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## Technical Report for

**APTIM**

**TCWTS; Coupeville, WA**

**SGS Job Number: FA68306**

**Sampling Date: 09/23/19**

### Report to:

**APTIM**

**natasha.sullivan@aptim.com**

**ATTN: Natasha Sullivan**

**Total number of pages in report: 45**



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: FA68306****TCWTS; Coupeville, WA**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA68306-1	09/23/19	10:15 MB	09/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-01-092319
FA68306-2	09/23/19	10:17 MB	09/24/19	DW	Drinking Water	WI-CV-FCWTP-INF200-092319
FA68306-3	09/23/19	10:21 MB	09/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-02-092319
FA68306-4	09/23/19	10:24 MB	09/24/19	DW	Drinking Water	WI-CV-FCWTP-MP205-092319
FA68306-5	09/23/19	10:30 MB	09/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-03-092319
FA68306-6	09/23/19	10:33 MB	09/24/19	DW	Drinking Water	WI-CV-FCWTP-EF209-092319
FA68306-7	09/23/19	10:40 MB	09/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-04-092319
FA68306-8	09/23/19	10:42 MB	09/24/19	DW	Drinking Water	WI-CV-FCWTP-EF002-082319
FA68306-8D	09/23/19	10:42 MB	09/24/19	DW	Drinking Water Dup.	WI-CV-FCWTP-EF002-082319
FA68306-8S	09/23/19	10:42 MB	09/24/19	DW	Drinking Water MS	WI-CV-FCWTP-EF002-082319
FA68306-9	09/23/19	10:46 MB	09/24/19	DW	Drinking Water FB	WI-CV-FCWTP-FB-05-092319
FA68306-10	09/23/19	10:50 MB	09/24/19	DW	Drinking Water	WI-CV-FCWTP-INF001-092319
FA68306-11	09/23/19	10:50 MB	09/24/19	DW	Drinking Water	WI-CV-FCWTP-INF001P-092319

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** APTIM

**Job No:** FA68306

**Site:** TCWTS; Coupeville, WA

**Report Date** 10/4/2019 12:01:00

6 Samples and 5 Field Blanks were collected on 09/23/2019 and were received at SGS North America Inc - Orlando on 09/24/2019 properly preserved, at 2.8 Deg. C and intact. These Samples received an SGS Orlando job number of FA68306. 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:** OP77002

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) FA68306-8MS, FA68306-8MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

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:** FA68306  
**Account:** APTIM  
**Project:** TCWTS; Coupeville, WA  
**Collected:** 09/23/19



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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**FA68306-1**      **WI-CV-FCWTP-FB-01-092319**

No hits reported in this sample.

**FA68306-2**      **WI-CV-FCWTP-INF200-092319**

Perfluorohexanoic acid	34.5	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	10.3	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	60.8	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	16.1	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	56.8	3.7	1.9	ng/l	EPA 537.1 REV 1.0

**FA68306-3**      **WI-CV-FCWTP-FB-02-092319**

No hits reported in this sample.

**FA68306-4**      **WI-CV-FCWTP-MP205-092319**

No hits reported in this sample.

**FA68306-5**      **WI-CV-FCWTP-FB-03-092319**

No hits reported in this sample.

**FA68306-6**      **WI-CV-FCWTP-EF209-092319**

No hits reported in this sample.

**FA68306-7**      **WI-CV-FCWTP-FB-04-092319**

No hits reported in this sample.

**FA68306-8**      **WI-CV-FCWTP-EF002-082319**

No hits reported in this sample.

**FA68306-9**      **WI-CV-FCWTP-FB-05-092319**

No hits reported in this sample.

**FA68306-10**      **WI-CV-FCWTP-INF001-092319**

Perfluorohexanoic acid	37.0	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	10.7	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	62.5	3.7	1.9	ng/l	EPA 537.1 REV 1.0

## Summary of Hits

Job Number: FA68306  
Account: APTIM  
Project: TCWTS; Coupeville, WA  
Collected: 09/23/19



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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Perfluorobutanesulfonic acid		17.0	3.7	1.9	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid		59.3	3.7	1.9	ng/l	EPA 537.1 REV 1.0

FA68306-11 WI-CV-FCWTP-INF001P-092319

Perfluorohexanoic acid		35.8	4.0	2.0	ng/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid		10.4	4.0	2.0	ng/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid		60.2	4.0	2.0	ng/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid		16.9	4.0	2.0	ng/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid		58.4	4.0	2.0	ng/l	EPA 537.1 REV 1.0

**Sample Results**

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**Report of Analysis**

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# Report of Analysis

Client Sample ID:	WI-CV-FCWTP-FB-01-092319	
Lab Sample ID:	FA68306-1	Date Sampled: 09/23/19
Matrix:	DW - Drinking Water FB	Date Received: 09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids: n/a
Project:	TCWTS; Coupeville, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64257.D	1	09/26/19 15:17	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	114%		70-130%
	13C2-PFDA	96%		70-130%
	d5-EtFOSAA	80%		70-130%
	13C3-HFPO-DA	98%		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

Client Sample ID:	WI-CV-FCWTP-INF200-092319		
Lab Sample ID:	FA68306-2	Date Sampled:	09/23/19
Matrix:	DW - Drinking Water	Date Received:	09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	TCWTS; Coupeville, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64258.D	1	09/26/19 15:32	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	34.5		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	10.3		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	60.8		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	

<b>PERFLUOROALKYLSULFONATES</b>								
375-73-5	Perfluorobutanesulfonic acid	16.1		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	56.8		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	115%		70-130%
	13C2-PFDA	103%		70-130%
	d5-EtFOSAA	79%		70-130%
	13C3-HFPO-DA	101%		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

4.2  
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# Report of Analysis

Client Sample ID:	WI-CV-FCWTP-FB-02-092319	
Lab Sample ID:	FA68306-3	Date Sampled: 09/23/19
Matrix:	DW - Drinking Water FB	Date Received: 09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids: n/a
Project:	TCWTS; Coupeville, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64259.D	1	09/26/19 15:48	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	121%		70-130%
	13C2-PFDA	105%		70-130%
	d5-EtFOSAA	86%		70-130%
	13C3-HFPO-DA	105%		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

Client Sample ID:	WI-CV-FCWTP-MP205-092319		
Lab Sample ID:	FA68306-4	Date Sampled:	09/23/19
Matrix:	DW - Drinking Water	Date Received:	09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	TCWTS; Coupeville, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64260.D	1	09/26/19 16:03	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	121%		70-130%
	13C2-PFDA	102%		70-130%
	d5-EtFOSAA	83%		70-130%
	13C3-HFPO-DA	103%		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

4.5  
4

Client Sample ID:	WI-CV-FCWTP-FB-03-092319		
Lab Sample ID:	FA68306-5	Date Sampled:	09/23/19
Matrix:	DW - Drinking Water FB	Date Received:	09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	TCWTS; Coupeville, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64261.D	1	09/26/19 16:19	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	120%		70-130%
	13C2-PFDA	100%		70-130%
	d5-EtFOSAA	83%		70-130%
	13C3-HFPO-DA	100%		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

Client Sample ID:	WI-CV-FCWTP-EF209-092319		Date Sampled:	09/23/19
Lab Sample ID:	FA68306-6	Date Received:	09/24/19	
Matrix:	DW - Drinking Water	Percent Solids:	n/a	
Method:	EPA 537.1 REV 1.0 EPA 537			
Project:	TCWTS; Coupeville, WA			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64262.D	1	09/26/19 16:34	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	117%		70-130%
	13C2-PFDA	98%		70-130%
	d5-EtFOSAA	84%		70-130%
	13C3-HFPO-DA	97%		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

Client Sample ID:	WI-CV-FCWTP-FB-04-092319		Date Sampled:	09/23/19
Lab Sample ID:	FA68306-7	Date Received:	09/24/19	
Matrix:	DW - Drinking Water FB	Percent Solids:	n/a	
Method:	EPA 537.1 REV 1.0 EPA 537			
Project:	TCWTS; Coupeville, WA			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64263.D	1	09/26/19 16:49	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	Initial Volume	Final Volume
Run #1	250 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	2.0 U		4.0	2.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
307-55-1	Perfluorododecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
72629-94-8	Perfluorotridecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	

<b>PERFLUOROALKYLSULFONATES</b>								
375-73-5	Perfluorobutanesulfonic acid	2.0 U		4.0	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	2.0 U		4.0	2.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	2.0 U		4.0	2.0	1.5	ng/l	

<b>PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS</b>								
2355-31-9	MeFOSAA	6.0 U		8.0	6.0	4.0	ng/l	
2991-50-6	EtFOSAA	6.0 U		8.0	6.0	4.0	ng/l	

<b>NEXT GENERATION PFAS ANALYTES</b>								
13252-13-6	HFPO-DA (GenX)	10 U		20	10	6.0	ng/l	
919005-14-4	ADONA	4.0 U		8.0	4.0	2.0	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	4.0 U		8.0	4.0	2.0	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.0 U		8.0	4.0	3.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	120%		70-130%
	13C2-PFDA	102%		70-130%
	d5-EtFOSAA	79%		70-130%
	13C3-HFPO-DA	99%		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

4.7  
4

# Report of Analysis

Client Sample ID:	WI-CV-FCWTP-EF002-082319	
Lab Sample ID:	FA68306-8	Date Sampled: 09/23/19
Matrix:	DW - Drinking Water	Date Received: 09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids: n/a
Project:	TCWTS; Coupeville, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64266.D	1	09/26/19 19:54	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	123%		70-130%
	13C2-PFDA	110%		70-130%
	d5-EtFOSAA	84%		70-130%
	13C3-HFPO-DA	94%		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

4.8  
4

# Report of Analysis

Client Sample ID:	WI-CV-FCWTP-FB-05-092319		Date Sampled:	09/23/19
Lab Sample ID:	FA68306-9	Date Received:	09/24/19	
Matrix:	DW - Drinking Water FB	Percent Solids:	n/a	
Method:	EPA 537.1 REV 1.0 EPA 537			
Project:	TCWTS; Coupeville, WA			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64269.D	1	09/26/19 20:40	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	Initial Volume	Final Volume
Run #1	250 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	2.0 U		4.0	2.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
307-55-1	Perfluorododecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
72629-94-8	Perfluorotridecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	

<b>PERFLUOROALKYLSULFONATES</b>								
375-73-5	Perfluorobutanesulfonic acid	2.0 U		4.0	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	2.0 U		4.0	2.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	2.0 U		4.0	2.0	1.5	ng/l	

<b>PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS</b>								
2355-31-9	MeFOSAA	6.0 U		8.0	6.0	4.0	ng/l	
2991-50-6	EtFOSAA	6.0 U		8.0	6.0	4.0	ng/l	

<b>NEXT GENERATION PFAS ANALYTES</b>								
13252-13-6	HFPO-DA (GenX)	10 U		20	10	6.0	ng/l	
919005-14-4	ADONA	4.0 U		8.0	4.0	2.0	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	4.0 U		8.0	4.0	2.0	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.0 U		8.0	4.0	3.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	121%		70-130%
	13C2-PFDA	103%		70-130%
	d5-EtFOSAA	85%		70-130%
	13C3-HFPO-DA	94%		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

Client Sample ID:	WI-CV-FCWTP-INF001-092319		
Lab Sample ID:	FA68306-10	Date Sampled:	09/23/19
Matrix:	DW - Drinking Water	Date Received:	09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	TCWTS; Coupeville, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64270.D	1	09/26/19 20:55	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	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	37.0		3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	10.7		3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	62.5		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	17.0		3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	59.3		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	118%		70-130%
	13C2-PFDA	104%		70-130%
	d5-EtFOSAA	85%		70-130%
	13C3-HFPO-DA	91%		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

Client Sample ID:	WI-CV-FCWTP-INF001P-092319		
Lab Sample ID:	FA68306-11	Date Sampled:	09/23/19
Matrix:	DW - Drinking Water	Date Received:	09/24/19
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	TCWTS; Coupeville, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q64271.D	1	09/26/19 21:11	NAF	09/25/19 16:00	OP77002	SQ1446
Run #2							

Run #	Initial Volume	Final Volume
Run #1	250 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	35.8		4.0	2.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	10.4		4.0	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	60.2		4.0	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	2.0 U		4.0	2.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
307-55-1	Perfluorododecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
72629-94-8	Perfluorotridecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	3.0 U		4.0	3.0	2.0	ng/l	

<b>PERFLUOROALKYLSULFONATES</b>								
375-73-5	Perfluorobutanesulfonic acid	16.9		4.0	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	58.4		4.0	2.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	2.0 U		4.0	2.0	1.5	ng/l	

<b>PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS</b>								
2355-31-9	MeFOSAA	6.0 U		8.0	6.0	4.0	ng/l	
2991-50-6	EtFOSAA	6.0 U		8.0	6.0	4.0	ng/l	

<b>NEXT GENERATION PFAS ANALYTES</b>								
13252-13-6	HFPO-DA (GenX)	10 U		20	10	6.0	ng/l	
919005-14-4	ADONA	4.0 U		8.0	4.0	2.0	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	4.0 U		8.0	4.0	2.0	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.0 U		8.0	4.0	3.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	114%		70-130%
	13C2-PFDA	101%		70-130%
	d5-EtFOSAA	80%		70-130%
	13C3-HFPO-DA	87%		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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4

**Misc. Forms**

**Custody Documents and Other Forms**

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**Includes the following where applicable:**

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

Project Manager: *Jeff Gilliam*

Project Number: 501207

Project Name: TCWTS

Subcontract Agreement #: TBD

Waybill Number:

 SGS North America, Inc  
 4405 Vineland Road, Suite C-15  
 Orlando, FL 32811

Lab Contact Name / ph. #: Heather Wandrey 609-495-5321

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

Analyses Requested				Cooler Temperature
PFAS EPA 537.1	PFAS EPA 537.1 (MS)	PFAS EPA 537.1 (MSD)		
X	X	X		

Sampler's Name(s): Mathew Bryan		Collection Information					Matrix	# of containers	Preservative	Container Type									
Sample ID	Location ID	Date	Time	Method		2 x 250 ml HDPE				1 x 250 ml HDPE	1 x 250 ml HDPE								
WI-CV-FCWTP-FB-01-092319 ①	Field Blank GAC Influent	09/23/19	10:15	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-INF200-092319 ②	GAC Influent SA-200	09/23/19	10:17	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-FB-02-092319 ③	Field Blank GAC Midpoint	09/23/19	10:21	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-MP205-092319 ④	GAC Midpoint SA-205	09/23/19	10:24	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-FB-03-092319 ⑤	Field Blank GAC Effluent	09/23/19	10:30	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-EF209-092319 ⑥	Gac Effluent SA-209	09/23/19	10:33	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-FB-04-092319 ⑦	Field Blank Plant Effluent	09/23/19	10:40	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-EF002-092319 ⑧	Existing Plant Effluent	09/23/19	10:42	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-EF002-092319-MS ⑨	Final plant effluent (MS)	09/23/19	10:42	G	DW	1	250ml HDPE		X										
WI-CV-FCWTP-EF002-092319-MSD ⑩	Final plant effluent (MSD)	09/23/19	10:42	G	DW	1	250ml HDPE			X									
WI-CV-FCWTP-FB-05-092319 ⑪	Field Blank existing plant influent	09/23/19	10:46	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-INF001-092319 ⑫	Existing Plant Influent	09/23/19	10:50	G	DW	2	250ml HDPE	X											
WI-CV-FCWTP-INF001P-092319 ⑬	Existing Plant Influent	09/23/19	10:50	G	DW	2	250ml HDPE	X											
<b>Temp Blank</b>																	<b>X</b>		

<b>Special Instructions: Level 4 Reporting</b>			<b>Method Codes</b>	
Turnaround Time: STANDARD TAT	<input type="checkbox"/> 24-hr <input type="checkbox"/> 48-hr	Note: 2nd Monthly Sampling Event	LF= low flow	G = Grab
	<input type="checkbox"/> 72-hr <input type="checkbox"/> 5-day		<b>Matrix Codes</b>	
Relinquished By: <i>Mathew Bryan</i>	Date: <u>9-23-19</u> Time: <u>11:55</u>	Received By: <i>[Signature]</i>	DW = Drinking Water	SO = Soil
	Date: _____ Time: _____	Date: _____ Time: _____	GW = Ground Water	BW = Blank Water
	Date: _____ Time: _____	Date: _____ Time: _____	WW = Waste Water	WP = Waste Product

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# SGS Sample Receipt Summary

Job Number: FA68306

Client: APTIM

Project: TCWTS

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

Delivery Method: FX

Airbill #'s: 1002284383460003281100490063553490

Therm ID: IR 1;	Therm CF: 1;	# of Coolers: 1
Cooler Temps (Raw Measured) °C: Cooler 1: (1.8);		
Cooler Temps (Corrected) °C: Cooler 1: (2.8);		

**Cooler Information**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Temp criteria achieved	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4. Cooler temp verification	<u>IR Gun</u>		
5. Cooler media	<u>Ice (Bag)</u>		

**Sample Information**

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

**Trip Blank Information**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b><u>W or S</u></b>				
3. Type Of TB Received	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_  
 Test Strip Lot #s: 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: RYANO

Date: 9/24/2019 9:00:00 AM

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

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

**FA68306: Chain of Custody**

**Page 2 of 2**

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# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FA68306  
**Account:** APTIM  
**Project:** TCWTS; Coupeville, WA  
**Collected:** 09/23/19

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 FA68306

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## MS Semi-volatiles

### QC Data Summaries

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#### 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: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP77002-MB	Q64256.D	1	09/26/19	NAF	09/25/19	OP77002	SQ1446

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA68306-1, FA68306-2, FA68306-3, FA68306-4, FA68306-5, FA68306-6, FA68306-7, FA68306-8, FA68306-9, FA68306-10, FA68306-11

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0020	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0020	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0020	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0020	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0040	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0060	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0030	ug/l	

CAS No.	Surrogate Recoveries	Limits	
	13C2-PFHxA	125%	70-130%
	13C2-PFDA	103%	70-130%
	d5-EtFOSAA	85%	70-130%
	13C3-HFPO-DA	110%	70-130%



# Blank Spike Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP77002-BS	Q64255.D	1	09/26/19	NAF	09/25/19	OP77002	SQ1446

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA68306-1, FA68306-2, FA68306-3, FA68306-4, FA68306-5, FA68306-6, FA68306-7, FA68306-8, FA68306-9, FA68306-10, FA68306-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0949	119	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0874	109	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0906	113	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0855	107	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0883	110	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0858	107	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0760	95	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0773	97	70-130
376-06-7	Perfluorotetradecanoic acid	0.08	0.0653	82	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0887	111	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0924	116	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0831	104	70-130
2355-31-9	MeFOSAA	0.08	0.0819	102	70-130
2991-50-6	EtFOSAA	0.08	0.0793	99	70-130
13252-13-6	HFPO-DA (GenX)	0.4	0.414	104	70-130
919005-14-4	ADONA	0.08	0.0726	91	70-130
756426-58-19	Cl-PF3ONS (F-53B Major)	0.08	0.0616	77	70-130
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.08	0.0599	75	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	123%	70-130%
	13C2-PFDA	108%	70-130%
	d5-EtFOSAA	88%	70-130%
	13C3-HFPO-DA	106%	70-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP77002-MS	Q64267.D	1	09/26/19	NAF	09/25/19	OP77002	SQ1446
OP77002-MSD	Q64268.D	1	09/26/19	NAF	09/25/19	OP77002	SQ1446
FA68306-8	Q64266.D	1	09/26/19	NAF	09/25/19	OP77002	SQ1446

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA68306-1, FA68306-2, FA68306-3, FA68306-4, FA68306-5, FA68306-6, FA68306-7, FA68306-8, FA68306-9, FA68306-10, FA68306-11

CAS No.	Compound	FA68306-8 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	0.08	0.0997	125	0.08	0.104	130	4	70-130/30
375-85-9	Perfluoroheptanoic acid	0.0037 U	0.08	0.0922	115	0.08	0.0950	119	3	70-130/30
335-67-1	Perfluorooctanoic acid	0.0037 U	0.08	0.0930	116	0.08	0.0961	120	3	70-130/30
375-95-1	Perfluorononanoic acid	0.0037 U	0.08	0.0882	110	0.08	0.0915	114	4	70-130/30
335-76-2	Perfluorodecanoic acid	0.0037 U	0.08	0.0915	114	0.08	0.0947	118	3	70-130/30
2058-94-8	Perfluoroundecanoic acid	0.0037 U	0.08	0.0853	107	0.08	0.0867	108	2	70-130/30
307-55-1	Perfluorododecanoic acid	0.0037 U	0.08	0.0766	96	0.08	0.0797	100	4	70-130/30
72629-94-8	Perfluorotridecanoic acid	0.0037 U	0.08	0.0820	103	0.08	0.0840	105	2	70-130/30
376-06-7	Perfluorotetradecanoic acid	0.0037 U	0.08	0.0736	92	0.08	0.0741	93	1	70-130/30
375-73-5	Perfluorobutanesulfonic acid	0.0037 U	0.08	0.0977	122	0.08	0.100	125	2	70-130/30
355-46-4	Perfluorohexanesulfonic acid	0.0037 U	0.08	0.0940	118	0.08	0.0960	120	2	70-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U	0.08	0.0835	104	0.08	0.0821	103	2	70-130/30
2355-31-9	MeFOSAA	0.0074 U	0.08	0.0837	105	0.08	0.0857	107	2	70-130/30
2991-50-6	EtFOSAA	0.0074 U	0.08	0.0794	99	0.08	0.0858	107	8	70-130/30
13252-13-6	HFPO-DA (GenX)	0.019 U	0.4	0.359	90	0.4	0.365	91	2	70-130/30
919005-14-4	ADONA	0.0074 U	0.08	0.0741	93	0.08	0.0745	93	1	70-130/30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U	0.08	0.0634	79	0.08	0.0633	79	0	70-130/30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	0.0074 U	0.08	0.0615	77	0.08	0.0607	76	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	FA68306-8	Limits
	13C2-PFHxA	126%	121%	123%	70-130%
	13C2-PFDA	108%	102%	110%	70-130%
	d5-EtFOSAA	88%	85%	84%	70-130%
	13C3-HFPO-DA	94%	92%	94%	70-130%

\* = Outside of Control Limits.

# Internal Standard Area Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Check Std:	SQ1446-CC1441	Injection Date:	09/26/19
Lab File ID:	Q64253.D	Injection Time:	14:16
Instrument ID:	GCMSQ	Method:	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>	43364	4.17	24549	7.25	144331	7.27	31928	7.79	11144	8.20	175979	9.02
Check Std <sup>b</sup>	44222	4.12	26919	7.24	141042	7.24	30517	7.76	12224	8.19	182919	8.99
Upper Limit <sup>c</sup>	61911	5.12	37687	8.24	197459	8.24	42724	8.76	17114	9.19	256087	9.99
Lower Limit <sup>d</sup>	30955	3.12	18843	6.24	98729	6.24	21362	6.76	8557	7.19	128043	7.99

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
OP77002-BS	41848	4.13	24534	7.24	138540	7.25	28930	7.78	11950	8.19	161882	9.01
OP77002-MB	40264	4.13	22244	7.24	134343	7.25	28112	7.78	11843	8.19	159236	9.01
FA68306-1	45895	4.12	25381	7.24	153634	7.25	32345	7.78	13064	8.19	168516	9.01
FA68306-2	42210	4.11	25015	7.24	149328	7.25	32117	7.78	13743	8.19	181436	9.01
FA68306-3	41210	4.12	22520	7.24	138087	7.25	28726	7.78	12296	8.19	165997	9.01
FA68306-4	43428	4.12	24192	7.24	146820	7.25	30254	7.78	13188	8.19	175158	8.99
FA68306-5	45099	4.13	25913	7.24	156381	7.25	31436	7.78	13972	8.19	186227	9.01
FA68306-6	44551	4.13	24950	7.24	153562	7.25	30927	7.78	13540	8.19	182182	9.01
FA68306-7	41160	4.13	23138	7.24	141988	7.25	29178	7.78	13386	8.19	172019	9.01

- 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: SQ1441-ICC1441 Q64007.D 09/23/19 10:35. 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: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Check Std:	SQ1446-CC1441	Injection Date:	09/26/19
Lab File ID:	Q64264.D	Injection Time:	19:23
Instrument ID:	GCMSQ	Method:	EPA 537.1 REV 1.0

	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6						
	AREA	RT	AREA	RT	AREA	RT						
Initial Cal <sup>a</sup>	43364	4.17	24549	7.25	144331	7.27	31928	7.79	11144	8.20	175979	9.02
Check Std <sup>b</sup>	51378	4.13	28510	7.25	159643	7.27	32602	7.79	15932	8.19	190014	9.02
Upper Limit <sup>c</sup>	71929	5.13	39914	8.25	223500	8.27	45643	8.79	22305	9.19	266020	10.02
Lower Limit <sup>d</sup>	35965	3.13	19957	6.25	111750	6.27	22821	6.79	11152	7.19	133010	8.02

Lab Sample ID	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6						
	AREA	RT	AREA	RT	AREA	RT						
FA68306-8	44155	4.12	23853	7.24	141461	7.24	30052	7.76	13481	8.19	175071	8.99
OP77002-MS	42977	4.12	24101	7.24	135106	7.25	28950	7.78	12013	8.19	166812	8.99
OP77002-MSD	44704	4.12	24862	7.24	140478	7.25	30224	7.78	12506	8.19	169248	9.01
FA68306-9	39897	4.12	21026	7.24	130454	7.25	27300	7.78	11326	8.19	151363	9.01
FA68306-10	40103	4.11	22647	7.24	137241	7.25	30001	7.78	12396	8.19	169289	9.01
FA68306-11	39034	4.11	22194	7.24	134552	7.25	28687	7.78	12284	8.19	164111	8.99
SQ1446-ECC1441	43875	4.12	26044	7.24	137639	7.25	29054	7.78	12394	8.19	171770	9.01

- 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: SQ1441-ICC1441 Q64007.D 09/23/19 10:35. 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

# Surrogate Recovery Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Method: EPA 537.1 REV 1.0	Matrix: 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
FA68306-1	Q64257.D	114	96	80	98
FA68306-2	Q64258.D	115	103	79	101
FA68306-3	Q64259.D	121	105	86	105
FA68306-4	Q64260.D	121	102	83	103
FA68306-5	Q64261.D	120	100	83	100
FA68306-6	Q64262.D	117	98	84	97
FA68306-7	Q64263.D	120	102	79	99
FA68306-8	Q64266.D	123	110	84	94
FA68306-9	Q64269.D	121	103	85	94
FA68306-10	Q64270.D	118	104	85	91
FA68306-11	Q64271.D	114	101	80	87
OP77002-BS	Q64255.D	123	108	88	106
OP77002-MB	Q64256.D	125	103	85	110
OP77002-MS	Q64267.D	126	108	88	94
OP77002-MSD	Q64268.D	121	102	85	92

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%

6.5.1  
6

# Initial Calibration Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICC1441  
 Lab FileID: Q64007.D

## Initial Calibration Report

Method Path D:\MassHunter\data\methods  
 Method File 537\_092319\_SQ1441\_quantmethod.xml  
 Batch Name D:\MassHunter\Data\0923\_537\_SQ1441\_QuantResults\SQ1441\_batch.bin  
 Last Calib Update 9/23/2019 2:04:47 PM

### Calibration Files

Level Name  
 1 D:\MassHunter\Data\0923\_537\_SQ1441\Q64002.d  
 2 D:\MassHunter\Data\0923\_537\_SQ1441\Q64003.d  
 3 D:\MassHunter\Data\0923\_537\_SQ1441\Q64004.d  
 4 D:\MassHunter\Data\0923\_537\_SQ1441\Q64005.d  
 5 D:\MassHunter\Data\0923\_537\_SQ1441\Q64006.d  
 6 D:\MassHunter\Data\0923\_537\_SQ1441\Q64007.d  
 7 D:\MassHunter\Data\0923\_537\_SQ1441\Q64008.d  
 8 D:\MassHunter\Data\0923\_537\_SQ1441\Q64009.d

Acq. Date-Time  
 9/23/2019 9:19:08 AM  
 9/23/2019 9:34:29 AM  
 9/23/2019 9:49:50 AM  
 9/23/2019 10:05:12 AM  
 9/23/2019 10:20:34 AM  
 9/23/2019 10:35:55 AM  
 9/23/2019 10:51:19 AM  
 9/23/2019 11:06:41 AM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD	Level Last Update Time
I 13C2-62FTS	Linear	1.1444	1.0643	1.0396	0.9967	0.9859	0.9827	0.9741	0.9526	1.0175	6.163	9/23/2019 2:04:47 PM
T 4:2FTS	Quadratic	1.0852	0.9369	0.9539	0.9260	0.9203	0.9007	0.8679	0.8004	0.9239	8.776	9/23/2019 2:04:47 PM
T 6:2FTS	Quadratic	0.7937	0.6449	0.7146	0.7435	0.7466	0.6991	0.6650	0.6106	0.7022	8.556	9/23/2019 2:04:47 PM
T 8:2FTS	Quadratic	0.7937	0.6449	0.7146	0.7435	0.7466	0.6991	0.6650	0.6106	0.7022	8.556	9/23/2019 2:04:47 PM
I 13C2-PFDoDA	Linear	0.6943	0.6491	0.6334	0.6393	0.6533	0.6413	0.6546	0.6574	0.6528	2.870	9/23/2019 2:04:47 PM
T PFUnDA	Linear	0.9050	0.8654	0.8507	0.8475	0.8629	0.8558	0.8833	0.9035	0.8718	2.621	9/23/2019 2:04:47 PM
T PFDoDA	Linear	1.1657	1.0047	1.0171	1.0125	1.0812	1.0399	1.1052	1.1366	1.0704	5.719	9/23/2019 2:04:47 PM
T PFTfDA	Quadratic	1.1657	1.0047	1.0171	1.0125	1.0812	1.0399	1.1052	1.1366	1.0704	5.719	9/23/2019 2:04:47 PM
T PFTeDA	Quadratic	1.0901	0.9812	0.9352	0.9900	1.0209	1.0341	1.0883	1.1305	1.0338	6.339	9/23/2019 2:04:47 PM
I 13C2-PFOA	Quadratic	0.2573	0.2398	0.2323	0.2303	0.2394	0.2399	0.2637	0.2957	0.2498	8.758	9/23/2019 2:04:47 PM
T PFBA	Linear	0.5502	0.4981	0.4924	0.4773	0.5050	0.4945	0.5214	0.5578	0.5121	5.608	9/23/2019 2:04:47 PM
S 13C2-PFHXA	Quadratic	0.4965	0.4573	0.4437	0.4422	0.4557	0.4513	0.4751	0.5032	0.4656	5.043	9/23/2019 2:04:47 PM
T PFHXA	Quadratic	0.0739	0.0656	0.0620	0.0592	0.0607	0.0569	0.0531	0.0498	0.0602	12.403	9/23/2019 2:04:47 PM
S 13C3-HFO-DA	Quadratic	1.063	0.0947	0.0948	0.0911	0.0935	0.0854	0.0809	0.0758	0.0903	10.516	9/23/2019 2:04:47 PM
T HFO-DA	Quadratic	0.7884	0.7112	0.6926	0.6876	0.7234	0.7142	0.7586	0.8139	0.7362	6.250	9/23/2019 2:04:47 PM
T PFHpA	Quadratic	0.8514	0.7814	0.7569	0.7617	0.7921	0.7828	0.8356	0.8982	0.8075	6.127	9/23/2019 2:04:47 PM
T ADONA	Quadratic	1.0408	0.9247	0.8920	0.8656	0.8870	0.8682	0.8926	0.9261	0.9121	6.204	9/23/2019 2:04:47 PM
T PFOA	Linear	0.7582	0.6708	0.6823	0.6687	0.6859	0.6770	0.7029	0.7256	0.6964	4.482	9/23/2019 2:04:47 PM
T PFNA	Linear	0.1612	0.1539	0.1440	0.1383	0.1432	0.1397	0.1497	0.1574	0.1484	5.691	9/23/2019 2:04:47 PM
T 9C-PF3ONS	Linear	0.7351	0.7747	0.7751	0.7414	0.7550	0.7473	0.7487	0.7525	0.7537	1.921	9/23/2019 2:04:47 PM
S 13C2-PFDA	Linear	0.7896	0.7887	0.8035	0.7726	0.7859	0.7728	0.7671	0.7777	0.7822	1.525	9/23/2019 2:04:47 PM
T PFDA	Linear	0.7896	0.7887	0.8035	0.7726	0.7859	0.7728	0.7671	0.7777	0.7822	1.525	9/23/2019 2:04:47 PM
T 11C-PF3OUs	Quadratic	0.4918	0.4451	0.4468	0.4455	0.4680	0.4712	0.5072	0.5423	0.4773	7.272	9/23/2019 2:04:47 PM
I 13C3-PFPeA	Quadratic	0.9195	0.8413	0.8245	0.8185	0.8291	0.8059	0.8338	0.8815	0.8443	4.459	9/23/2019 2:04:47 PM
T PFPeA	Linear	0.2942	0.2997	0.2912	0.2771	0.2860	0.2698	0.2784	0.2815	0.2847	3.492	9/23/2019 2:04:47 PM

# Initial Calibration Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICC1441  
 Lab FileID: Q64007.D

## Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I 13C4-PFOS											
T PFBS	Quadratic	0.6040	0.5532	0.5495	0.5458	0.5466	0.5496	0.5933	0.6362	0.5723	6.015
T PFHxS	Quadratic	0.5958	0.5861	0.5900	0.5748	0.5574	0.5718	0.6096	0.6311	0.5896	3.925
T PFHpS	Linear	0.6606	0.6054	0.5752	0.5568	0.5704	0.5503	0.5762	0.5630	0.5822	6.136
T PFOS	Linear	1.0711	1.0584	1.0774	1.0673	1.0557	1.0303	1.0911	1.1151	1.0708	2.354
T PONS	Linear	0.7237	0.5738	0.7016	0.6249	0.6283	0.6188	0.6205	0.6063	0.6372	7.839
T PFDS	Linear	0.2870	0.2544	0.2614	0.2718	0.2731	0.2633	0.2805	0.2783	0.2712	4.023
I d3-MeFOSAA											
T FOSA	Linear	2.8395	2.4866	2.3472	2.2063	2.3628	2.3447	2.3514	2.3199	2.4073	7.910
T MeFOSAA	Linear	1.0755	1.0179	0.9611	0.9018	0.9786	0.9937	1.0235	1.0226	0.9968	5.180
S d5-EFOSAA	Quadratic	0.9581	1.1160	0.9069	0.8690	0.9250	0.9771	1.0306	1.1479	0.9913	10.045
T EtFOSAA	Quadratic	0.9345	0.9951	0.9087	0.7962	0.8879	0.9323	1.0064	1.1101	0.9464	9.823

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

# Initial Calibration Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICC1441  
 Lab FileID: Q64007.D

## Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T PFBA	Quadratic	$y = 0.013108 * x^2 + 0.230249 * x$	0.999990
T PFPEA	Quadratic	$y = 0.018161 * x^2 + 0.790421 * x$	0.999981
T PFBS	Quadratic	$y = 0.018717 * x^2 + 0.542959 * x$	0.999973
T 4:2FTS	Linear	$y = 0.958020 * x$	0.999828
S 13C2-PFHxA	Linear	$y = 0.548284 * x$	0.998416
T PFHxA	Quadratic	$y = 0.011703 * x^2 + 0.444825 * x$	0.999992
T PFPEs	Linear	$y = 0.280544 * x$	0.999896
S 13C3-HFO-DA	Quadratic	$y = -3.964190E-004 * x^2 + 0.059389 * x$	0.999302
T HFO-DA	Quadratic	$y = -5.933329E-004 * x^2 + 0.090119 * x$	0.999341
T PFHpA	Quadratic	$y = 0.022854 * x^2 + 0.699826 * x$	0.999989
T PFHs	Quadratic	$y = 0.011126 * x^2 + 0.576055 * x$	0.999930
T ADONA	Quadratic	$y = 0.026062 * x^2 + 0.768073 * x$	0.999988
T 6:2FTS	Quadratic	$y = -0.026425 * x^2 + 0.932683 * x$	0.999996
T PFOA	Quadratic	$y = 0.013194 * x^2 + 0.860053 * x$	0.999991
T PFHpS	Linear	$y = 0.565164 * x$	0.999836
T PFOS	Linear	$y = 1.107313 * x$	0.999630
T FOSA	Linear	$y = 2.326821 * x$	0.999941
T PFNA	Linear	$y = 0.719302 * x$	0.999584
T 9Cl-PF3ONS	Quadratic	$y = 0.003502 * x^2 + 0.140020 * x$	0.999960
T MeFOSAA	Linear	$y = 1.021292 * x$	0.999902
T PFNS	Linear	$y = 0.609613 * x$	0.999835
S 13C2-PFDA	Linear	$y = 0.751607 * x$	0.999991
T PFDA	Linear	$y = 0.775542 * x$	0.999954
T 8:2FTS	Quadratic	$y = -0.022789 * x^2 + 0.724242 * x$	0.999953
S d5-ETFOSAA	Quadratic	$y = 0.046224 * x^2 + 0.916645 * x$	0.999979
T ETFOSAA	Quadratic	$y = 0.043600 * x^2 + 0.892585 * x$	0.999959
T PFDS	Linear	$y = 0.278241 * x$	0.999839
T PFUNDA	Linear	$y = 0.656314 * x$	0.999967
T 11Cl-PF3OUds	Quadratic	$y = 0.015487 * x^2 + 0.465204 * x$	0.999967
T PFDoDA	Linear	$y = 0.897733 * x$	0.999750
T PFTfDA	Quadratic	$y = 0.016172 * x^2 + 1.056488 * x$	0.999937
T PFTeDA	Quadratic	$y = 0.019991 * x^2 + 1.031257 * x$	0.999965

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



# Initial Calibration Verification

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICV1441  
 Lab FileID: Q64011.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\0923\_537\_SQ1441\SQ1441.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\0923\_537\_SQ1441\Q64002.d  
 2:D:\MassHunter\Data\0923\_537\_SQ1441\Q64003.d  
 3:D:\MassHunter\Data\0923\_537\_SQ1441\Q64004.d  
 4:D:\MassHunter\Data\0923\_537\_SQ1441\Q64005.d  
 5:D:\MassHunter\Data\0923\_537\_SQ1441\Q64006.d  
 6:D:\MassHunter\Data\0923\_537\_SQ1441\Q64007.d  
 7:D:\MassHunter\Data\0923\_537\_SQ1441\Q64008.d  
 8:D:\MassHunter\Data\0923\_537\_SQ1441\Q64009.d

Data File: Q64011  
 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	19.035	-4.8	95.2
6:2FTS	20.000	19.097	-4.5	95.5
8:2FTS	20.000	18.645	-6.8	93.2
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	# -100.0	0.0
EtFOSAA	20.000	19.896	-0.5	99.5
FOSA	20.000	20.576	2.9	102.9
MeFOSAA	20.000	19.615	-1.9	98.1
PFBA	20.000	19.943	-0.3	99.7
PFBS	20.000	17.457	-12.7	87.3
PFDA	20.000	18.642	-6.8	93.2
PFDoDA	20.000	19.651	-1.7	98.3
PFDS	20.000	18.814	-5.9	94.1
PFHpA	20.000	20.531	2.7	102.7
PFHpS	20.000	19.060	-4.7	95.3
PFHxA	20.000	18.347	-8.3	91.7
PFHxS	20.000	17.629	-11.9	88.1
PFNA	20.000	17.345	-13.3	86.7
PFNS	20.000	19.919	-0.4	99.6
PFOA	20.000	19.458	-2.7	97.3
PFOS	20.000	19.406	-3.0	97.0
PFPeA	20.000	19.526	-2.4	97.6
PFPeS	20.000	17.776	-11.1	88.9
PFTeDA	20.000	18.159	-9.2	90.8
PFTTrDA	20.000	22.643	13.2	113.2
PFUnDA	20.000	20.444	2.2	102.2
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: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICV1441  
Lab FileID: Q64011.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: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICV1441  
Lab FileID: Q64012.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\0923\_537\_SQ1441\SQ1441.batch.bin

Level ID: Calibration File  
1:D:\MassHunter\Data\0923\_537\_SQ1441\Q64002.d  
2:D:\MassHunter\Data\0923\_537\_SQ1441\Q64003.d  
3:D:\MassHunter\Data\0923\_537\_SQ1441\Q64004.d  
4:D:\MassHunter\Data\0923\_537\_SQ1441\Q64005.d  
5:D:\MassHunter\Data\0923\_537\_SQ1441\Q64006.d  
6:D:\MassHunter\Data\0923\_537\_SQ1441\Q64007.d  
7:D:\MassHunter\Data\0923\_537\_SQ1441\Q64008.d  
8:D:\MassHunter\Data\0923\_537\_SQ1441\Q64009.d

Data File: Q64012  
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	16.667	-16.7	83.3
FOSA	20.000	0.000	# -100.0	0.0
MeFOSAA	20.000	16.371	-18.1	81.9
PFBA	20.000	0.000	# -100.0	0.0
PFBS	20.000	18.884	-5.6	94.4
PFDA	20.000	19.159	-4.2	95.8
PFDoDA	20.000	18.288	-8.6	91.4
PFDS	20.000	0.000	# -100.0	0.0
PFHpA	20.000	18.665	-6.7	93.3
PFHpS	20.000	0.000	# -100.0	0.0
PFHxA	20.000	18.716	-6.4	93.6
PFHxS	20.000	18.574	-7.1	92.9
PFNA	20.000	18.651	-6.7	93.3
PFNS	20.000	0.000	# -100.0	0.0
PFOA	20.000	19.162	-4.2	95.8
PFOS	20.000	16.963	-15.2	84.8
PFPeA	20.000	0.000	# -100.0	0.0
PFPeS	20.000	0.000	# -100.0	0.0
PFTeDA	20.000	19.320	-3.4	96.6
PFTTrDA	20.000	20.175	0.9	100.9
PFUnDA	20.000	19.804	-1.0	99.0
ADONA	20.000	19.970	-0.2	99.8
9Cl-PF3ONS	20.000	20.062	0.3	100.3
11Cl-PF3OUdS	20.000	20.218	1.1	101.1
13C3-HFPO-DA	100.000	0.000	# -100.0	0.0

# Initial Calibration Verification

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1441-ICV1441  
Lab FileID: Q64012.D

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HFPO-DA	20.000	20.952	4.8	104.8
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CC Criteria: +/- 30%

# Continuing Calibration Summary

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1446-CC1441  
Lab FileID: Q64253.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\0926\_537\_SQ1446\SQ1446.batch.bin

Level ID: Calibration File  
1:D:\MassHunter\Data\0923\_537\_SQ1441\Q64002.d  
2:D:\MassHunter\Data\0923\_537\_SQ1441\Q64003.d  
3:D:\MassHunter\Data\0923\_537\_SQ1441\Q64004.d  
4:D:\MassHunter\Data\0923\_537\_SQ1441\Q64005.d  
5:D:\MassHunter\Data\0923\_537\_SQ1441\Q64006.d  
6:D:\MassHunter\Data\0923\_537\_SQ1441\Q64007.d  
7:D:\MassHunter\Data\0923\_537\_SQ1441\Q64008.d  
8:D:\MassHunter\Data\0923\_537\_SQ1441\Q64009.d

Data File: Q64253  
Type : CC  
Level : 7

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	50.000	48.921	-2.2	97.8
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	50.000	52.335	4.7	104.7
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	50.000	50.217	0.4	100.4
6:2FTS	50.000	49.020	-2.0	98.0
8:2FTS	50.000	47.039	-5.9	94.1
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	50.000	44.500	-11.0	89.0
EtFOSAA	50.000	49.872	-0.3	99.7
FOSA	50.000	56.027	12.1	112.1
MeFOSAA	50.000	49.545	-0.9	99.1
PFBA	50.000	50.074	0.1	100.1
PFBS	50.000	50.938	1.9	101.9
PFDA	50.000	51.664	3.3	103.3
PFDoDA	50.000	48.658	-2.7	97.3
PFDS	50.000	50.173	0.3	100.3
PFHpA	50.000	48.478	-3.0	97.0
PFHpS	50.000	50.758	1.5	101.5
PFHxA	50.000	52.435	4.9	104.9
PFHxS	50.000	51.131	2.3	102.3
PFNA	50.000	48.671	-2.7	97.3
PFNS	50.000	54.449	8.9	108.9
PFOA	50.000	51.047	2.1	102.1
PFOS	50.000	48.806	-2.4	97.6
PFPeA	50.000	49.174	-1.7	98.3
PFPeS	50.000	52.668	5.3	105.3
PFTeDA	50.000	48.823	-2.4	97.6
PFTTrDA	50.000	52.280	4.6	104.6
PFUnDA	50.000	48.456	-3.1	96.9
ADONA	50.000	48.607	-2.8	97.2
9Cl-PF3ONS	50.000	46.388	-7.2	92.8
11Cl-PF3OUdS	50.000	49.052	-1.9	98.1
13C3-HFPO-DA	250.000	224.938	-10.0	90.0

# Continuing Calibration Summary

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1446-CC1441  
Lab FileID: Q64253.D

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HFPO-DA	250.000	243.352	-2.7	97.3
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CC Criteria: +/- 30%

# Continuing Calibration Summary

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Sample: SQ1446-CC1441  
 Lab FileID: Q64264.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\0926\_537\_SQ1446\SQ1446.batch.bin

Level ID: Calibration File  
 1:D:\MassHunter\Data\0923\_537\_SQ1441\Q64002.d  
 2:D:\MassHunter\Data\0923\_537\_SQ1441\Q64003.d  
 3:D:\MassHunter\Data\0923\_537\_SQ1441\Q64004.d  
 4:D:\MassHunter\Data\0923\_537\_SQ1441\Q64005.d  
 5:D:\MassHunter\Data\0923\_537\_SQ1441\Q64006.d  
 6:D:\MassHunter\Data\0923\_537\_SQ1441\Q64007.d  
 7:D:\MassHunter\Data\0923\_537\_SQ1441\Q64008.d  
 8:D:\MassHunter\Data\0923\_537\_SQ1441\Q64009.d

Data File: Q64264  
 Type : CC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	19.924	-0.4	99.6
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	20.991	5.0	105.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	21.158	5.8	105.8
6:2FTS	20.000	19.863	-0.7	99.3
8:2FTS	20.000	19.931	-0.3	99.7
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	16.420	-17.9	82.1
EtFOSAA	20.000	19.440	-2.8	97.2
FOSA	20.000	18.951	-5.2	94.8
MeFOSAA	20.000	18.379	-8.1	91.9
PFBA	20.000	20.758	3.8	103.8
PFBS	20.000	23.264	16.3	116.3
PFDA	20.000	21.054	5.3	105.3
PFDoDA	20.000	18.696	-6.5	93.5
PFDS	20.000	18.039	-9.8	90.2
PFHpA	20.000	19.731	-1.3	98.7
PFHpS	20.000	19.996	0.0	100.0
PFHxA	20.000	20.998	5.0	105.0
PFHxS	20.000	20.893	4.5	104.5
PFNA	20.000	19.437	-2.8	97.2
PFNS	20.000	20.567	2.8	102.8
PFOA	20.000	19.684	-1.6	98.4
PFOS	20.000	18.567	-7.2	92.8
PFPeA	20.000	19.994	0.0	100.0
PFPeS	20.000	19.088	-4.6	95.4
PFTeDA	20.000	15.905	-20.5	79.5
PFTTrDA	20.000	17.858	-10.7	89.3
PFUnDA	20.000	19.330	-3.4	96.6
ADONA	20.000	19.326	-3.4	96.6
9Cl-PF3ONS	20.000	17.999	-10.0	90.0
11Cl-PF3OUdS	20.000	17.689	-11.6	88.4
13C3-HFPO-DA	100.000	77.526	-22.5	77.5

# Continuing Calibration Summary

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1446-CC1441  
Lab FileID: Q64264.D

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HFPO-DA	100.000	82.649	-17.4	82.6
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CC Criteria: +/- 30%



# Continuing Calibration Summary

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1446-ECC1441  
Lab FileID: Q64272.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\0926\_537\_SQ1446\SQ1446.batch.bin

### Level ID: Calibration File

- 1:D:\MassHunter\Data\0923\_537\_SQ1441\Q64002.d
- 2:D:\MassHunter\Data\0923\_537\_SQ1441\Q64003.d
- 3:D:\MassHunter\Data\0923\_537\_SQ1441\Q64004.d
- 4:D:\MassHunter\Data\0923\_537\_SQ1441\Q64005.d
- 5:D:\MassHunter\Data\0923\_537\_SQ1441\Q64006.d
- 6:D:\MassHunter\Data\0923\_537\_SQ1441\Q64007.d
- 7:D:\MassHunter\Data\0923\_537\_SQ1441\Q64008.d
- 8:D:\MassHunter\Data\0923\_537\_SQ1441\Q64009.d

Data File: Q64272  
Type : CC  
Level : 7

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	50.000	48.411	-3.2	96.8
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	50.000	52.460	4.9	104.9
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	50.000	51.060	2.1	102.1
6:2FTS	50.000	49.328	-1.3	98.7
8:2FTS	50.000	46.804	-6.4	93.6
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	50.000	43.120	-13.8	86.2
EtFOSAA	50.000	47.853	-4.3	95.7
FOSA	50.000	53.174	6.3	106.3
MeFOSAA	50.000	46.805	-6.4	93.6
PFBA	50.000	50.501	1.0	101.0
PFBS	50.000	53.676	7.4	107.4
PFDA	50.000	51.296	2.6	102.6
PFDoDA	50.000	49.059	-1.9	98.1
PFDS	50.000	49.659	-0.7	99.3
PFHpA	50.000	49.252	-1.5	98.5
PFHpS	50.000	52.345	4.7	104.7
PFHxA	50.000	53.002	6.0	106.0
PFHxS	50.000	51.677	3.4	103.4
PFNA	50.000	48.707	-2.6	97.4
PFNS	50.000	55.445	10.9	110.9
PFOA	50.000	50.377	0.8	100.8
PFOS	50.000	48.576	-2.8	97.2
PFPeA	50.000	49.105	-1.8	98.2
PFPeS	50.000	51.145	2.3	102.3
PFTeDA	50.000	49.287	-1.4	98.6
PFTTrDA	50.000	52.232	4.5	104.5
PFUnDA	50.000	49.033	-1.9	98.1
ADONA	50.000	48.504	-3.0	97.0
9Cl-PF3ONS	50.000	46.861	-6.3	93.7
11Cl-PF3OUdS	50.000	47.668	-4.7	95.3
13C3-HFPO-DA	250.000	195.393	-21.8	78.2

# Continuing Calibration Summary

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Sample: SQ1446-ECC1441  
Lab FileID: Q64272.D

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HFPO-DA	250.000	203.653	-18.5	81.5
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CC Criteria: +/- 30%

# Run Sequence Report

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Run ID: SQ1441	Method: EPA 537.1 REV 1.0	Instrument ID: GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1441-IC1441	Q64001.D	09/23/19 09:03	n/a	Mass Calibration Verification
SQ1441-IC1441	Q64002.D	09/23/19 09:19	n/a	Initial cal 0.5
SQ1441-IC1441	Q64003.D	09/23/19 09:34	n/a	Initial cal 1.0
SQ1441-IC1441	Q64004.D	09/23/19 09:49	n/a	Initial cal 2.0
SQ1441-IC1441	Q64005.D	09/23/19 10:05	n/a	Initial cal 5.0
SQ1441-IC1441	Q64006.D	09/23/19 10:20	n/a	Initial cal 10
SQ1441-ICC1441	Q64007.D	09/23/19 10:35	n/a	Initial cal 20
SQ1441-IC1441	Q64008.D	09/23/19 10:51	n/a	Initial cal 50
SQ1441-IC1441	Q64009.D	09/23/19 11:06	n/a	Initial cal 100
SQ1441-ICV1441	Q64011.D	09/23/19 11:37	n/a	Initial cal verification 20
SQ1441-ICV1441	Q64012.D	09/23/19 11:52	n/a	Initial cal verification 20
OP76938-BS	Q64013.D	09/23/19 12:26	OP76938	Blank Spike
ZZZZZZ	Q64014.D	09/23/19 12:43	OP76938	(unrelated sample)
SQ1441-CC1441	Q64016.D	09/23/19 13:16	n/a	Continuing cal 20
OP76943-BS	Q64018.D	09/23/19 13:48	OP76943	Blank Spike
OP76943-MB	Q64019.D	09/23/19 14:03	OP76943	Method Blank
ZZZZZZ	Q64020.D	09/23/19 14:19	OP76943	(unrelated sample)
ZZZZZZ	Q64021.D	09/23/19 14:34	OP76943	(unrelated sample)
FA68226-3	Q64022.D	09/23/19 14:50	OP76943	(used for QC only; not part of job FA68306)
OP76943-MS	Q64023.D	09/23/19 15:05	OP76943	Matrix Spike
ZZZZZZ	Q64024.D	09/23/19 15:20	OP76943	(unrelated sample)
ZZZZZZ	Q64025.D	09/23/19 15:36	OP76943	(unrelated sample)
FA68226-6	Q64026.D	09/23/19 15:51	OP76943	(used for QC only; not part of job FA68306)
OP76943-DUP	Q64027.D	09/23/19 16:06	OP76943	Duplicate
SQ1441-CC1441	Q64028.D	09/23/19 16:22	n/a	Continuing cal 1.0
ZZZZZZ	Q64030.D	09/23/19 16:53	OP76943	(unrelated sample)
ZZZZZZ	Q64031.D	09/23/19 17:08	OP76943	(unrelated sample)
OP76933-BS	Q64032.D	09/23/19 17:23	OP76933	Blank Spike
OP76933-MB	Q64033.D	09/23/19 17:39	OP76933	Method Blank
FA68187-1	Q64034.D	09/23/19 17:54	OP76933	(used for QC only; not part of job FA68306)
OP76933-MS	Q64035.D	09/23/19 18:09	OP76933	Matrix Spike
OP76933-MSD	Q64036.D	09/23/19 18:25	OP76933	Matrix Spike Duplicate
ZZZZZZ	Q64037.D	09/23/19 18:40	OP76933	(unrelated sample)
ZZZZZZ	Q64038.D	09/23/19 18:56	OP76933	(unrelated sample)
ZZZZZZ	Q64039.D	09/23/19 19:11	OP76933	(unrelated sample)
SQ1441-CC1441	Q64040.D	09/23/19 19:26	n/a	Continuing cal 50
ZZZZZZ	Q64042.D	09/23/19 19:57	OP76933	(unrelated sample)
ZZZZZZ	Q64043.D	09/23/19 20:12	OP76933	(unrelated sample)
ZZZZZZ	Q64044.D	09/23/19 20:28	OP76933	(unrelated sample)
ZZZZZZ	Q64045.D	09/23/19 20:43	OP76933	(unrelated sample)
ZZZZZZ	Q64046.D	09/23/19 20:59	OP76933	(unrelated sample)
SQ1441-CC1441	Q64047.D	09/23/19 21:14	n/a	Continuing cal 20
ZZZZZZ	Q64051.D	09/23/19 22:15	OP76937	(unrelated sample)
ZZZZZZ	Q64053.D	09/23/19 22:46	OP76937	(unrelated sample)
ZZZZZZ	Q64055.D	09/23/19 23:17	OP76914	(unrelated sample)
ZZZZZZ	Q64056.D	09/23/19 23:32	OP76914	(unrelated sample)

# Run Sequence Report

Job Number: FA68306  
Account: ITVAVAB APTIM  
Project: TCWTS; Coupeville, WA

Run ID: SQ1441	Method: EPA 537.1 REV 1.0	Instrument ID: GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1441-ECC1441	Q64057.D	09/23/19 23:48	n/a	Ending cal 20

6.7.1

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# Run Sequence Report

Job Number: FA68306  
 Account: ITVAVAB APTIM  
 Project: TCWTS; Coupeville, WA

Run ID: SQ1446	Method: EPA 537.1 REV 1.0	Instrument ID: GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1446-CC1441	Q64243.D	09/26/19 11:36	n/a	Continuing cal 1
SQ1446-CC1441	Q64244.D	09/26/19 11:51	n/a	Continuing cal 20
ZZZZZZ	Q64246.D	09/26/19 12:29	OP76965	(unrelated sample)
ZZZZZZ	Q64247.D	09/26/19 12:44	OP76965	(unrelated sample)
ZZZZZZ	Q64249.D	09/26/19 13:14	OP76965	(unrelated sample)
FA68229-1	Q64251.D	09/26/19 13:45	OP76965	(used for QC only; not part of job FA68306)
SQ1446-CC1441	Q64253.D	09/26/19 14:16	n/a	Continuing cal 50
OP77002-BS	Q64255.D	09/26/19 14:46	OP77002	Blank Spike
OP77002-MB	Q64256.D	09/26/19 15:02	OP77002	Method Blank
FA68306-1	Q64257.D	09/26/19 15:17	OP77002	WI-CV-FCWTP-FB-01-092319
FA68306-2	Q64258.D	09/26/19 15:32	OP77002	WI-CV-FCWTP-INF200-092319
FA68306-3	Q64259.D	09/26/19 15:48	OP77002	WI-CV-FCWTP-FB-02-092319
FA68306-4	Q64260.D	09/26/19 16:03	OP77002	WI-CV-FCWTP-MP205-092319
FA68306-5	Q64261.D	09/26/19 16:19	OP77002	WI-CV-FCWTP-FB-03-092319
FA68306-6	Q64262.D	09/26/19 16:34	OP77002	WI-CV-FCWTP-EF209-092319
FA68306-7	Q64263.D	09/26/19 16:49	OP77002	WI-CV-FCWTP-FB-04-092319
SQ1446-CC1441	Q64264.D	09/26/19 19:23	n/a	Continuing cal 20
FA68306-8	Q64266.D	09/26/19 19:54	OP77002	WI-CV-FCWTP-EF002-082319
OP77002-MS	Q64267.D	09/26/19 20:09	OP77002	Matrix Spike
OP77002-MSD	Q64268.D	09/26/19 20:25	OP77002	Matrix Spike Duplicate
FA68306-9	Q64269.D	09/26/19 20:40	OP77002	WI-CV-FCWTP-FB-05-092319
FA68306-10	Q64270.D	09/26/19 20:55	OP77002	WI-CV-FCWTP-INF001-092319
FA68306-11	Q64271.D	09/26/19 21:11	OP77002	WI-CV-FCWTP-INF001P-092319
SQ1446-ECC1441	Q64272.D	09/26/19 21:26	n/a	Ending cal 50

6.7.2  
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