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## Report of Analysis

**Pace Analytical Services, LLC**  
8 East Tower Circle  
Ormond Beach, FL 32174  
Attention: Martha Montero

Project Name: SCRWTD PFAs  
Project Number: 35568296  
Lot Number: **VH07109**  
Date Completed: 08/14/2020

08/25/2020 4:36 PM  
Approved and released by:  
Project Manager II: **Cathy S. Dover**



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# PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

## Case Narrative Pace Analytical Services, LLC Lot Number: VH07109

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Pace Analytical Services, LLC ("Pace") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Pace policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" qualifier.

### **PFAS 537 ID**

Insufficient sample volume was provided to perform matrix spike/matrix spike duplicate (MS/MSD) for prep batch 62860. An LCS/LCSD was run in lieu of an MS/MSD.

Samples VH07109-001 (Reclaimed) and VH07109-003 (Field Blank) were preserved with trizma, which is not specified by the method.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

# PACE ANALYTICAL SERVICES, LLC

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**Sample Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: VH07109**  
**Project Name: SCRWTD PFAs**  
**Project Number: 35568296**

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<b>Sample Number</b>	<b>Sample ID</b>	<b>Matrix</b>	<b>Date Sampled</b>	<b>Date Received</b>
001	Reclaimed	Aqueous	08/06/2020 1242	08/07/2020
002	Biosolids	Solid	08/06/2020 1250	08/07/2020
003	Field Blank	Aqueous	08/06/2020 0001	08/07/2020

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(3 samples)

# PACE ANALYTICAL SERVICES, LLC

**Detection Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: VH07109**  
**Project Name: SCRWTD PFAs**  
**Project Number: 35568296**

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	Reclaimed	Aqueous	GenX	PFAS by ID	2.1	BJ	ng/L	5
001	Reclaimed	Aqueous	PFBS	PFAS by ID	17		ng/L	5
001	Reclaimed	Aqueous	PFHxS	PFAS by ID	5.0		ng/L	5
001	Reclaimed	Aqueous	PFBA	PFAS by ID	8.6		ng/L	5
001	Reclaimed	Aqueous	PFDA	PFAS by ID	1.3	J	ng/L	5
001	Reclaimed	Aqueous	PFHpA	PFAS by ID	4.6		ng/L	5
001	Reclaimed	Aqueous	PFHxA	PFAS by ID	20		ng/L	5
001	Reclaimed	Aqueous	PFNA	PFAS by ID	5.2		ng/L	5
001	Reclaimed	Aqueous	PFOA	PFAS by ID	9.4		ng/L	5
001	Reclaimed	Aqueous	PFPeA	PFAS by ID	16		ng/L	5
001	Reclaimed	Aqueous	PFOS	PFAS by ID	20		ng/L	5
002	Biosolids	Solid	EtFOSAA	PFAS by ID	2.3	J	ug/kg	7
002	Biosolids	Solid	MeFOSAA	PFAS by ID	4.5	J	ug/kg	7
002	Biosolids	Solid	PFDA	PFAS by ID	2.4	J	ug/kg	7
002	Biosolids	Solid	PFDoA	PFAS by ID	1.4	J	ug/kg	7
002	Biosolids	Solid	PFNA	PFAS by ID	1.4	J	ug/kg	7
002	Biosolids	Solid	PFUdA	PFAS by ID	1.2	J	ug/kg	7
002	Biosolids	Solid	PFOS	PFAS by ID	22		ug/kg	7

(18 detections)

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>VH07109-001</b>
Description: <b>Reclaimed</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>08/06/2020 1242</b>	Project Name: <b>SCRWTD PFAS</b>
Date Received: <b>08/07/2020</b>	Project Number: <b>35568296</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	08/12/2020 0140	KMM2	08/09/2020 1311	62860

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
<b>Hexafluoropropylene oxide dimer acid (GenX)</b>	<b>13252-13-6</b>	<b>PFAS by ID SOP</b>	<b>2.1</b>	<b>BJ</b>	<b>7.1</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	3.6	U	14	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>5.0</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>8.6</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	<b>J</b>	<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>4.6</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>20</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>5.2</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>16</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.89	U	3.6	0.89	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>20</b>		<b>3.6</b>	<b>0.89</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		123	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		94	25-150
13C2_PFDa		70	25-150
13C2_PFHxDA		30	25-150
13C2_PFTeDA		47	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
 H = Out of holding time      W = Reported on wet weight basis

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>VH07109-001</b>
Description: <b>Reclaimed</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>08/06/2020 1242</b>	Project Name: <b>SCRWTD PFAs</b>
Date Received: <b>08/07/2020</b>	Project Number: <b>35568296</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		90	25-150
13C3_PFHxS		83	25-150
13C3-HFPO-DA		86	25-150
13C4_PFBa		79	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		80	25-150
13C7_PFUdA		77	25-150
13C8_PFOA		87	25-150
13C8_PFOs		69	25-150
13C8_PFOsA		73	10-150
13C9_PFNa		84	25-150
d-EtFOsA		61	10-150
d5-EtFOsAA		81	25-150
d9-EtFOsE		62	10-150
d-MeFOsA		68	10-150
d3-MeFOsAA		85	25-150
d7-MeFOsE		71	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>VH07109-002</b>
Description: <b>Biosolids</b>	Matrix: <b>Solid</b>
Date Sampled: <b>08/06/2020 1250</b>	Project Name: <b>SCRWTD PFAs</b>
Date Received: <b>08/07/2020</b>	% Solids: <b>21.0 08/08/2020 0150</b>
Project Number: <b>35568296</b>	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	08/13/2020 2056	KMM2	08/12/2020 1047	63160

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	4.3	U	17	4.3	ug/kg	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
<b>N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)</b>	<b>2991-50-6</b>	<b>PFAS by ID SOP</b>	<b>2.3</b>	<b>J</b>	<b>8.7</b>	<b>2.2</b>	<b>ug/kg</b>	<b>1</b>
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
<b>N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)</b>	<b>2355-31-9</b>	<b>PFAS by ID SOP</b>	<b>4.5</b>	<b>J</b>	<b>8.7</b>	<b>2.2</b>	<b>ug/kg</b>	<b>1</b>
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
Perfluoro-1-butanefluoro-1-butanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-n-butanefluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>2.4</b>	<b>J</b>	<b>4.3</b>	<b>0.87</b>	<b>ug/kg</b>	<b>1</b>
<b>Perfluoro-n-dodecanoic acid (PFDoA)</b>	<b>307-55-1</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>J</b>	<b>4.3</b>	<b>0.87</b>	<b>ug/kg</b>	<b>1</b>
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	2.2	U	8.7	2.2	ug/kg	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>J</b>	<b>4.3</b>	<b>0.87</b>	<b>ug/kg</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.87	U	4.3	0.87	ug/kg	1
<b>Perfluoro-n-undecanoic acid (PFUdA)</b>	<b>2058-94-8</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>J</b>	<b>4.3</b>	<b>0.87</b>	<b>ug/kg</b>	<b>1</b>
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>22</b>		<b>4.3</b>	<b>0.87</b>	<b>ug/kg</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		131	25-150
13C2_PFDaA		81	25-150
13C2_PFHxDA		75	25-150
13C2_PFTeDA		63	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
 H = Out of holding time      W = Reported on wet weight basis

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>VH07109-002</b>
Description: <b>Biosolids</b>	Matrix: <b>Solid</b>
Date Sampled: <b>08/06/2020 1250</b>	Project Name: <b>SCRWTD PFAs</b>
Date Received: <b>08/07/2020</b>	% Solids: <b>21.0 08/08/2020 0150</b>
Project Number: <b>35568296</b>	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		72	25-150
13C3_PFHxS		66	25-150
13C3-HFPO-DA		70	25-150
13C4_PFBa		69	25-150
13C4_PFHpA		71	25-150
13C5_PFHxA		73	25-150
13C5_PFPeA		68	25-150
13C6_PFDa		79	25-150
13C7_PFUdA		86	25-150
13C8_PFOA		70	25-150
13C8_PFOS		70	25-150
13C8_PFOsA		71	10-150
13C9_PFNa		78	25-150
d-EtFOsA		66	10-150
d5-EtFOsAA		100	25-150
d9-EtFOsE		53	10-150
d-MeFOsA		67	10-150
d3-MeFOsAA		89	25-150
d7-MeFOsE		58	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>VH07109-003</b>
Description: <b>Field Blank</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>08/06/2020 0001</b>	Project Name: <b>SCRWTD PFAs</b>
Date Received: <b>08/07/2020</b>	Project Number: <b>35568296</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	08/12/2020 0152	KMM2	08/09/2020 1311	62860

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	4.0	U	16	4.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	2.0	U	8.0	2.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.0	U	4.0	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		95	25-150
13C2_6:2FTS		104	25-150
13C2_8:2FTS		101	25-150
13C2_PFDaA		87	25-150
13C2_PFHxDA		84	25-150
13C2_PFTeDA		86	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>VH07109-003</b>
Description: <b>Field Blank</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>08/06/2020 0001</b>	Project Name: <b>SCRWTD PFAs</b>
Date Received: <b>08/07/2020</b>	Project Number: <b>35568296</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		97	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		100	25-150
13C6_PFDA		91	25-150
13C7_PFUdA		81	25-150
13C8_PFOA		97	25-150
13C8_PFOS		85	25-150
13C8_PFOSA		88	10-150
13C9_PFNA		92	25-150
d-EtFOSA		69	10-150
d5-EtFOSAA		89	25-150
d9-EtFOSE		75	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		93	25-150
d7-MeFOSE		81	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
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## QC Summary

# PFAS by LC/MS/MS - MB

Sample ID: VQ62860-001

Matrix: Aqueous

Batch: 62860

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/09/2020 1311

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
11CI-PF3OUdS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
8:2 FTS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
6:2 FTS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
10:2 FTS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
4:2 FTS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
<b>GenX</b>	<b>2.0</b>	<b>J</b>	<b>1</b>	<b>8.0</b>	<b>2.0</b>	<b>ng/L</b>	<b>08/11/2020 1547</b>
ADONA	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
EtFOSA	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
EtFOSAA	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
EtFOSE	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
MeFOSA	4.0	U	1	16	4.0	ng/L	08/11/2020 1547
MeFOSAA	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
MeFOSE	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
PFBS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFDS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFHpS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFNS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFOSA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFPeS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFDOS	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
PFHxS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFBA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFDA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFDoA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFHpA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFHxDA	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
PFHxA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFNA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFODA	2.0	U	1	8.0	2.0	ng/L	08/11/2020 1547
PFOA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFPeA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFTeDA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFTrDA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFUdA	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547
PFOS	1.0	U	1	4.0	1.0	ng/L	08/11/2020 1547

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		106	25-150
13C2_6:2FTS		126	25-150
13C2_8:2FTS		114	25-150
13C2_PFDoA		109	25-150
13C2_PFHxDA		103	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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## PFAS by LC/MS/MS - MB

Sample ID: VQ62860-001

Matrix: Aqueous

Batch: 62860

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/09/2020 1311

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		110	25-150
13C3_PFBs		114	25-150
13C3_PFHxS		114	25-150
13C3-HFPO-DA		114	25-150
13C4_PFBa		115	25-150
13C4_PFHpA		115	25-150
13C5_PFHxA		121	25-150
13C5_PFPeA		115	25-150
13C6_PFDa		115	25-150
13C7_PFUdA		112	25-150
13C8_PFOA		117	25-150
13C8_PFOs		102	25-150
13C8_PFOsA		112	10-150
13C9_PFNa		111	25-150
d-EtFOsA		79	10-150
d5-EtFOsAA		116	25-150
d9-EtFOsE		104	10-150
d-MeFOsA		78	10-150
d3-MeFOsAA		121	25-150
d7-MeFOsE		108	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - LCS

Sample ID: VQ62860-002

Matrix: Aqueous

Batch: 62860

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/09/2020 1311

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	13		1	90	50-150	08/11/2020 1504
11CI-PF3OUdS	15	14		1	93	50-150	08/11/2020 1504
8:2 FTS	15	15		1	100	50-150	08/11/2020 1504
6:2 FTS	15	15		1	101	50-150	08/11/2020 1504
10:2 FTS	15	15		1	98	50-150	08/11/2020 1504
4:2 FTS	15	13		1	88	50-150	08/11/2020 1504
GenX	32	28		1	88	50-150	08/11/2020 1504
ADONA	15	16		1	103	50-150	08/11/2020 1504
EtFOSA	16	16		1	97	50-150	08/11/2020 1504
EtFOSAA	16	17		1	107	50-150	08/11/2020 1504
EtFOSE	16	15		1	91	50-150	08/11/2020 1504
MeFOSA	16	16		1	102	50-150	08/11/2020 1504
MeFOSAA	16	15		1	94	50-150	08/11/2020 1504
MeFOSE	16	16		1	103	50-150	08/11/2020 1504
PFBS	14	13		1	95	50-150	08/11/2020 1504
PFDS	15	15		1	96	50-150	08/11/2020 1504
PFHpS	15	15		1	97	50-150	08/11/2020 1504
PFNS	15	15		1	96	50-150	08/11/2020 1504
PFOSA	16	15		1	95	50-150	08/11/2020 1504
PFPeS	15	14		1	92	50-150	08/11/2020 1504
PFDOS	15	14		1	89	50-150	08/11/2020 1504
PFHxS	15	13		1	91	50-150	08/11/2020 1504
PFBA	16	16		1	98	50-150	08/11/2020 1504
PFDA	16	16		1	100	50-150	08/11/2020 1504
PFDoA	16	15		1	93	50-150	08/11/2020 1504
PFHpA	16	16		1	101	50-150	08/11/2020 1504
PFHxDA	16	16		1	100	50-150	08/11/2020 1504
PFHxA	16	15		1	92	50-150	08/11/2020 1504
PFNA	16	16		1	102	50-150	08/11/2020 1504
PFODA	16	16		1	98	50-150	08/11/2020 1504
PFOA	16	15		1	94	50-150	08/11/2020 1504
PFPeA	16	16		1	97	50-150	08/11/2020 1504
PFTeDA	16	16		1	98	50-150	08/11/2020 1504
PFTrDA	16	15		1	91	50-150	08/11/2020 1504
PFUdA	16	17		1	104	50-150	08/11/2020 1504
PFOS	15	15		1	98	50-150	08/11/2020 1504

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		77	25-150
13C2_6:2FTS		85	25-150
13C2_8:2FTS		84	25-150
13C2_PFDoA		81	25-150
13C2_PFHxDA		74	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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## PFAS by LC/MS/MS - LCS

Sample ID: VQ62860-002

Matrix: Aqueous

Batch: 62860

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/09/2020 1311

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		78	25-150
13C3_PFBs		82	25-150
13C3_PFHxS		79	25-150
13C3-HFPO-DA		87	25-150
13C4_PFBa		83	25-150
13C4_PFHpA		83	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		83	25-150
13C6_PFDa		81	25-150
13C7_PFUdA		75	25-150
13C8_PFOA		85	25-150
13C8_PFOs		73	25-150
13C8_PFOsA		80	10-150
13C9_PFNa		77	25-150
d-EtFOsA		47	10-150
d5-EtFOsAA		74	25-150
d9-EtFOsE		73	10-150
d-MeFOsA		50	10-150
d3-MeFOsAA		83	25-150
d7-MeFOsE		76	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - LCSD

Sample ID: VQ62860-003

Matrix: Aqueous

Batch: 62860

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/09/2020 1311

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	15	15		1	98	8.9	50-150	30	08/11/2020 1453
11CI-PF3OUdS	15	15		1	100	8.1	50-150	30	08/11/2020 1453
8:2 FTS	15	15		1	101	0.27	50-150	30	08/11/2020 1453
6:2 FTS	15	17		1	114	11	50-150	30	08/11/2020 1453
10:2 FTS	15	17		1	112	13	50-150	30	08/11/2020 1453
4:2 FTS	15	14		1	95	7.8	50-150	30	08/11/2020 1453
GenX	32	32		1	99	12	50-150	30	08/11/2020 1453
ADONA	15	16		1	104	1.3	50-150	30	08/11/2020 1453
EtFOSA	16	15		1	91	7.0	50-150	30	08/11/2020 1453
EtFOSAA	16	16		1	100	7.4	50-150	30	08/11/2020 1453
EtFOSE	16	18		1	112	21	50-150	30	08/11/2020 1453
MeFOSA	16	15		1	95	7.2	50-150	30	08/11/2020 1453
MeFOSAA	16	15		1	91	2.7	50-150	30	08/11/2020 1453
MeFOSE	16	15		1	93	9.7	50-150	30	08/11/2020 1453
PFBS	14	19	+	1	137	36	50-150	30	08/11/2020 1453
PFDS	15	14		1	92	4.8	50-150	30	08/11/2020 1453
PFHpS	15	15		1	100	3.4	50-150	30	08/11/2020 1453
PFNS	15	15		1	100	4.5	50-150	30	08/11/2020 1453
PFOSA	16	17		1	104	9.1	50-150	30	08/11/2020 1453
PFPeS	15	15		1	98	6.8	50-150	30	08/11/2020 1453
PFDOS	15	15		1	98	9.3	50-150	30	08/11/2020 1453
PFHxS	15	15		1	100	9.5	50-150	30	08/11/2020 1453
PFBA	16	18		1	111	13	50-150	30	08/11/2020 1453
PFDA	16	17		1	104	4.1	50-150	30	08/11/2020 1453
PFDaA	16	16		1	98	5.5	50-150	30	08/11/2020 1453
PFHpA	16	17		1	107	5.7	50-150	30	08/11/2020 1453
PFHxDA	16	16		1	98	1.7	50-150	30	08/11/2020 1453
PFHxA	16	17		1	104	12	50-150	30	08/11/2020 1453
PFNA	16	17		1	104	2.5	50-150	30	08/11/2020 1453
PFOA	16	16		1	101	3.2	50-150	30	08/11/2020 1453
PFOA	16	17		1	107	13	50-150	30	08/11/2020 1453
PFPeA	16	17		1	108	11	50-150	30	08/11/2020 1453
PFTeDA	16	16		1	99	1.3	50-150	30	08/11/2020 1453
PFTrDA	16	16		1	99	8.0	50-150	30	08/11/2020 1453
PFUdA	16	16		1	101	2.8	50-150	30	08/11/2020 1453
PFOS	15	16		1	110	12	50-150	30	08/11/2020 1453

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		80	25-150
13C2_6:2FTS		83	25-150
13C2_8:2FTS		82	25-150
13C2_PFDaA		73	25-150
13C2_PFHxDA		71	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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## PFAS by LC/MS/MS - LCSD

Sample ID: VQ62860-003

Matrix: Aqueous

Batch: 62860

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/09/2020 1311

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		71	25-150
13C3_PFBs		80	25-150
13C3_PFHxS		77	25-150
13C3-HFPO-DA		75	25-150
13C4_PFBa		84	25-150
13C4_PFHpA		80	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		84	25-150
13C6_PFDa		75	25-150
13C7_PFUdA		70	25-150
13C8_PFOA		80	25-150
13C8_PFOs		69	25-150
13C8_PFOsA		72	10-150
13C9_PFNa		75	25-150
d-EtFOsA		50	10-150
d5-EtFOsAA		75	25-150
d9-EtFOsE		65	10-150
d-MeFOsA		51	10-150
d3-MeFOsAA		78	25-150
d7-MeFOsE		74	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - MB

Sample ID: VQ63160-001

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
11CI-PF3OUdS	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
8:2 FTS	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
6:2 FTS	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
10:2 FTS	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
4:2 FTS	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
GenX	1.0	U	1	4.0	1.0	ug/kg	08/13/2020 1638
ADONA	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
EtFOSA	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
EtFOSAA	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
EtFOSE	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
MeFOSA	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
MeFOSAA	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
MeFOSE	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
PFBS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFDS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFHpS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFNS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFOSA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFPeS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFDOS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFHxS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFBA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFDA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFDoA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFHpA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFHxDA	0.50	U	1	2.0	0.50	ug/kg	08/13/2020 1638
PFHxA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFNA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFODA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFOA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFPeA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFTeDA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFTrDA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFUdA	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638
PFOS	0.20	U	1	1.0	0.20	ug/kg	08/13/2020 1638

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		80	25-150
13C2_6:2FTS		89	25-150
13C2_8:2FTS		78	25-150
13C2_PFDoA		85	25-150
13C2_PFHxDA		97	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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## PFAS by LC/MS/MS - MB

Sample ID: VQ63160-001

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		84	25-150
13C3_PFBS		86	25-150
13C3_PFHxS		80	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBA		85	25-150
13C4_PFHpA		87	25-150
13C5_PFHxA		87	25-150
13C5_PFPeA		83	25-150
13C6_PFDA		87	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		84	25-150
13C8_PFOS		88	25-150
13C8_PFOA		84	25-150
13C8_PFOSA		87	10-150
13C9_PFNA		90	25-150
d-EtFOSA		95	10-150
d5-EtFOSAA		80	25-150
d9-EtFOSE		89	10-150
d-MeFOSA		86	10-150
d3-MeFOSAA		88	25-150
d7-MeFOSE		82	10-150

LOQ = Limit of Quantitation

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N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - LCS

Sample ID: VQ63160-002

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	1.9	1.9		1	102	50-150	08/13/2020 1649
11CI-PF3OUdS	1.9	2.0		1	108	50-150	08/13/2020 1649
8:2 FTS	1.9	2.0		1	107	50-150	08/13/2020 1649
6:2 FTS	1.9	1.9		1	101	50-150	08/13/2020 1649
10:2 FTS	1.9	2.5		1	130	50-150	08/13/2020 1649
4:2 FTS	1.9	2.0		1	110	50-150	08/13/2020 1649
GenX	4.0	3.8		1	94	50-150	08/13/2020 1649
ADONA	1.9	2.1		1	113	50-150	08/13/2020 1649
EtFOSA	2.0	1.9		1	93	50-150	08/13/2020 1649
EtFOSAA	2.0	2.2		1	108	50-150	08/13/2020 1649
EtFOSE	2.0	2.1		1	104	50-150	08/13/2020 1649
MeFOSA	2.0	2.1		1	107	50-150	08/13/2020 1649
MeFOSAA	2.0	2.0		1	99	50-150	08/13/2020 1649
MeFOSE	2.0	1.7		1	85	50-150	08/13/2020 1649
PFBS	1.8	1.8		1	101	50-150	08/13/2020 1649
PFDS	1.9	1.8		1	93	50-150	08/13/2020 1649
PFHpS	1.9	1.9		1	102	50-150	08/13/2020 1649
PFNS	1.9	2.1		1	109	50-150	08/13/2020 1649
PFOSA	2.0	2.1		1	105	50-150	08/13/2020 1649
PFPeS	1.9	1.9		1	100	50-150	08/13/2020 1649
PFDOS	1.9	2.0		1	104	50-150	08/13/2020 1649
PFHxS	1.8	1.8		1	100	50-150	08/13/2020 1649
PFBA	2.0	2.2		1	108	50-150	08/13/2020 1649
PFDA	2.0	2.0		1	102	50-150	08/13/2020 1649
PFDoA	2.0	2.2		1	110	50-150	08/13/2020 1649
PFHpA	2.0	2.3		1	114	50-150	08/13/2020 1649
PFHxDA	2.0	1.9		1	95	50-150	08/13/2020 1649
PFHxA	2.0	2.1		1	104	50-150	08/13/2020 1649
PFNA	2.0	2.1		1	103	50-150	08/13/2020 1649
PFODA	2.0	2.2		1	110	50-150	08/13/2020 1649
PFOA	2.0	2.3		1	113	50-150	08/13/2020 1649
PFPeA	2.0	2.2		1	112	50-150	08/13/2020 1649
PFTeDA	2.0	2.1		1	107	50-150	08/13/2020 1649
PFTrDA	2.0	2.1		1	106	50-150	08/13/2020 1649
PFUdA	2.0	2.1		1	104	50-150	08/13/2020 1649
PFOS	1.9	1.8		1	96	50-150	08/13/2020 1649

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		82	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		89	25-150
13C2_PFDoA		90	25-150
13C2_PFHxDA		109	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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## PFAS by LC/MS/MS - LCS

Sample ID: VQ63160-002

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		90	25-150
13C3_PFBs		95	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		109	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		91	25-150
13C6_PFDa		97	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		90	25-150
13C8_PFOs		98	25-150
13C8_PFOsA		97	10-150
13C9_PFNa		99	25-150
d-EtFOsA		101	10-150
d5-EtFOsAA		89	25-150
d9-EtFOsE		96	10-150
d-MeFOsA		99	10-150
d3-MeFOsAA		98	25-150
d7-MeFOsE		98	10-150

LOQ = Limit of Quantitation

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N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - MS

Sample ID: VH11095-003MS

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	0.0	2.0	2.3		1	113	50-150	08/13/2020 1732
11CI-PF3OUdS	0.0	2.0	2.2		1	108	50-150	08/13/2020 1732
8:2 FTS	0.0	2.1	2.4		1	116	50-150	08/13/2020 1732
6:2 FTS	0.0	2.1	2.5		1	122	50-150	08/13/2020 1732
10:2 FTS	0.0	2.1	2.7		1	129	50-150	08/13/2020 1732
4:2 FTS	0.0	2.0	2.2		1	109	50-150	08/13/2020 1732
GenX	0.0	4.3	5.1		1	118	50-150	08/13/2020 1732
ADONA	0.0	2.0	2.5		1	122	50-150	08/13/2020 1732
EtFOSA	0.0	60	1.9	N	1	3.3	50-150	08/13/2020 1732
EtFOSAA	0.0	60	2.8	N	1	4.6	50-150	08/13/2020 1732
EtFOSE	0.0	60	2.2	N	1	3.7	50-150	08/13/2020 1732
MeFOSA	0.0	2.2	2.0		1	93	50-150	08/13/2020 1732
MeFOSAA	0.0	2.2	2.3		1	107	50-150	08/13/2020 1732
MeFOSE	0.0	2.2	2.2		1	103	50-150	08/13/2020 1732
PFBS	0.0	1.9	2.2		1	113	50-150	08/13/2020 1732
PFDS	0.0	2.1	2.2		1	105	50-150	08/13/2020 1732
PFHpS	0.0	2.1	2.3		1	113	50-150	08/13/2020 1732
PFNS	0.0	2.1	2.4		1	115	50-150	08/13/2020 1732
PFOSA	0.0	2.2	2.3		1	108	50-150	08/13/2020 1732
PFPeS	0.0	2.0	2.2		1	110	50-150	08/13/2020 1732
PFDOS	0.0	2.1	2.4		1	114	50-150	08/13/2020 1732
PFHxS	0.0	2.0	2.2		1	110	50-150	08/13/2020 1732
PFBA	0.0	2.2	3.0		1	138	50-150	08/13/2020 1732
PFDA	0.0	2.2	2.4		1	112	50-150	08/13/2020 1732
PFDoA	0.0	2.2	2.5		1	114	50-150	08/13/2020 1732
PFHpA	0.0	2.2	3.2		1	147	50-150	08/13/2020 1732
PFHxDA	0.0	2.2	2.2		1	99	50-150	08/13/2020 1732
PFHxA	0.0	2.2	2.9		1	134	50-150	08/13/2020 1732
PFNA	0.0	2.2	2.5		1	113	50-150	08/13/2020 1732
PFOA	0.0	2.2	2.4		1	111	50-150	08/13/2020 1732
PFOA	0.0	2.2	2.7		1	123	50-150	08/13/2020 1732
PFPeA	0.0	2.2	3.0		1	140	50-150	08/13/2020 1732
PFTeDA	0.0	2.2	2.4		1	110	50-150	08/13/2020 1732
PFTrDA	0.0	2.2	2.5		1	115	50-150	08/13/2020 1732
PFUdA	0.0	2.2	2.4		1	111	50-150	08/13/2020 1732
PFOS	35	2.0	40	N	1	268	50-150	08/13/2020 1732

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		80	25-150
13C2_6:2FTS		80	25-150
13C2_8:2FTS		76	25-150
13C2_PFDoA		82	25-150
13C2_PFHxDA		89	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - MS

Sample ID: VH11095-003MS

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		78	25-150
13C3_PFBs		79	25-150
13C3_PFHxS		75	25-150
13C3-HFPO-DA		88	25-150
13C4_PFBa		81	25-150
13C4_PFHpA		82	25-150
13C5_PFHxA		81	25-150
13C5_PFPeA		76	25-150
13C6_PFDa		85	25-150
13C7_PFUdA		85	25-150
13C8_PFOA		79	25-150
13C8_PFOs		85	25-150
13C8_PFOsA		84	10-150
13C9_PFNa		87	25-150
d-EtFOsA		93	10-150
d5-EtFOsAA		72	25-150
d9-EtFOsE		82	10-150
d-MeFOsA		88	10-150
d3-MeFOsAA		76	25-150
d7-MeFOsE		78	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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# PFAS by LC/MS/MS - MSD

Sample ID: VH11095-003MD

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	0.0	1.9	2.2		1	118	2.4	50-150	30	08/13/2020 1742
11CI-PF3OUdS	0.0	1.9	2.3		1	120	3.6	50-150	30	08/13/2020 1742
8:2 FTS	0.0	1.9	2.6		1	136	8.6	50-150	30	08/13/2020 1742
6:2 FTS	0.0	1.9	2.7		1	139	6.1	50-150	30	08/13/2020 1742
10:2 FTS	0.0	1.9	2.7		1	140	1.4	50-150	30	08/13/2020 1742
4:2 FTS	0.0	1.9	2.0		1	105	11	50-150	30	08/13/2020 1742
GenX	0.0	4.0	4.5		1	110	14	50-150	30	08/13/2020 1742
ADONA	0.0	1.9	2.5		1	133	1.1	50-150	30	08/13/2020 1742
EtFOSA	0.0	56	2.2	N	1	3.9	10	50-150	30	08/13/2020 1742
EtFOSAA	0.0	56	2.2	N	1	4.0	22	50-150	30	08/13/2020 1742
EtFOSE	0.0	56	2.1	N	1	3.9	2.2	50-150	30	08/13/2020 1742
MeFOSA	0.0	2.0	2.2		1	109	7.9	50-150	30	08/13/2020 1742
MeFOSAA	0.0	2.0	2.6		1	127	10	50-150	30	08/13/2020 1742
MeFOSE	0.0	2.0	1.9		1	95	15	50-150	30	08/13/2020 1742
PFBS	0.0	1.8	2.2		1	124	2.0	50-150	30	08/13/2020 1742
PFDS	0.0	1.9	2.3		1	120	6.1	50-150	30	08/13/2020 1742
PFHpS	0.0	1.9	2.3		1	121	0.39	50-150	30	08/13/2020 1742
PFNS	0.0	1.9	2.5		1	127	2.7	50-150	30	08/13/2020 1742
PFOSA	0.0	2.0	2.6		1	128	10	50-150	30	08/13/2020 1742
PFPeS	0.0	1.9	2.2		1	118	0.49	50-150	30	08/13/2020 1742
PFDOS	0.0	2.0	2.3		1	118	3.5	50-150	30	08/13/2020 1742
PFHxS	0.0	1.8	2.1		1	116	1.8	50-150	30	08/13/2020 1742
PFBA	0.0	2.0	3.0		1	149	0.14	50-150	30	08/13/2020 1742
PFDA	0.0	2.0	2.5		1	124	2.7	50-150	30	08/13/2020 1742
PFDoA	0.0	2.0	2.5		1	122	0.37	50-150	30	08/13/2020 1742
PFHpA	0.0	2.0	3.1	N	1	152	3.9	50-150	30	08/13/2020 1742
PFHxDA	0.0	2.0	2.2		1	109	1.7	50-150	30	08/13/2020 1742
PFHxA	0.0	2.0	2.9		1	144	0.30	50-150	30	08/13/2020 1742
PFNA	0.0	2.0	2.5		1	125	3.0	50-150	30	08/13/2020 1742
PFODA	0.0	2.0	2.4		1	117	1.9	50-150	30	08/13/2020 1742
PFOA	0.0	2.0	2.6		1	130	1.8	50-150	30	08/13/2020 1742
PFPeA	0.0	2.0	3.3	N	1	164	9.0	50-150	30	08/13/2020 1742
PFTeDA	0.0	2.0	2.5		1	123	4.0	50-150	30	08/13/2020 1742
PFTrDA	0.0	2.0	2.4		1	120	3.4	50-150	30	08/13/2020 1742
PFUdA	0.0	2.0	2.6		1	130	8.1	50-150	30	08/13/2020 1742
PFOS	35	1.9	33	N	1	-99	20	50-150	30	08/13/2020 1742

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		65	25-150
13C2_6:2FTS		71	25-150
13C2_8:2FTS		65	25-150
13C2_PFDoA		68	25-150
13C2_PFHxDA		75	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



## PFAS by LC/MS/MS - MSD

Sample ID: VH11095-003MD

Matrix: Solid

Batch: 63160

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 08/12/2020 1047

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		64	25-150
13C3_PFBs		70	25-150
13C3_PFHxS		66	25-150
13C3-HFPO-DA		73	25-150
13C4_PFBa		68	25-150
13C4_PFHpA		67	25-150
13C5_PFHxA		70	25-150
13C5_PFPeA		64	25-150
13C6_PFDa		70	25-150
13C7_PFUdA		66	25-150
13C8_PFOA		66	25-150
13C8_PFOs		71	25-150
13C8_PFOsA		70	10-150
13C9_PFNa		71	25-150
d-EtFOsA		72	10-150
d5-EtFOsAA		62	25-150
d9-EtFOsE		73	10-150
d-MeFOsA		72	10-150
d3-MeFOsAA		63	25-150
d7-MeFOsE		67	10-150

LOQ = Limit of Quantitation

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**Chain of Custody  
and  
Miscellaneous Documents**

Internal Transfer Chain of Custody

Samples Pre-Logged into eCOC.

→ quote 137100



State Of Origin: FL  
 Gmt-Needed:  Yes  No  
 Owner Received/Date: 8/6/2020 Results Requested By: 8/26/2020

Workorder: 35568206 Workorder Name: PFAs

Report To: Subcontract to

Martha Montero  
 Pace Analytical Orlando Beach  
 8 East Tower Circle  
 Orlando Beach, FL 32174  
 Phone (386) 672-5668

Pace Analytical West Columbia  
 106 Vantage Point Drive  
 West Columbia, SC 29172  
 Phone (803) 791-8700



VH07109

IRMS

Preserved Containers

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	EQ	LAB	LAB USE ONLY
1	Residues	PS	8/6/2020 12:42	35533290001	Water	1		
2	Residues	PS	8/6/2020 12:50	36558299002	Solid	1		
3	Field Blank	PS	8/6/2020 00:01	36508266003	Water	1		
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time	Received on Ice	Seal	or N	Samples Intact	or N
1	PT	8/6/2020							
2									
3	FEEx	8/7/2020	Martha Montero	8/7/2020					

Cooler Temperature on Receipt 44 °C  
 \*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

# PACE ANALYTICAL SERVICES, LLC

Shealy Environmental Services, Inc.  
Document Number: MED18C-14

Page 1 of 1  
Effective Date: 8/2/2018

## Sample Receipt Checklist (SRC)

Client: Pace Omond Cooler Inspected by/date: APW / 8/5/20 Lot #: V1407109

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1. Were custody seals present on the cooler?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>20-1455</u> Chlorine Strip ID: <u>NA</u>	Tested by: <u>APW</u>
Original temperature upon receipt / Derived (Corrected) temperature upon receipt <u>11.4/11.0</u> °C / <u>1</u> °C / <u>1</u> °C	%Solid Snap-Cup ID: <u>20-134</u>
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: _____	IR Gun Correction Factor: <u>0</u> °C
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH <sub>3</sub> /TKN/cyanide/phenol/625 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote #
<b>Sample Preservation</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>NA</u>	_____ were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>NA</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>NA</u>
Time of preservation <u>NA</u>	. If more than one preservative is needed, please note in the comments below.
Sample(s) <u>NA</u>	_____ were received with bubbles >6 mm in diameter.
Samples(s) <u>NA</u>	_____ were received with TRC > 0.5 mg/L (if #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>NA</u>
SR barcode labels applied by: <u>APW</u>	Date: <u>8/5/2020</u>

Comments:

- 001 and -003 are not preserved as listed, but do not require preservation.
- On COC each sample is listed as having one container, but -001 has two, -002 has 4 and -003 has five.