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Automated Report

Technical Report for

City of Cocoa Beach Water Reclamation

PFOS/PFOA Testing

SGS Job Number: FA55437

Sampling Dates: 06/27/18 - 06/28/18

Report to:

City of Cocoa Beach Water Reclamation
1600 Minutemen Causeway
Cocoa Beach, FL 32931
ckrick@cityofcocoabeach.com

ATTN: Christopher Krick

Total number of pages in report: 23



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

City of Cocoa Beach Water Reclamation

Job No: FA55437

PFOS/PFOA Testing

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA55437-1	06/27/18	10:23	CK	06/29/18	AQ Water	062718LPW/LPW
FA55437-2	06/27/18	11:48	CK	06/29/18	AQ Ground Water	062718MW-3/MW-3
FA55437-3	06/27/18	11:04	CK	06/29/18	AQ Ground Water	062718MW-4/MW-4
FA55437-4	06/27/18	13:02	CK	06/29/18	AQ Ground Water	062718PAFB/PAFB
FA55437-5	06/28/18	07:30	CK	06/29/18	AQ Water	062718F/EFF-1
FA55437-6	06/28/18	07:51	CK	06/29/18	AQ Water	062718F/INF-2

Summary of Hits

Job Number: FA55437
Account: City of Cocoa Beach Water Reclamation
Project: PFOS/PFOA Testing
Collected: 06/27/18 thru 06/28/18

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Lab Sample ID	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
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FA55437-1 062718LPW/LPW

No hits reported in this sample.

FA55437-2 062718MW-3/MW-3

Perfluorooctanoic acid	0.0313	0.0077	0.0019	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid	0.217	0.0077	0.0029	ug/l	EPA 537M BY ID

FA55437-3 062718MW-4/MW-4

Perfluorooctanoic acid	0.0286	0.0077	0.0019	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid	0.101	0.0077	0.0029	ug/l	EPA 537M BY ID

FA55437-4 062718PAFB/PAFB

Perfluorooctanoic acid	0.0191	0.0077	0.0019	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid	0.411	0.0077	0.0029	ug/l	EPA 537M BY ID

FA55437-5 062718F/EFF-1

Perfluorooctanoic acid	0.0234	0.0077	0.0019	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid	0.261	0.0077	0.0029	ug/l	EPA 537M BY ID

FA55437-6 062718F/INF-2

Perfluorooctanoic acid	0.0122	0.0077	0.0019	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid	0.165	0.0077	0.0029	ug/l	EPA 537M BY ID

Sample Results

Report of Analysis

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS Sample Receipt Summary

Job Number: FA55437

Client: CITY OF COCOA BEACH

Project: PFOS/PFOA TESTING

Date / Time Received: 6/29/2018 7:00:00 AM

Delivery Method: SGS

Airbill #'s: _____

Therm ID: IR 1;	Therm CF: 0.1;	# of Coolers: 1
Cooler Temps (Raw Measured) °C: Cooler 1: (2.5);		
Cooler Temps (Corrected) °C: Cooler 1: (2.6);		

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 type="checkbox"/>		<input checked="" 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"/>
	<u>W</u>	<u>or</u>	<u>S</u>	<u>N/A</u>
3. Type Of TB Received	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____
 Residual Chlorine Test Strip Lot #: _____

Comments SAMPLE #3 ID LABEL TIME READS 11:14.

SM001 Rev. Date 05/24/17 Technician: SHAYLAP Date: 6/29/2018 7:00:00 AM Reviewer: P,H Date: 6/29/2018

4.1
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MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70766-MB	2Q16774.D	1	07/08/18	NG	07/05/18	OP70766	S2Q292

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA55437-2, FA55437-3, FA55437-4, FA55437-5, FA55437-6

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0033	0.00083	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0033	0.0012	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	88% 30-140%
	13C5-PFPeA	92% 40-140%
	13C5-PFHxA	91% 50-150%
	13C4-PFHpA	89% 50-150%
	13C8-PFOA	92% 50-150%
	13C9-PFNA	91% 50-150%
	13C6-PFDA	97% 50-150%
	13C7-PFUnDA	78% 50-150%
	13C2-PFDoDA	69% 50-150%
	13C2-PFTeDA	68% 40-150%
	13C3-PFBS	89% 50-150%
	13C3-PFHxS	88% 50-150%
	13C8-PFOS	88% 50-150%
	13C8-FOSA	92% 30-140%
	d3-MeFOSAA	88% 50-150%
	13C2-6:2FTS	88% 50-150%
	13C2-8:2FTS	82% 50-150%

5.1.1
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Method Blank Summary

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70832-MB	2Q17123.D	1	07/14/18	NG	07/11/18	OP70832	S2Q296

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA55437-1

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0077	0.0019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0077	0.0029	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	79% 30-140%
	13C5-PFPeA	78% 40-140%
	13C5-PFHxA	80% 50-150%
	13C4-PFHpA	82% 50-150%
	13C8-PFOA	78% 50-150%
	13C9-PFNA	77% 50-150%
	13C6-PFDA	81% 50-150%
	13C7-PFUnDA	64% 50-150%
	13C2-PFDoDA	57% 50-150%
	13C2-PFTeDA	54% 40-150%
	13C3-PFBS	81% 50-150%
	13C3-PFHxS	77% 50-150%
	13C8-PFOS	76% 50-150%
	13C8-FOSA	79% 30-140%
	d3-MeFOSAA	73% 50-150%
	13C2-4:2FTS	76% 50-150%
	13C2-6:2FTS	74% 50-150%
	13C2-8:2FTS	73% 50-150%

5.1.2
5

Instrument Blank

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q292-IBLK	2Q16692.D	1	07/07/18	NG	n/a	n/a	S2Q292

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.1 B-15

FA55437-5

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0077	0.0019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.015	0.0038	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	93% 50-150%
	13C5-PFPeA	95% 50-150%
	13C5-PFHxA	96% 50-150%
	13C4-PFHpA	95% 50-150%
	13C8-PFOA	96% 50-150%
	13C9-PFNA	92% 50-150%
	13C6-PFDA	97% 50-150%
	13C7-PFUnDA	92% 50-150%
	13C2-PFDoDA	92% 50-150%
	13C2-PFTeDA	92% 50-150%
	13C3-PFBS	94% 50-150%
	13C3-PFHxS	95% 50-150%
	13C8-PFOS	97% 50-150%
	13C8-FOSA	98% 50-150%
	d3-MeFOSAA	93% 50-150%
	13C2-4:2FTS	87% 50-150%
	13C2-6:2FTS	90% 50-150%
	13C2-8:2FTS	88% 50-150%

5.1.3
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Instrument Blank

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q294-IBLK	2Q16896.D	1	07/10/18	NG	n/a	n/a	S2Q294

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.1 B-15

FA55437-2, FA55437-3, FA55437-4, FA55437-6

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0077	0.0019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.015	0.0038	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	90% 50-150%
	13C5-PFPeA	90% 50-150%
	13C5-PFHxA	91% 50-150%
	13C4-PFHpA	93% 50-150%
	13C8-PFOA	92% 50-150%
	13C9-PFNA	92% 50-150%
	13C6-PFDA	91% 50-150%
	13C7-PFUnDA	88% 50-150%
	13C2-PFDoDA	88% 50-150%
	13C2-PFTeDA	88% 50-150%
	13C3-PFBS	90% 50-150%
	13C3-PFHxS	90% 50-150%
	13C8-PFOS	92% 50-150%
	13C8-FOSA	97% 50-150%
	d3-MeFOSAA	90% 50-150%
	13C2-4:2FTS	83% 50-150%
	13C2-6:2FTS	86% 50-150%
	13C2-8:2FTS	82% 50-150%

5.1.4
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Blank Spike Summary

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70766-BS	2Q16773.D	1	07/08/18	NG	07/05/18	OP70766	S2Q292

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA55437-2, FA55437-3, FA55437-4, FA55437-5, FA55437-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1	Perfluorooctanoic acid	0.0667	0.0759	114	74-130
1763-23-1	Perfluorooctanesulfonic acid	0.0617	0.0708	115	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	93%	30-140%
	13C5-PFPeA	96%	40-140%
	13C5-PFHxA	96%	50-150%
	13C4-PFHpA	92%	50-150%
	13C8-PFOA	98%	50-150%
	13C9-PFNA	96%	50-150%
	13C6-PFDA	105%	50-150%
	13C7-PFUnDA	83%	50-150%
	13C2-PFDoDA	75%	50-150%
	13C2-PFTeDA	74%	40-150%
	13C3-PFBS	94%	50-150%
	13C3-PFHxS	93%	50-150%
	13C8-PFOS	92%	50-150%
	13C8-FOSA	78%	30-140%
	d3-MeFOSAA	91%	50-150%
	13C2-6:2FTS	100%	50-150%
	13C2-8:2FTS	100%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70832-BS	2Q17122.D	1	07/14/18	NG	07/11/18	OP70832	S2Q296

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA55437-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1	Perfluorooctanoic acid	0.154	0.177	115	74-130
1763-23-1	Perfluorooctanesulfonic acid	0.142	0.169	119	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	86%	30-140%
	13C5-PFPeA	84%	40-140%
	13C5-PFHxA	86%	50-150%
	13C4-PFHpA	87%	50-150%
	13C8-PFOA	83%	50-150%
	13C9-PFNA	80%	50-150%
	13C6-PFDA	84%	50-150%
	13C7-PFUnDA	70%	50-150%
	13C2-PFDoDA	64%	50-150%
	13C2-PFTeDA	59%	40-150%
	13C3-PFBS	88%	50-150%
	13C3-PFHxS	84%	50-150%
	13C8-PFOS	82%	50-150%
	13C8-FOSA	83%	30-140%
	d3-MeFOSAA	80%	50-150%
	13C2-4:2FTS	86%	50-150%
	13C2-6:2FTS	83%	50-150%
	13C2-8:2FTS	83%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70766-MS	2Q16786.D	1	07/08/18	NG	07/05/18	OP70766	S2Q292
OP70766-MSD	2Q16787.D	1	07/08/18	NG	07/05/18	OP70766	S2Q292
JC69096-1	2Q16785.D	1	07/08/18	NG	07/05/18	OP70766	S2Q292

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA55437-2, FA55437-3, FA55437-4, FA55437-5, FA55437-6

CAS No.	Compound	JC69096-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
335-67-1	Perfluorooctanoic acid	0.000890J	0.0714	0.0829	115	0.0714	0.0841	116	1	74-130/30
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0661	0.0817	124	0.0661	0.0831	126	2	70-130/30

CAS No.	ID Standard Recoveries	MS	MSD	JC69096-1	Limits
	13C4-PFBA	82%	79%	81%	30-140%
	13C5-PFPeA	83%	79%	82%	40-140%
	13C5-PFHxA	87%	83%	86%	50-150%
	13C4-PFHpA	82%	80%	82%	50-150%
	13C8-PFOA	87%	83%	81%	50-150%
	13C9-PFNA	82%	80%	75%	50-150%
	13C6-PFDA	86%	85%	81%	50-150%
	13C7-PFUnDA	79%	71%	66%	50-150%
	13C2-PFDoDA	73%	65%	57%	50-150%
	13C2-PFTeDA	79%	68%	63%	40-150%
	13C3-PFBS	79%	75%	77%	50-150%
	13C3-PFHxS	76%	72%	69%	50-150%
	13C8-PFOS	78%	70%	67%	50-150%
	13C8-FOSA	25%* a	60%	45%	30-140%
	d3-MeFOSAA	76%	73%	65%	50-150%
	13C2-6:2FTS	92%	88%	83%	50-150%
	13C2-8:2FTS	78%	77%	72%	50-150%

(a) Outside control limits.

* = Outside of Control Limits.

5.3.1
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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA55437
 Account: COCBFL City of Cocoa Beach Water Reclamation
 Project: PFOS/PFOA Testing

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70832-MS	2Q17126.D	1	07/14/18	NG	07/11/18	OP70832	S2Q296
OP70832-MSD	2Q17127.D	1	07/14/18	NG	07/11/18	OP70832	S2Q296
JC68926-2	2Q17125.D	1	07/14/18	NG	07/11/18	OP70832	S2Q296

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA55437-1

CAS No.	Compound	JC68926-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
335-67-1	Perfluorooctanoic acid	0.0135	0.167	0.197	110	0.167	0.217	122	10	74-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.0816	0.154	0.305	145*	0.154	0.287	133*	6	70-130/30

CAS No.	ID Standard Recoveries	MS	MSD	JC68926-2	Limits
	13C4-PFBA	72%	72%		30-140%
	13C5-PFPeA	69%	68%		40-140%
	13C5-PFHxA	70%	70%		50-150%
	13C4-PFHpA	72%	71%		50-150%
	13C8-PFOA	69%	65%	70%	50-150%
	13C9-PFNA	73%	73%		50-150%
	13C6-PFDA	70%	69%		50-150%
	13C7-PFUnDA	63%	61%		50-150%
	13C2-PFDoDA	59%	57%		50-150%
	13C2-PFTeDA	60%	54%		40-150%
	13C3-PFBS	69%	68%		50-150%
	13C3-PFHxS	60%	59%		50-150%
	13C8-PFOS	65%	65%	68%	50-150%
	13C8-FOSA	43%	33%		30-140%
	d3-MeFOSAA	69%	70%		50-150%
	13C2-4:2FTS	80%	80%		50-150%
	13C2-6:2FTS	76%	74%		50-150%
	13C2-8:2FTS	73%	74%		50-150%

* = Outside of Control Limits.

5.3.2
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