0	0.0
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CC Criteria: +/- 30%

# Initial Calibration Verification

Job Number: FA69274  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1470-ICV1470  
Lab FileID: Q65110.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1030\_537\_SQ1470\sq1470.batch.bin

Level ID: Calibration File  
1:D:\MassHunter\Data\1030\_537\_SQ1470\Q65100.d  
2:D:\MassHunter\Data\1030\_537\_SQ1470\Q65101.d  
3:D:\MassHunter\Data\1030\_537\_SQ1470\Q65102.d  
4:D:\MassHunter\Data\1030\_537\_SQ1470\Q65103.d  
5:D:\MassHunter\Data\1030\_537\_SQ1470\Q65104.d  
6:D:\MassHunter\Data\1030\_537\_SQ1470\Q65105.d  
7:D:\MassHunter\Data\1030\_537\_SQ1470\Q65106.d  
8:D:\MassHunter\Data\1030\_537\_SQ1470\Q65107.d

Data File: Q65110  
Type : QC  
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	# -100.0	0.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	0.000	# -100.0	0.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	0.000	# -100.0	0.0
6:2FTS	20.000	0.000	# -100.0	0.0
8:2FTS	20.000	0.000	# -100.0	0.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	# -100.0	0.0
EtFOSAA	20.000	17.866	-10.7	89.3
FOSA	20.000	0.000	# -100.0	0.0
MeFOSAA	20.000	16.762	-16.2	83.8
PFBA	20.000	0.000	# -100.0	0.0
PFBS	20.000	17.134	-14.3	85.7
PFDA	20.000	20.050	0.2	100.2
PFDoDA	20.000	18.721	-6.4	93.6
PFDS	20.000	0.000	# -100.0	0.0
PFHpA	20.000	17.010	-15.0	85.0
PFHpS	20.000	0.000	# -100.0	0.0
PFHxA	20.000	17.239	-13.8	86.2
PFHxS	20.000	17.782	-11.1	88.9
PFNA	20.000	18.689	-6.6	93.4
PFNS	20.000	0.000	# -100.0	0.0
PFOA	20.000	18.317	-8.4	91.6
PFOS	20.000	18.006	-10.0	90.0
PFPeA	20.000	0.000	# -100.0	0.0
PFPeS	20.000	0.000	# -100.0	0.0
PFTeDA	20.000	18.767	-6.2	93.8
PFTTrDA	20.000	19.090	-4.5	95.5
PFUnDA	20.000	20.323	1.6	101.6
ADONA	20.000	18.070	-9.7	90.3
9Cl-PF3ONS	20.000	17.849	-10.8	89.2
11Cl-PF3OUdS	20.000	17.993	-10.0	90.0
13C3-HFPO-DA	100.000	0.000	# -100.0	0.0

6.6.10  
6

# Initial Calibration Verification

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1470-ICV1470  
**Lab FileID:** Q65110.D

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HFPO-DA	20.000	18.997	-5.0	95.0
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CC Criteria: +/- 30%

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1470-CC1470  
**Lab FileID:** Q65116.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\1030\_537\_SQ1470\sq1470.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\1030\_537\_SQ1470\Q65100.d  
 2:D:\MassHunter\Data\1030\_537\_SQ1470\Q65101.d  
 3:D:\MassHunter\Data\1030\_537\_SQ1470\Q65102.d  
 4:D:\MassHunter\Data\1030\_537\_SQ1470\Q65103.d  
 5:D:\MassHunter\Data\1030\_537\_SQ1470\Q65104.d  
 6:D:\MassHunter\Data\1030\_537\_SQ1470\Q65105.d  
 7:D:\MassHunter\Data\1030\_537\_SQ1470\Q65106.d  
 8:D:\MassHunter\Data\1030\_537\_SQ1470\Q65107.d

Data File: Q65116  
 Type : CC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	23.357	16.8	116.8
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	21.639	8.2	108.2
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	23.746	18.7	118.7
6:2FTS	20.000	20.651	3.3	103.3
8:2FTS	20.000	21.280	6.4	106.4
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	21.664	8.3	108.3
EtFOSAA	20.000	22.655	13.3	113.3
FOSA	20.000	22.893	14.5	114.5
MeFOSAA	20.000	22.533	12.7	112.7
PFBA	20.000	20.496	2.5	102.5
PFBS	20.000	21.567	7.8	107.8
PFDA	20.000	23.468	17.3	117.3
PFDoDA	20.000	22.328	11.6	111.6
PFDS	20.000	21.391	7.0	107.0
PFHpA	20.000	21.075	5.4	105.4
PFHpS	20.000	22.789	13.9	113.9
PFHxA	20.000	21.593	8.0	108.0
PFHxS	20.000	20.774	3.9	103.9
PFNA	20.000	21.624	8.1	108.1
PFNS	20.000	23.363	16.8	116.8
PFOA	20.000	22.140	10.7	110.7
PFOS	20.000	21.271	6.4	106.4
PFPeA	20.000	20.839	4.2	104.2
PFPeS	20.000	20.273	1.4	101.4
PFTeDA	20.000	22.453	12.3	112.3
PFTTrDA	20.000	21.498	7.5	107.5
PFUnDA	20.000	23.149	15.7	115.7
ADONA	20.000	20.816	4.1	104.1
9Cl-PF3ONS	20.000	20.640	3.2	103.2
11Cl-PF3OUdS	20.000	20.492	2.5	102.5
13C3-HFPO-DA	100.000	109.220	9.2	109.2

6.6.11  
6

# Continuing Calibration Summary

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

**Sample:** SQ1470-CC1470  
**Lab FileID:** Q65116.D

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HFPO-DA	100.000	109.362	9.4	109.4
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CC Criteria: +/- 30%

# Run Sequence Report

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Run ID:</b> SQ1468	<b>Method:</b> EPA 537.1 REV 1.0	<b>Instrument ID:</b> GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1468-IC1468	Q65002.D	10/28/19 16:11	n/a	Mass Calibration Verification
SQ1468-IC1468	Q65003.D	10/28/19 16:27	n/a	Initial cal 0.5
SQ1468-IC1468	Q65004.D	10/28/19 16:44	n/a	Initial cal 1.0
SQ1468-IC1468	Q65005.D	10/28/19 17:00	n/a	Initial cal 2.0
SQ1468-IC1468	Q65006.D	10/28/19 17:16	n/a	Initial cal 5.0
SQ1468-IC1468	Q65007.D	10/28/19 17:32	n/a	Initial cal 10
SQ1468-ICC1468	Q65008.D	10/28/19 17:48	n/a	Initial cal 20
SQ1468-IC1468	Q65009.D	10/28/19 18:04	n/a	Initial cal 50
SQ1468-IC1468	Q65010.D	10/28/19 18:19	n/a	Initial cal 100
SQ1468-ICV1468	Q65012.D	10/28/19 18:51	n/a	Initial cal verification 20
SQ1468-ICV1468	Q65013.D	10/28/19 19:07	n/a	Initial cal verification 20
OP77458-BS	Q65014.D	10/28/19 19:23	OP77458	Blank Spike
OP77458-MB	Q65015.D	10/28/19 19:39	OP77458	Method Blank
FA69336-1	Q65016.D	10/28/19 19:55	OP77458	(used for QC only; not part of job FA69274)
OP77458-MS	Q65017.D	10/28/19 20:10	OP77458	Matrix Spike
ZZZZZZ	Q65018.D	10/28/19 20:26	OP77458	(unrelated sample)
SQ1468-CC1468	Q65019.D	10/28/19 20:42	n/a	Continuing cal 1.0
ZZZZZZ	Q65020.D	10/28/19 20:58	OP77458	(unrelated sample)
ZZZZZZ	Q65021.D	10/28/19 21:14	OP77458	(unrelated sample)
ZZZZZZ	Q65022.D	10/28/19 21:30	OP77458	(unrelated sample)
ZZZZZZ	Q65024.D	10/28/19 22:02	OP77458	(unrelated sample)
ZZZZZZ	Q65025.D	10/28/19 22:17	OP77458	(unrelated sample)
ZZZZZZ	Q65026.D	10/28/19 22:33	OP77458	(unrelated sample)
ZZZZZZ	Q65029.D	10/28/19 23:21	OP77458	(unrelated sample)
SQ1468-CC1468	Q65030.D	10/28/19 23:37	n/a	Continuing cal 20
ZZZZZZ	Q65032.D	10/29/19 00:09	OP77458	(unrelated sample)
ZZZZZZ	Q65033.D	10/29/19 00:24	OP77458	(unrelated sample)
ZZZZZZ	Q65036.D	10/29/19 01:12	OP77458	(unrelated sample)
FA69267-2	Q65037.D	10/29/19 01:28	OP77458	(used for QC only; not part of job FA69274)
OP77458-DUP	Q65038.D	10/29/19 01:44	OP77458	Duplicate
ZZZZZZ	Q65039.D	10/29/19 02:00	OP77458	(unrelated sample)
SQ1468-CC1468	Q65042.D	10/29/19 02:47	n/a	Continuing cal 50
OP77414-BS	Q65044.D	10/29/19 03:19	OP77414	Blank Spike
OP77414-MB	Q65045.D	10/29/19 03:35	OP77414	Method Blank
FA69180-1	Q65046.D	10/29/19 03:51	OP77414	(used for QC only; not part of job FA69274)
OP77414-MS	Q65047.D	10/29/19 04:07	OP77414	Matrix Spike
OP77414-MSD	Q65048.D	10/29/19 04:22	OP77414	Matrix Spike Duplicate
ZZZZZZ	Q65050.D	10/29/19 04:54	OP77414	(unrelated sample)
ZZZZZZ	Q65052.D	10/29/19 05:26	OP77414	(unrelated sample)
SQ1468-CC1468	Q65054.D	10/29/19 05:58	n/a	Continuing cal 20
ZZZZZZ	Q65056.D	10/29/19 06:29	OP77414	(unrelated sample)
ZZZZZZ	Q65057.D	10/29/19 06:45	OP77414	(unrelated sample)
SQ1468-ECC1468	Q65059.D	10/29/19 07:20	n/a	Ending cal 20

6.7.1  
6

# Run Sequence Report

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Run ID:</b> SQ1469	<b>Method:</b> EPA 537.1 REV 1.0	<b>Instrument ID:</b> GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1469-CC1468	Q65062.D	10/29/19 09:12	n/a	Continuing cal 1
SQ1469-CC1468	Q65063.D	10/29/19 09:28	n/a	Continuing cal 20
ZZZZZZ	Q65065.D	10/29/19 10:10	OP77458	(unrelated sample)
ZZZZZZ	Q65066.D	10/29/19 10:26	OP77458	(unrelated sample)
SQ1469-CC1468	Q65067.D	10/29/19 10:41	n/a	Continuing cal 50
OP77459-BS	Q65069.D	10/29/19 11:18	OP77459	Blank Spike
FA69274-3	Q65073.D	10/29/19 12:21	OP77459	WI-CV-FCWTP-FB-02-102319
FA69274-4	Q65074.D	10/29/19 12:37	OP77459	WI-CV-FCWTP-MP205-102319
FA69274-5	Q65075.D	10/29/19 12:53	OP77459	WI-CV-FCWTP-FB-03-102319
SQ1469-CC1468	Q65078.D	10/29/19 13:41	n/a	Continuing cal 1
OP77459-MS	Q65081.D	10/29/19 14:28	OP77459	Matrix Spike
OP77459-MSD	Q65082.D	10/29/19 14:44	OP77459	Matrix Spike Duplicate
FA69274-9	Q65083.D	10/29/19 15:00	OP77459	WI-CV-FCWTP-FB-05-102319
FA69274-10	Q65084.D	10/29/19 15:16	OP77459	WI-CV-FCWTP-INF001-102319
FA69274-11	Q65085.D	10/29/19 15:32	OP77459	WI-CV-FCWTP-INF001P-102319
FA69274-12	Q65086.D	10/29/19 15:48	OP77459	WI-CV-FCWTP-FB-06-102319
FA69274-13	Q65087.D	10/29/19 16:03	OP77459	WI-CV-FCWTP-INF100-102319
FA69274-14	Q65088.D	10/29/19 16:19	OP77459	WI-CV-FCWTP-FB-07-102319
FA69274-15	Q65089.D	10/29/19 16:35	OP77459	WI-CV-FCWTP-MP105-102319
SQ1469-CC1468	Q65090.D	10/29/19 16:51	n/a	Continuing cal 20
FA69274-16	Q65092.D	10/29/19 17:23	OP77459	WI-CV-FCWTP-FB-08-102319
FA69274-17	Q65093.D	10/29/19 17:39	OP77459	WI-CV-FCWTP-EF109-102319
OP77459-MB	Q65094.D	10/29/19 17:54	OP77459	Method Blank
SQ1469-ECC1468	Q65095.D	10/29/19 18:10	n/a	Ending cal 20

6.7.2  
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# Run Sequence Report

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Run ID:</b> SQ1470	<b>Method:</b> EPA 537.1 REV 1.0	<b>Instrument ID:</b> GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1470-IC1470	Q65099.D	10/30/19 09:57	n/a	Mass Calibration Verification
SQ1470-IC1470	Q65100.D	10/30/19 10:18	n/a	Initial cal 0.5
SQ1470-IC1470	Q65101.D	10/30/19 10:34	n/a	Initial cal 1.0
SQ1470-IC1470	Q65102.D	10/30/19 10:50	n/a	Initial cal 2.0
SQ1470-IC1470	Q65103.D	10/30/19 11:06	n/a	Initial cal 5
SQ1470-IC1470	Q65104.D	10/30/19 11:22	n/a	Initial cal 10
SQ1470-ICC1470	Q65105.D	10/30/19 11:38	n/a	Initial cal 20
SQ1470-IC1470	Q65106.D	10/30/19 11:53	n/a	Initial cal 50
SQ1470-IC1470	Q65107.D	10/30/19 12:09	n/a	Initial cal 100
SQ1470-ICV1470	Q65109.D	10/30/19 12:41	n/a	Initial cal verification 20
SQ1470-ICV1470	Q65110.D	10/30/19 12:57	n/a	Initial cal verification 20
FA69274-1	Q65111.D	10/30/19 13:13	OP77459	WI-CV-FCWTP-FB-01-102319
FA69274-2	Q65112.D	10/30/19 13:29	OP77459	WI-CV-FCWTP-INF200-102319
FA69274-6	Q65113.D	10/30/19 13:46	OP77459	WI-CV-FCWTP-EF209-102319
FA69274-7	Q65114.D	10/30/19 14:02	OP77459	WI-CV-FCWTP-FB-04-102319
FA69274-8	Q65115.D	10/30/19 14:18	OP77459	WI-CV-FCWTP-EF002-102319
SQ1470-CC1470	Q65116.D	10/30/19 14:34	n/a	Continuing cal 20
OP77471-BS	Q65118.D	10/30/19 15:06	OP77471	Blank Spike
OP77471-MB	Q65119.D	10/30/19 15:22	OP77471	Method Blank
FA69275-1	Q65120.D	10/30/19 15:37	OP77471	(used for QC only; not part of job FA69274)
OP77471-MS	Q65121.D	10/30/19 15:53	OP77471	Matrix Spike
ZZZZZZ	Q65122.D	10/30/19 16:09	OP77471	(unrelated sample)
ZZZZZZ	Q65123.D	10/30/19 16:25	OP77471	(unrelated sample)
FA69276-1	Q65125.D	10/30/19 16:57	OP77471	(used for QC only; not part of job FA69274)
OP77471-DUP	Q65126.D	10/30/19 17:13	OP77471	Duplicate
ZZZZZZ	Q65127.D	10/30/19 17:29	OP77471	(unrelated sample)
SQ1470-CC1470	Q65128.D	10/30/19 17:44	n/a	Continuing cal 50
ZZZZZZ	Q65130.D	10/30/19 18:16	OP77471	(unrelated sample)
ZZZZZZ	Q65132.D	10/30/19 18:48	OP77471	(unrelated sample)
ZZZZZZ	Q65133.D	10/30/19 19:04	OP77471	(unrelated sample)
ZZZZZZ	Q65134.D	10/30/19 19:20	OP77471	(unrelated sample)
ZZZZZZ	Q65135.D	10/30/19 19:35	OP77471	(unrelated sample)
ZZZZZZ	Q65136.D	10/30/19 19:51	OP77471	(unrelated sample)
ZZZZZZ	Q65137.D	10/30/19 20:07	OP77471	(unrelated sample)
ZZZZZZ	Q65138.D	10/30/19 20:23	OP77471	(unrelated sample)
ZZZZZZ	Q65139.D	10/30/19 20:39	OP77471	(unrelated sample)
SQ1470-CC1470	Q65140.D	10/30/19 20:55	n/a	Continuing cal 1
OP77478-BS	Q65142.D	10/30/19 21:27	OP77478	Blank Spike
OP77478-MB	Q65143.D	10/30/19 21:42	OP77478	Method Blank
ZZZZZZ	Q65144.D	10/30/19 21:58	OP77478	(unrelated sample)
ZZZZZZ	Q65145.D	10/30/19 22:14	OP77478	(unrelated sample)
ZZZZZZ	Q65146.D	10/30/19 22:30	OP77478	(unrelated sample)
ZZZZZZ	Q65147.D	10/30/19 22:46	OP77478	(unrelated sample)
ZZZZZZ	Q65148.D	10/30/19 23:02	OP77478	(unrelated sample)
ZZZZZZ	Q65149.D	10/30/19 23:18	OP77478	(unrelated sample)
SQ1470-CC1470	Q65150.D	10/30/19 23:33	n/a	Continuing cal 20

# Run Sequence Report

**Job Number:** FA69274  
**Account:** ITVAVAB APTIM  
**Project:** TCWTS; Coupeville, WA

<b>Run ID:</b> SQ1470	<b>Method:</b> EPA 537.1 REV 1.0	<b>Instrument ID:</b> GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
FA69293-7	Q65152.D	10/31/19 00:05	OP77478	(used for QC only; not part of job FA69274)
OP77478-MS	Q65153.D	10/31/19 00:21	OP77478	Matrix Spike
OP77478-MSD	Q65154.D	10/31/19 00:37	OP77478	Matrix Spike Duplicate
ZZZZZZ	Q65155.D	10/31/19 00:53	OP77478	(unrelated sample)
ZZZZZZ	Q65156.D	10/31/19 01:09	OP77478	(unrelated sample)
ZZZZZZ	Q65157.D	10/31/19 01:25	OP77478	(unrelated sample)
ZZZZZZ	Q65158.D	10/31/19 01:40	OP77478	(unrelated sample)
ZZZZZZ	Q65159.D	10/31/19 01:56	OP77478	(unrelated sample)
ZZZZZZ	Q65160.D	10/31/19 02:12	OP77478	(unrelated sample)
ZZZZZZ	Q65161.D	10/31/19 02:28	OP77478	(unrelated sample)
SQ1470-ECC1470	Q65162.D	10/31/19 02:44	n/a	Ending cal 20

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