

Work Orders: 9130039

Report Date: 10/23/2019

Project: 1910073

Received Date: 9/30/2019

Turnaround Time: Normal

Phones: (310) 325-7110

Fax:

Attn: Patrick McCue

P.O. #:

Client: City of Lomita
24300 Norbonne Avenue
Lomita, CA 90717

Billing Code:

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 •
NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Patrick McCue,

Enclosed are the results of analyses for samples received 9/30/19 with the Chain-of-Custody document. The samples were received in good condition, at 14.7 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Regina Giancola
Project Manager



City of Lomita
 24300 Norbonne Avenue
 Lomita, CA 90717

Project Number: 1910073

Reported:
 10/23/2019 15:59

Project Manager: Patrick McCue

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
Well #5	Patrick McCue	9I30039-01	Water	09/30/19 09:55	
Well #5 (Field Blank)	Patrick McCue	9I30039-02	Water	09/30/19 09:55	

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	By ANAB
EPA 537.1 in Water			
HFPO-DA	13252-13-6	✓	
EtFOSAA	2991-50-6	✓	
MeFOSAA	2355-31-9	✓	
PFDA	335-76-2	✓	
PFDaA	307-55-1	✓	
PFHxA	307-24-4	✓	
PFTeDA	376-06-7	✓	
PFTrDA	72629-94-8	✓	
PFUxA	2058-94-8	✓	
11CI-PF3OUdS	763051-92-9	✓	
9CI-PF3ONS	756426-58-1	✓	
ADONA	958445-44-8	✓	

City of Lomita
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Sample Results

Sample: Well #5

Sampled: 09/30/19 9:55 by Patrick McCue

9I30039-01 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537.1	Batch ID: W9J0368	Instr: LCMS05	Prepared: 10/08/19 09:16	Analyst: jan	
11CI-PF3OUdS	ND	1.7	ng/l	1	10/15/19 08:12
9CI-PF3ONS	ND	1.7	ng/l	1	10/15/19 08:12
ADONA	ND	1.7	ng/l	1	10/15/19 08:12
EtFOSAA	ND	1.7	ng/l	1	10/15/19 08:12
HFPO-DA	ND	1.7	ng/l	1	10/15/19 08:12
MeFOSAA	ND	1.7	ng/l	1	10/15/19 08:12
PFBS	ND	1.7	ng/l	1	10/15/19 08:12
PFDA	ND	1.7	ng/l	1	10/15/19 08:12
PFDoA	ND	1.7	ng/l	1	10/15/19 08:12
PFHpA	ND	1.7	ng/l	1	10/15/19 08:12
PFHxA	ND	1.7	ng/l	1	10/15/19 08:12
PFHxS	3.0	1.7	ng/l	1	10/15/19 08:12
PFNA	ND	1.7	ng/l	1	10/15/19 08:12
PFOA	ND	1.7	ng/l	1	10/15/19 08:12
PFOS	3.1	1.7	ng/l	1	10/15/19 08:12
PFTeDA	ND	1.7	ng/l	1	10/15/19 08:12
PFTrDA	ND	1.7	ng/l	1	10/15/19 08:12
PFUnA	ND	1.7	ng/l	1	10/15/19 08:12

Surrogate(s)	Conc:	70-130	10/15/19 08:12
13C2-PFDA	82%	54.3	10/15/19 08:12
13C2-PFHxA	86%	57.1	10/15/19 08:12
d5-EtFOSAA	106%	70.3	10/15/19 08:12
HFPO-DA-13C3	78%	51.5	10/15/19 08:12

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Sample Results

(Continued)

Sample: Well #5 (Field Blank)
 9I30039-02 (Water)

Sampled: 09/30/19 9:55 by Patrick McCue

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537.1	Batch ID: W9J0546	Instr: LCMS05	Prepared: 10/08/19 19:35	Analyst: jan	
11CI-PF3OUdS	ND	1.7	ng/l	1	10/17/19 13:43
9CI-PF3ONS	ND	1.7	ng/l	1	10/17/19 13:43
ADONA	ND	1.7	ng/l	1	10/17/19 13:43
EtFOSAA	ND	1.7	ng/l	1	10/17/19 13:43
HFPO-DA	ND	1.7	ng/l	1	10/17/19 13:43
MeFOSAA	ND	1.7	ng/l	1	10/17/19 13:43
PFBS	ND	1.7	ng/l	1	10/17/19 13:43
PFDA	ND	1.7	ng/l	1	10/17/19 13:43
PFDoA	ND	1.7	ng/l	1	10/17/19 13:43
PFHpA	ND	1.7	ng/l	1	10/17/19 13:43
PFHxA	ND	1.7	ng/l	1	10/17/19 13:43
PFHxS	ND	1.7	ng/l	1	10/17/19 13:43
PFNA	ND	1.7	ng/l	1	10/17/19 13:43
PFOA	ND	1.7	ng/l	1	10/17/19 13:43
PFOS	ND	1.7	ng/l	1	10/17/19 13:43
PFTeDA	ND	1.7	ng/l	1	10/17/19 13:43
PFTTrDA	ND	1.7	ng/l	1	10/17/19 13:43
PFUnA	ND	1.7	ng/l	1	10/17/19 13:43

Surrogate(s)	Conc:	MRL	Analyzed	Qualifier
13C2-PFDA	83%	70-130	10/17/19 13:43	
13C2-PFHxA	92%	70-130	10/17/19 13:43	
d5-EtFOSAA	63%	70-130	10/17/19 13:43	S-11
HFPO-DA-13C3	81%	70-130	10/17/19 13:43	

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Quality Control Results

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W9J0368 - EPA 537.1										
Blank (W9J0368-BLK1)				Prepared: 10/08/19 Analyzed: 10/15/19						
11CI-PF3OUdS	ND	2.0	ng/l							
9CI-PF3ONS	ND	2.0	ng/l							
ADONA	ND	2.0	ng/l							
EtFOSAA	ND	2.0	ng/l							
HFPO-DA	ND	2.0	ng/l							
MeFOSAA	ND	2.0	ng/l							B-02
PFBS	ND	2.0	ng/l							
PFDA	ND	2.0	ng/l							
PFDoA	ND	2.0	ng/l							
PFHpA	ND	2.0	ng/l							
PFHxA	ND	2.0	ng/l							
PFHxS	ND	2.0	ng/l							
PFNA	ND	2.0	ng/l							
PFOA	ND	2.0	ng/l							
PFOS	ND	2.0	ng/l							
PFTeDA	ND	2.0	ng/l							
PFTrDA	ND	2.0	ng/l							
PFUnA	ND	2.0	ng/l							
<i>Surrogate(s)</i>										
13C2-PFDA	42.3		ng/l	40.0		106	70-130			
13C2-PFHxA	49.4		ng/l	40.0		123	70-130			
d5-EtFOSAA	46.5		ng/l	40.0		116	70-130			
HFPO-DA-13C3	46.6		ng/l	40.0		116	70-130			
LCS (W9J0368-BS1)				Prepared: 10/08/19 Analyzed: 10/15/19						
11CI-PF3OUdS	2.20	2.0	ng/l	2.00		110	50-150			
9CI-PF3ONS	2.23	2.0	ng/l	2.00		111	50-150			
ADONA	2.20	2.0	ng/l	2.00		110	50-150			
EtFOSAA	2.45	2.0	ng/l	2.00		122	50-150			
HFPO-DA	2.29	2.0	ng/l	2.00		115	50-150			
MeFOSAA	3.26	2.0	ng/l	2.00		163	50-150			Q-08
PFBS	2.24	2.0	ng/l	2.00		112	50-150			
PFDA	2.00	2.0	ng/l	2.00		100	50-150			
PFDoA	1.77	2.0	ng/l	2.00		88	50-150			
PFHpA	2.33	2.0	ng/l	2.00		117	50-150			
PFHxA	2.35	2.0	ng/l	2.00		118	50-150			
PFHxS	2.87	2.0	ng/l	2.00		144	50-150			
PFNA	2.24	2.0	ng/l	2.00		112	50-150			
PFOA	2.28	2.0	ng/l	2.00		114	50-150			
PFOS	2.27	2.0	ng/l	2.00		114	50-150			

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Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W9J0368 - EPA 537.1 (Continued)										
LCS (W9J0368-BS1)										
				Prepared: 10/08/19 Analyzed: 10/15/19						
PFTeDA	2.28	2.0	ng/l	2.00		114	50-150			
PFTrDA	2.14	2.0	ng/l	2.00		107	50-150			
PFUnA	2.32	2.0	ng/l	2.00		116	50-150			
<i>Surrogate(s)</i>										
13C2-PFDA	32.5		ng/l	40.0		81	50-150			
13C2-PFHxA	38.2		ng/l	40.0		95	50-150			
d5-EtFOSAA	34.9		ng/l	40.0		87	50-150			
HFPO-DA-13C3	35.4		ng/l	40.0		88	50-150			
LCS Dup (W9J0368-BS1)										
				Prepared: 10/08/19 Analyzed: 10/15/19						
11CI-PF3OUdS	2.24	2.0	ng/l	2.00		112	50-150	2	30	
9CI-PF3ONS	2.42	2.0	ng/l	2.00		121	50-150	8	30	
ADONA	2.06	2.0	ng/l	2.00		103	50-150	6	30	
EtFOSAA	2.27	2.0	ng/l	2.00		114	50-150	7	30	
HFPO-DA	2.43	2.0	ng/l	2.00		121	50-150	6	30	
MeFOSAA	3.16	2.0	ng/l	2.00		158	50-150	3	30	Q-08
PFBS	2.48	2.0	ng/l	2.00		124	50-150	10	30	
PFDA	2.07	2.0	ng/l	2.00		103	50-150	3	30	
PFDoA	2.42	2.0	ng/l	2.00		121	50-150	31	30	Q-12
PFHpA	2.26	2.0	ng/l	2.00		113	50-150	3	30	
PFHxA	2.32	2.0	ng/l	2.00		116	50-150	1	30	
PFHxS	2.77	2.0	ng/l	2.00		139	50-150	3	30	
PFNA	2.32	2.0	ng/l	2.00		116	50-150	3	30	
PFOA	2.42	2.0	ng/l	2.00		121	50-150	6	30	
PFOS	2.52	2.0	ng/l	2.00		126	50-150	10	30	
PFTeDA	2.48	2.0	ng/l	2.00		124	50-150	8	30	
PFTrDA	2.28	2.0	ng/l	2.00		114	50-150	6	30	
PFUnA	2.52	2.0	ng/l	2.00		126	50-150	8	30	
<i>Surrogate(s)</i>										
13C2-PFDA	31.4		ng/l	40.0		78	50-150			
13C2-PFHxA	31.4		ng/l	40.0		78	50-150			
d5-EtFOSAA	31.9		ng/l	40.0		80	50-150			
HFPO-DA-13C3	28.3		ng/l	40.0		71	50-150			
Batch: W9J0546 - EPA 537.1										
Blank (W9J0546-BLK1)										
				Prepared: 10/08/19 Analyzed: 10/17/19						
11CI-PF3OUdS	ND	2.0	ng/l							
9CI-PF3ONS	ND	2.0	ng/l							
ADONA	ND	2.0	ng/l							
EtFOSAA	ND	2.0	ng/l							
HFPO-DA	ND	2.0	ng/l							

City of Lomita
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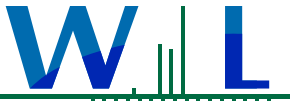
Project Manager: Patrick McCue

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W9J0546 - EPA 537.1 (Continued)										
Blank (W9J0546-BLK1)				Prepared: 10/08/19 Analyzed: 10/17/19						
MeFOSAA	ND	2.0	ng/l							
PFBS	ND	2.0	ng/l							
PFDA	ND	2.0	ng/l							
PFDoA	ND	2.0	ng/l							
PFHpA	ND	2.0	ng/l							
PFHxA	ND	2.0	ng/l							
PFHxS	ND	2.0	ng/l							
PFNA	ND	2.0	ng/l							
PFOA	ND	2.0	ng/l							
PFOS	ND	2.0	ng/l							
PFTeDA	ND	2.0	ng/l							
PFTrDA	ND	2.0	ng/l							
PFUnA	ND	2.0	ng/l							
<i>Surrogate(s)</i>										
13C2-PFDA	35.6		ng/l	40.0		89	70-130			
13C2-PFHxA	43.8		ng/l	40.0		109	70-130			
d5-EtFOSAA	31.7		ng/l	40.0		79	70-130			
HFPO-DA-13C3	39.8		ng/l	40.0		99	70-130			
LCS (W9J0546-BS1)				Prepared: 10/08/19 Analyzed: 10/17/19						
11Cl-PF3OUdS	1.99	2.0	ng/l	2.00		99	50-150			
9Cl-PF3ONS	2.05	2.0	ng/l	2.00		103	50-150			
ADONA	1.94	2.0	ng/l	2.00		97	50-150			
EtFOSAA	1.18	2.0	ng/l	2.00		59	50-150			
HFPO-DA	2.07	2.0	ng/l	2.00		104	50-150			
MeFOSAA	1.66	2.0	ng/l	2.00		83	50-150			
PFBS	2.70	2.0	ng/l	2.00		135	50-150			
PFDA	1.98	2.0	ng/l	2.00		99	50-150			
PFDoA	1.74	2.0	ng/l	2.00		87	50-150			
PFHpA	2.04	2.0	ng/l	2.00		102	50-150			
PFHxA	2.12	2.0	ng/l	2.00		106	50-150			
PFHxS	2.69	2.0	ng/l	2.00		135	50-150			
PFNA	1.86	2.0	ng/l	2.00		93	50-150			
PFOA	2.14	2.0	ng/l	2.00		107	50-150			
PFOS	2.48	2.0	ng/l	2.00		124	50-150			
PFTeDA	1.75	2.0	ng/l	2.00		87	50-150			
PFTrDA	1.58	2.0	ng/l	2.00		79	50-150			
PFUnA	1.77	2.0	ng/l	2.00		88	50-150			
<i>Surrogate(s)</i>										
13C2-PFDA	27.5		ng/l	40.0		69	70-130			S-11



WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

City of Lomita
24300 Norbonne Avenue
Lomita, CA 90717

Project Number: 1910073

Project Manager: Patrick McCue

Reported:
10/23/2019 15:59

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W9J0546 - EPA 537.1 (Continued)										
LCS (W9J0546-BS1)										
Prepared: 10/08/19 Analyzed: 10/17/19										
<i>Surrogate(s)</i>										
13C2-PFHxA	33.6		ng/l	40.0		84	70-130			
d5-EtFOSAA	19.3		ng/l	40.0		48	70-130			S-11
HFPO-DA-13C3	30.6		ng/l	40.0		77	70-130			
LCS Dup (W9J0546-BSD1)										
Prepared: 10/08/19 Analyzed: 10/17/19										
11CI-PF3OUdS	1.96	2.0	ng/l	2.00		98	50-150	2	30	
9CI-PF3ONS	1.94	2.0	ng/l	2.00		97	50-150	6	30	
ADONA	1.87	2.0	ng/l	2.00		94	50-150	4	30	
EtFOSAA	1.78	2.0	ng/l	2.00		89	50-150	41	30	Q-12
HFPO-DA	1.72	2.0	ng/l	2.00		86	50-150	18	30	
MeFOSAA	1.77	2.0	ng/l	2.00		89	50-150	7	30	
PFBS	2.62	2.0	ng/l	2.00		131	50-150	3	30	
PFDA	2.27	2.0	ng/l	2.00		113	50-150	14	30	
PFDoA	1.57	2.0	ng/l	2.00		79	50-150	10	30	
PFHpA	1.98	2.0	ng/l	2.00		99	50-150	3	30	
PFHxA	2.16	2.0	ng/l	2.00		108	50-150	1	30	
PFHxS	2.01	2.0	ng/l	2.00		101	50-150	29	30	
PFNA	2.00	2.0	ng/l	2.00		100	50-150	7	30	
PFOA	2.15	2.0	ng/l	2.00		108	50-150	0.6	30	
PFOS	2.32	2.0	ng/l	2.00		116	50-150	7	30	
PFTeDA	2.10	2.0	ng/l	2.00		105	50-150	18	30	
PFTrDA	1.80	2.0	ng/l	2.00		90	50-150	13	30	
PFUnA	2.06	2.0	ng/l	2.00		103	50-150	15	30	
<i>Surrogate(s)</i>										
13C2-PFDA	31.4		ng/l	40.0		79	70-130			
13C2-PFHxA	33.8		ng/l	40.0		85	70-130			
d5-EtFOSAA	26.7		ng/l	40.0		67	70-130			S-11
HFPO-DA-13C3	29.6		ng/l	40.0		74	70-130			

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Notes and Definitions

Item	Definition
B-02	This analyte is detected in the method blank below the MRL, but above the method acceptance criteria. The batch was accepted since this analyte was not detected in the sample.
Q-08	High bias in the QC sample does not affect sample result since analyte was not detected or below the reporting limit.
Q-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
S-11	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
% Rec	Percent Recovery
Dil	Dilution
dry	Sample results reported on a dry weight basis
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
NR	Not Reportable
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.