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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CWM Environmental
11931 State Route 85
Suite B
Kittanning PA 16201

Report Date: September 10, 2018 00:16

Project: PWSA

Account #: 20413
Group Number: 1980077
State of Sample Origin: PA

Respectfully Submitted,

Stephen J. Gordon
Project Manager

(724) 597-2027

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
Raw Grab Water	08/23/2018 07:35	9770497
Entry Point Grab Water	08/23/2018 07:50	9770498

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **Raw Grab Water**
PWSA

Project Name: **PWSA**

Submittal Date/Time: 08/24/2018 08:05
Collection Date/Time: 08/23/2018 07:35

CWM Environmental
ELLE Sample #: WW 9770497
ELLE Group #: 1980077
Matrix: Wastewater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	**ng/l**	
14473	10:2-fluorotelomersulfonate[1]	120226-60-0	N.D.	2.7	8.1	1
14473	4:2 fluorotelomersulfonate	757124-72-4	N.D.	0.90	2.7	1
14473	6:2 fluorotelomersulfonate	27619-97-2	N.D.	0.90	1.8	1
14473	8:2 fluorotelomersulfonate	39108-34-4	N.D.	1.8	5.4	1
14473	NEtFOSAA	2991-50-6	N.D.	0.90	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSA	4151-50-2	N.D.	2.7	8.1	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide					
14473	NEtPFOSAE	1691-99-2	N.D.	1.1	2.7	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	N.D.	0.90	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	NMePFOSA	31506-32-8	N.D.	2.7	8.1	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide					
14473	NMePFOSAE	24448-09-7	N.D.	0.90	2.7	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol					
14473	Perfluorobutanesulfonate	375-73-5	1.3	0.27	0.90	1
14473	Perfluorobutanoic acid	375-22-4	2.0 J	1.8	5.4	1
14473	Perfluorodecanesulfonate	335-77-3	N.D.	0.54	1.8	1
14473	Perfluorodecanoic acid	335-76-2	N.D.	0.81	1.8	1
14473	Perfluorododecanesulfonate	79780-39-5	N.D.	0.27	0.90	1
14473	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	N.D.	0.36	1.8	1
14473	Perfluoroheptanoic acid	375-85-9	0.70 J	0.36	0.90	1
14473	Perfluorohexadecanoic acid	67905-19-5	N.D.	0.27	0.90	1
14473	Perfluorohexanesulfonate	355-46-4	0.59 J	0.36	1.8	1
14473	Perfluorohexanoic acid	307-24-4	1.4 J	0.36	1.8	1
14473	Perfluorononanesulfonate[1]	68259-12-1	N.D.	0.54	1.8	1
14473	Perfluorononanoic acid	375-95-1	0.56 J	0.36	1.8	1
14473	Perfluorooctadecanoic acid	16517-11-6	N.D.	0.45	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	N.D.	0.45	2.7	1
14473	Perfluoro-octanesulfonate	1763-23-1	1.9	0.36	1.8	1
14473	Perfluorooctanoic acid	335-67-1	1.7	0.27	0.90	1
14473	Perfluoropentanesulfonate	2706-91-4	N.D.	0.36	1.8	1
14473	Perfluoropentanoic acid	2706-90-3	1.9 J	1.8	5.4	1
14473	Perfluorotetradecanoic acid	376-06-7	N.D.	0.27	0.90	1
14473	Perfluorotridecanoic acid	72629-94-8	N.D.	0.36	0.90	1
14473	Perfluoroundecanoic acid	2058-94-8	N.D.	0.36	1.8	1

The recovery for several labeled compounds used as extraction standards did not recover above 10% in the sample. The following corrective action

*=This limit was used in the evaluation of the final result

Sample Description: **Raw Grab Water**
PWSA

Project Name: **PWSA**

Submittal Date/Time: 08/24/2018 08:05
Collection Date/Time: 08/23/2018 07:35

CWM Environmental
ELLE Sample #: WW 9770497
ELLE Group #: 1980077
Matrix: Wastewater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor

was taken: The sample was re-extracted within holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

[1] = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	32 compounds by EPA 537 mod	EPA 537 Version 1.1 Modified	1	18242008	08/30/2018 23:52	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18242008	08/30/2018 09:30	Pamela Rothharpt	1

*=This limit was used in the evaluation of the final result

Sample Description: **Entry Point Grab Water PWSA**

Project Name: **PWSA**

Submittal Date/Time: 08/24/2018 08:05
Collection Date/Time: 08/23/2018 07:50

CWM Environmental
ELLE Sample #: WW 9770498
ELLE Group #: 1980077
Matrix: Wastewater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	**ng/l**	
14473	10:2-fluorotelomersulfonate[1]	120226-60-0	N.D.	2.6	7.9	1
14473	4:2 fluorotelomersulfonate	757124-72-4	N.D.	0.88	2.6	1
14473	6:2 fluorotelomersulfonate	27619-97-2	N.D.	0.88	1.8	1
14473	8:2 fluorotelomersulfonate	39108-34-4	N.D.	1.8	5.3	1
14473	NEtFOSAA	2991-50-6	N.D.	0.88	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSA	4151-50-2	N.D.	2.6	7.9	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide					
14473	NEtPFOSAE	1691-99-2	N.D.	1.1	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	N.D.	0.88	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	NMePFOSA	31506-32-8	N.D.	2.6	7.9	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide					
14473	NMePFOSAE	24448-09-7	N.D.	0.88	2.6	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol					
14473	Perfluorobutanesulfonate	375-73-5	1.3	0.26	0.88	1
14473	Perfluorobutanoic acid	375-22-4	1.9 J	1.8	5.3	1
14473	Perfluorodecanesulfonate	335-77-3	N.D.	0.53	1.8	1
14473	Perfluorodecanoic acid	335-76-2	N.D.	0.79	1.8	1
14473	Perfluorododecanesulfonate	79780-39-5	N.D.	0.26	0.88	1
14473	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	N.D.	0.35	1.8	1
14473	Perfluoroheptanoic acid	375-85-9	0.83 J	0.35	0.88	1
14473	Perfluorohexadecanoic acid	67905-19-5	N.D.	0.26	0.88	1
14473	Perfluorohexanesulfonate	355-46-4	0.57 J	0.35	1.8	1
14473	Perfluorohexanoic acid	307-24-4	1.6 J	0.35	1.8	1
14473	Perfluorononanesulfonate[1]	68259-12-1	N.D.	0.53	1.8	1
14473	Perfluorononanoic acid	375-95-1	0.51 J	0.35	1.8	1
14473	Perfluorooctadecanoic acid	16517-11-6	N.D.	0.44	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	N.D.	0.44	2.6	1
14473	Perfluoro-octanesulfonate	1763-23-1	2.0	0.35	1.8	1
14473	Perfluorooctanoic acid	335-67-1	1.7	0.26	0.88	1
14473	Perfluoropentanesulfonate	2706-91-4	N.D.	0.35	1.8	1
14473	Perfluoropentanoic acid	2706-90-3	N.D.	1.8	5.3	1
14473	Perfluorotetradecanoic acid	376-06-7	N.D.	0.26	0.88	1
14473	Perfluorotridecanoic acid	72629-94-8	N.D.	0.35	0.88	1
14473	Perfluoroundecanoic acid	2058-94-8	N.D.	0.35	1.8	1

The recovery for several labeled compounds used as extraction standards did not recover above 10% in the sample. The following corrective action

*=This limit was used in the evaluation of the final result

Sample Description: **Entry Point Grab Water PWSA**

Project Name: **PWSA**

Submittal Date/Time: 08/24/2018 08:05
Collection Date/Time: 08/23/2018 07:50

CWM Environmental
ELLE Sample #: WW 9770498
ELLE Group #: 1980077
Matrix: Wastewater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor

was taken: The sample was re-extracted within holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

[1] = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	32 compounds by EPA 537 mod	EPA 537 Version 1.1 Modified	1	18242008	08/31/2018 00:01	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18242008	08/30/2018 09:30	Pamela Rothharpt	1

*=This limit was used in the evaluation of the final result

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Quality Control Summary

Client Name: CWM Environmental
Group Number: 1980077
Reported: 09/10/2018 00:16

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ng/l	ng/l	ng/l
Batch number: 18242008	Sample number(s): 9770497-9770498		
10:2-fluorotelomersulfonate	N.D.	3.0	9.0
4:2 fluorotelomersulfonate	N.D.	1.0	3.0
6:2 fluorotelomersulfonate	N.D.	1.0	2.0
8:2 fluorotelomersulfonate	N.D.	2.0	6.0
NEtFOSAA	N.D.	1.0	3.0
NEtPFOSA	N.D.	3.0	9.0
NEtPFOSAE	N.D.	1.2	3.0
NMeFOSAA	N.D.	1.0	3.0
NMePFOSA	N.D.	3.0	9.0
NMePFOSAE	N.D.	1.0	3.0
Perfluorobutanesulfonate	N.D.	0.30	1.0
Perfluorobutanoic acid	N.D.	2.0	6.0
Perfluorodecanesulfonate	N.D.	0.60	2.0
Perfluorodecanoic acid	N.D.	0.90	2.0
Perfluorododecanesulfonate	N.D.	0.30	1.0
Perfluorododecanoic acid	N.D.	0.50	2.0
Perfluoroheptanesulfonate	N.D.	0.40	2.0
Perfluoroheptanoic acid	N.D.	0.40	1.0
Perfluorohexadecanoic acid	N.D.	0.30	1.0
Perfluorohexanesulfonate	N.D.	0.40	2.0
Perfluorohexanoic acid	N.D.	0.40	2.0
Perfluorononanesulfonate	N.D.	0.60	2.0
Perfluorononanoic acid	N.D.	0.40	2.0
Perfluorooctadecanoic acid	N.D.	0.50	2.0
Perfluorooctanesulfonamide	N.D.	0.50	3.0
Perfluoro-octanesulfonate	N.D.	0.40	2.0
Perfluorooctanoic acid	N.D.	0.30	1.0
Perfluoropentanesulfonate	N.D.	0.40	2.0
Perfluoropentanoic acid	N.D.	2.0	6.0
Perfluorotetradecanoic acid	N.D.	0.30	1.0
Perfluorotridecanoic acid	N.D.	0.40	1.0
Perfluoroundecanoic acid	N.D.	0.40	2.0

LCS/LCSD

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CWM Environmental
Reported: 09/10/2018 00:16

Group Number: 1980077

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18242008	Sample number(s): 9770497-9770498								
10:2-fluorotelomersulfonate	15.42	14.84	15.42	16.24	96	105	49-186	9	30
4:2 fluorotelomersulfonate	14.94	15.53	14.94	16.04	104	107	82-152	3	30
6:2 fluorotelomersulfonate	15.17	16.38	15.17	17.47	108	115	66-155	6	30
8:2 fluorotelomersulfonate	15.33	16.09	15.33	17.61	105	115	66-148	9	30
NEtFOSAA	5.44	5.15	5.44	5.23	95	96	55-169	2	30
NEtPFOSA	5.44	6.87	5.44	6.53	126	120	70-130	5	30
NEtPFOSAE	5.44	5.01	5.44	5.70	92	105	70-130	13	30
NMeFOSAA	5.44	5.07	5.44	5.58	93	103	62-167	10	30
NMePFOSA	5.44	6.45	5.44	6.66	119	122	70-130	3	30
NMePFOSAE	5.44	6.58	5.44	6.09	121	112	70-130	8	30
Perfluorobutanesulfonate	4.81	5.05	4.81	5.50	105	114	73-128	9	30
Perfluorobutanoic acid	5.44	5.97	5.44	6.07	110	112	74-142	2	30
Perfluorodecanesulfonate	5.24	6.92	5.24	5.89	132	112	60-135	16	30
Perfluorodecanoic acid	5.44	6.16	5.44	6.03	113	111	69-148	2	30
Perfluorododecanesulfonate	5.26	5.25	5.26	4.88	100	93	70-130	7	30
Perfluorododecanoic acid	5.44	6.13	5.44	6.17	113	113	75-136	1	30
Perfluoroheptanesulfonate	5.18	5.95	5.18	5.64	115	109	64-135	5	30
Perfluoroheptanoic acid	5.44	6.02	5.44	6.28	111	115	76-140	4	30
Perfluorohexadecanoic acid	5.44	5.62	5.44	5.75	103	106	21-151	2	30
Perfluorohexanesulfonate	5.14	5.42	5.14	5.62	105	109	71-131	4	30
Perfluorohexanoic acid	5.44	6.22	5.44	6.00	114	110	75-135	4	30
Perfluorononanesulfonate	5.22	5.85	5.22	5.73	112	110	66-133	2	30
Perfluorononanoic acid	5.44	6.09	5.44	6.32	112	116	72-148	4	30
Perfluorooctadecanoic acid	5.44	5.67	5.44	5.87	104	108	70-130	3	30
Perfluorooctanesulfonamide	5.44	5.11	5.44	5.13	94	94	65-164	0	30
Perfluoro-octanesulfonate	5.20	5.84	5.20	5.78	112	111	67-138	1	30
Perfluorooctanoic acid	5.44	5.80	5.44	6.21	107	114	72-138	7	30
Perfluoropentanesulfonate	5.10	6.08	5.10	5.83	119	114	76-127	4	30
Perfluoropentanoic acid	5.44	6.00	5.44	6.06	110	111	74-134	1	30
Perfluorotetradecanoic acid	5.44	6.47	5.44	6.57	119	121	74-135	2	30
Perfluorotridecanoic acid	5.44	6.27	5.44	6.31	115	116	61-145	1	30
Perfluoroundecanoic acid	5.44	6.05	5.44	5.53	111	102	75-146	9	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CWM Environmental
Reported: 09/10/2018 00:16

Group Number: 1980077

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 32 compounds by EPA 537 mod
Batch number: 18242008

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C2-4:2-FTS	13C5-PFHxA	13C3-PFHxS
9770497	104	118	125	164	108	109
9770498	94	102	112	118	89	93
Blank	87	89	87	89	88	80
LCS	95	94	94	90	90	87
LCSD	101	103	98	110	105	100
Limits:	33-123	31-157	26-148	21-182	35-138	34-126

	13C4-PFHpA	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA
9770497	96	145	111	104	103	105
9770498	85	119	93	95	95	98
Blank	72	95	83	88	86	83
LCS	79	106	93	96	99	91
LCSD	89	115	104	100	101	97
Limits:	35-126	32-170	48-122	50-121	41-144	47-125

	13C2-8:2-FTS	d3-NMeFOSAA	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA
9770497	115	107	105	121	100	93
9770498	108	110	107	110	103	94
Blank	85	87	87	91	82	83
LCS	94	113	99	112	100	97
LCSD	91	101	108	111	105	99
Limits:	27-164	30-127	30-128	30-142	39-130	26-119

	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEtPFOSAE	d5-NEtPFOSA
9770497	68	26	7*	25	7*
9770498	74	37	12	36	8*
Blank	83	73	57	74	57
LCS	88	58	24	61	22
LCSD	101	73	31	71	34
Limits:	11-127	10-128	10-104	10-121	10-106

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Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 20413 Group # 1980077 Sample # 9770497-98, 9770523 **COC # 579115**

Client Information

Client: CWM | Acct. #:

Project Name/#: PWSA | PWSID #:

Project Manager: Ryan Shafer | P.O. #:

Sampler: Frank Davis | Quote #:

State where samples were collected: PA | For Compliance: Yes ☐ No ☒

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other: ____

Analysis Requested

Preservation and Filtration Codes

For Lab Use Only

FSC: ____

SCR#: 229168

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Tissue	Water	Potable	Ground	NPDES	Surface	Other	Total # of Containers	PFAS w/ Trizma		PFAS no pres.									Remarks
Raw	08.23.18	07:35	✓					✓						3	2		1									32 cpds
Entry Point	08.23.18	07:50	✓					✓						3	2		1									

Not reportable, No MS/MSD required.

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: ____

E-mail address: ____

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)

Type III (Reduced non-CLP) | NJ DKQP | TX TRRP-13

NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Chelsea West	8-1-18	16:54	Frank Davis	08.23.18	7:50
Frank Davis	08.23.18	13:30	Charles Caudle Jr.	8.23.18	1330
Charles Caudle Jr.	8.23.18	1430		8.23.18	1430
			Sue Mey	8/24/18	8:05

EDD Required? Yes No

If yes, format: ____

Site-Specific QC (MS/MSD/Dup)? Yes (No)

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ✓ FedEx ____ Other ____

Temperature upon receipt 1.2 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 225108

Group Number(s): 1980077

Client: CWM

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	08/24/2018 8:05
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Suegeily Mendez (14058) at 09:01 on 08/24/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-02	1.2	DT	Wet	Y	Loose	N

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.