

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-167041-1

Client Project/Site: MGE Transformer Spill - 25219029

For:

SCS Engineers
2830 Dairy Dr
Madison, Wisconsin 53718

Attn: Mr. Eric Oelkers



Authorized for release by:
7/29/2019 5:13:02 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Job ID: 500-167041-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative 500-167041-1

Comments

No additional comments.

Receipt

The samples were received on 7/20/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.8° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: LW1 (500-167041-1), LW2 (500-167041-2) and Blount (500-167041-3). Samples received on ice.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery for M2-6:2 FTS and M2-8:2 FTS are above the method recommended limit for the following samples: LW2 (500-167041-2) and Blount (500-167041-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The samples were reanalyzed with concurring results; therefore the data has been reported.

Method(s) 537 (modified): Results for sample LW1 (500-167041-1) were reported from the analysis of a diluted extract due to high concentration of the target analyte and matrix effects in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3535: The following sample contains black particulates and appears to be slightly opaque. Due to matrix the sample was fortified with surrogate and then centrifuged and decanted prior to solid-phase extraction. The sample appeared to have an oil-like layer. After the loading of sample the column was slow to elute due to some clogging from the oily layer. The extract is yellow in color. Blount (500-167041-3). preparation batch 320-309625 3535_PFC Aqueous

Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-309625. 3535_PFC Aqueous

Method(s) 3535: The following samples had a sheen and a strong hydrocarbon odor. After the addition of water to the extracts during the final volume step the extracts became cloudy/opaque and milky-white in appearance. LW1 (500-167041-1), LW2 (500-167041-2) and Blount (500-167041-3) preparation batch 320-309625 3535_PFC Aqueous

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: LW1

Lab Sample ID: 500-167041-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	6.6	J	17	4.2	ng/L	10		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	10	J	17	5.0	ng/L	10		537 (modified)	Total/NA
6:2 FTS	250		170	17	ng/L	10		537 (modified)	Total/NA

Client Sample ID: LW2

Lab Sample ID: 500-167041-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.8		1.7	0.30	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.5	J	1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.0		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.33	J	1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.96	J	1.7	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	1.7	0.15	ng/L	1		537 (modified)	Total/NA
6:2 FTS	97		17	1.7	ng/L	1		537 (modified)	Total/NA
8:2 FTS	2.8	J	17	1.7	ng/L	1		537 (modified)	Total/NA
10:2 FTS	0.90	J	1.7	0.16	ng/L	1		537 (modified)	Total/NA
Ammonium Perfluorooctanoate (APFO)	1.0	J	1.8	0.76	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Blount

Lab Sample ID: 500-167041-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	12		1.6	0.29	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.6		1.6	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.9		1.6	0.48	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.6	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.0		1.6	0.70	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.55	J	1.6	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.90	J	1.6	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9	B	1.6	0.14	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.6		1.6	0.44	ng/L	1		537 (modified)	Total/NA
6:2 FTS	42		16	1.6	ng/L	1		537 (modified)	Total/NA
8:2 FTS	1.7	J	16	1.6	ng/L	1		537 (modified)	Total/NA
10:2 FTS	0.28	J	1.6	0.16	ng/L	1		537 (modified)	Total/NA
Ammonium Perfluorooctanoate (APFO)	3.1		1.7	0.72	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-167041-1	LW1	Water	07/19/19 14:30	07/20/19 09:15	
500-167041-2	LW2	Water	07/19/19 16:20	07/20/19 09:15	
500-167041-3	Blount	Water	07/19/19 17:00	07/20/19 09:15	

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- 16

Client Sample Results

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: LW1

Lab Sample ID: 500-167041-1

Date Collected: 07/19/19 14:30

Matrix: Water

Date Received: 07/20/19 09:15

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.063		0.38	0.063	ug/L		07/22/19 14:58	07/23/19 12:23	1
PCB-1221	<0.19		0.38	0.19	ug/L		07/22/19 14:58	07/23/19 12:23	1
PCB-1232	<0.19		0.38	0.19	ug/L		07/22/19 14:58	07/23/19 12:23	1
PCB-1242	<0.19		0.38	0.19	ug/L		07/22/19 14:58	07/23/19 12:23	1
PCB-1248	<0.19		0.38	0.19	ug/L		07/22/19 14:58	07/23/19 12:23	1
PCB-1254	<0.19		0.38	0.19	ug/L		07/22/19 14:58	07/23/19 12:23	1
PCB-1260	<0.066		0.38	0.066	ug/L		07/22/19 14:58	07/23/19 12:23	1
Polychlorinated biphenyls, Total	<0.19		0.38	0.19	ug/L		07/22/19 14:58	07/23/19 12:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	71		30 - 120	07/22/19 14:58	07/23/19 12:23	1
DCB Decachlorobiphenyl	61		30 - 140	07/22/19 14:58	07/23/19 12:23	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<3.0		17	3.0	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoropentanoic acid (PFPeA)	6.6	J	17	4.2	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorohexanoic acid (PFHxA)	10	J	17	5.0	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoroheptanoic acid (PFHpA)	<2.2		17	2.2	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorooctanoic acid (PFOA)	<7.3		17	7.3	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorononanoic acid (PFNA)	<2.3		17	2.3	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorodecanoic acid (PFDA)	<2.7		17	2.7	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoroundecanoic acid (PFUnA)	<9.5		17	9.5	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorododecanoic acid (PFDoA)	<4.8		17	4.8	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorotridecanoic acid (PFTriA)	<11		17	11	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorotetradecanoic acid (PFTeA)	<2.5		17	2.5	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<7.7		17	7.7	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorobutanesulfonic acid (PFBS)	<1.7		17	1.7	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoro-n-octadecanoic acid (PFODA)	<4.0		17	4.0	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoropentanesulfonic acid (PFPeS)	<2.6		17	2.6	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorohexanesulfonic acid (PFHxS)	<1.5		17	1.5	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluoroheptanesulfonic Acid (PFHpS)	<1.6		17	1.6	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorooctanesulfonic acid (PFOS)	<4.7		17	4.7	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorononanesulfonic acid (PFNS)	<1.4		17	1.4	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorodecanesulfonic acid (PFDS)	<2.8		17	2.8	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorooctanesulfonamide (FOSA)	<3.0		17	3.0	ng/L		07/23/19 19:23	07/29/19 11:52	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<27		170	27	ng/L		07/23/19 19:23	07/29/19 11:52	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<16		170	16	ng/L		07/23/19 19:23	07/29/19 11:52	10
4:2 FTS	<45		170	45	ng/L		07/23/19 19:23	07/29/19 11:52	10
6:2 FTS	250		170	17	ng/L		07/23/19 19:23	07/29/19 11:52	10
8:2 FTS	<17		170	17	ng/L		07/23/19 19:23	07/29/19 11:52	10
Perfluorododecanesulfonic acid (PFDoS)	<3.9		17	3.9	ng/L		07/23/19 19:23	07/29/19 11:52	10
ADONA	<1.6		18	1.6	ng/L		07/23/19 19:23	07/29/19 11:52	10
F-53B Major	<2.1		17	2.1	ng/L		07/23/19 19:23	07/29/19 11:52	10
HFPO-DA (GenX)	<13		35	13	ng/L		07/23/19 19:23	07/29/19 11:52	10

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Client Sample Results

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: LW1

Lab Sample ID: 500-167041-1

Date Collected: 07/19/19 14:30

Matrix: Water

Date Received: 07/20/19 09:15

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
F-53B Minor	<2.8		17	2.8	ng/L		07/23/19 19:23	07/29/19 11:52	10
10:2 FTS	<1.6		17	1.6	ng/L		07/23/19 19:23	07/29/19 11:52	10
NaDONA	<1.6		18	1.6	ng/L		07/23/19 19:23	07/29/19 11:52	10
DONA	<1.6		17	1.6	ng/L		07/23/19 19:23	07/29/19 11:52	10
Ammonium Perfluorooctanoate (APFO)	<7.6		18	7.6	ng/L		07/23/19 19:23	07/29/19 11:52	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C5 PFPeA	93		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C2 PFHxA	98		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C4 PFHpA	99		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C4 PFOA	99		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C5 PFNA	101		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C2 PFDA	104		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C2 PFHxDA	90		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C2 PFUnA	109		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C2 PFDoA	114		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C2 PFTeDA	101		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C3 PFBS	100		25 - 150	07/23/19 19:23	07/29/19 11:52	10
18O2 PFHxS	94		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C4 PFOS	88		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C8 FOSA	76		25 - 150	07/23/19 19:23	07/29/19 11:52	10
d3-NMeFOSAA	105		25 - 150	07/23/19 19:23	07/29/19 11:52	10
d5-NEtFOSAA	128		25 - 150	07/23/19 19:23	07/29/19 11:52	10
M2-6:2 FTS	117		25 - 150	07/23/19 19:23	07/29/19 11:52	10
M2-8:2 FTS	142		25 - 150	07/23/19 19:23	07/29/19 11:52	10
M2-4:2 FTS	98		25 - 150	07/23/19 19:23	07/29/19 11:52	10
13C3 HFPO-DA	97		25 - 150	07/23/19 19:23	07/29/19 11:52	10

Client Sample Results

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: LW2

Lab Sample ID: 500-167041-2

Date Collected: 07/19/19 16:20

Matrix: Water

Date Received: 07/20/19 09:15

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.063		0.37	0.063	ug/L		07/22/19 14:58	07/23/19 12:41	1
PCB-1221	<0.19		0.37	0.19	ug/L		07/22/19 14:58	07/23/19 12:41	1
PCB-1232	<0.19		0.37	0.19	ug/L		07/22/19 14:58	07/23/19 12:41	1
PCB-1242	<0.19		0.37	0.19	ug/L		07/22/19 14:58	07/23/19 12:41	1
PCB-1248	<0.19		0.37	0.19	ug/L		07/22/19 14:58	07/23/19 12:41	1
PCB-1254	<0.19		0.37	0.19	ug/L		07/22/19 14:58	07/23/19 12:41	1
PCB-1260	<0.066		0.37	0.066	ug/L		07/22/19 14:58	07/23/19 12:41	1
Polychlorinated biphenyls, Total	<0.19		0.37	0.19	ug/L		07/22/19 14:58	07/23/19 12:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	73		30 - 120	07/22/19 14:58	07/23/19 12:41	1
DCB Decachlorobiphenyl	65		30 - 140	07/22/19 14:58	07/23/19 12:41	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.8		1.7	0.30	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoropentanoic acid (PFPeA)	1.5	J	1.7	0.42	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorohexanoic acid (PFHxA)	5.0		1.7	0.50	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoroheptanoic acid (PFHpA)	0.33	J	1.7	0.22	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorooctanoic acid (PFOA)	0.96	J	1.7	0.73	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorononanoic acid (PFNA)	<0.23		1.7	0.23	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorodecanoic acid (PFDA)	<0.27		1.7	0.27	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoroundecanoic acid (PFUnA)	<0.95		1.7	0.95	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorododecanoic acid (PFDoA)	<0.47		1.7	0.47	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.7	1.1	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorotetradecanoic acid (PFTeA)	<0.25		1.7	0.25	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.77		1.7	0.77	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorobutanesulfonic acid (PFBS)	<0.17		1.7	0.17	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.40		1.7	0.40	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoropentanesulfonic acid (PFPeS)	<0.26		1.7	0.26	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	1.7	0.15	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.16		1.7	0.16	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorooctanesulfonic acid (PFOS)	<0.46		1.7	0.46	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorononanesulfonic acid (PFNS)	<0.14		1.7	0.14	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.7	0.28	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorooctanesulfonamide (FOSA)	<0.30		1.7	0.30	ng/L		07/23/19 19:23	07/27/19 18:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.7		17	2.7	ng/L		07/23/19 19:23	07/27/19 18:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.6		17	1.6	ng/L		07/23/19 19:23	07/27/19 18:59	1
4:2 FTS	<4.5		17	4.5	ng/L		07/23/19 19:23	07/27/19 18:59	1
6:2 FTS	97		17	1.7	ng/L		07/23/19 19:23	07/27/19 18:59	1
8:2 FTS	2.8	J	17	1.7	ng/L		07/23/19 19:23	07/27/19 18:59	1
Perfluorododecanesulfonic acid (PFDoS)	<0.39		1.7	0.39	ng/L		07/23/19 19:23	07/27/19 18:59	1
ADONA	<0.16		1.8	0.16	ng/L		07/23/19 19:23	07/27/19 18:59	1
F-53B Major	<0.21		1.7	0.21	ng/L		07/23/19 19:23	07/27/19 18:59	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: LW2

Lab Sample ID: 500-167041-2

Date Collected: 07/19/19 16:20

Matrix: Water

Date Received: 07/20/19 09:15

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	<1.3		3.4	1.3	ng/L		07/23/19 19:23	07/27/19 18:59	1
F-53B Minor	<0.28		1.7	0.28	ng/L		07/23/19 19:23	07/27/19 18:59	1
10:2 FTS	0.90	J	1.7	0.16	ng/L		07/23/19 19:23	07/27/19 18:59	1
NaDONA	<0.16		1.8	0.16	ng/L		07/23/19 19:23	07/27/19 18:59	1
DONA	<0.15		1.7	0.15	ng/L		07/23/19 19:23	07/27/19 18:59	1
Ammonium Perfluorooctanoate (APFO)	1.0	J	1.8	0.76	ng/L		07/23/19 19:23	07/27/19 18:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	76		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C5 PFPeA	95		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C2 PFHxA	89		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C4 PFHpA	99		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C4 PFOA	102		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C5 PFNA	114		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C2 PFDA	117		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C2 PFHxDA	93		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C2 PFUnA	118		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C2 PFDoA	114		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C2 PFTeDA	114		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C3 PFBS	96		25 - 150	07/23/19 19:23	07/27/19 18:59	1
18O2 PFHxS	97		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C4 PFOS	94		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C8 FOSA	85		25 - 150	07/23/19 19:23	07/27/19 18:59	1
d3-NMeFOSAA	114		25 - 150	07/23/19 19:23	07/27/19 18:59	1
d5-NEtFOSAA	131		25 - 150	07/23/19 19:23	07/27/19 18:59	1
M2-6:2 FTS	154	*	25 - 150	07/23/19 19:23	07/27/19 18:59	1
M2-8:2 FTS	159	*	25 - 150	07/23/19 19:23	07/27/19 18:59	1
M2-4:2 FTS	130		25 - 150	07/23/19 19:23	07/27/19 18:59	1
13C3 HFPO-DA	90		25 - 150	07/23/19 19:23	07/27/19 18:59	1

Client Sample Results

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: Blount

Lab Sample ID: 500-167041-3

Date Collected: 07/19/19 17:00

Matrix: Water

Date Received: 07/20/19 09:15

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.062		0.37	0.062	ug/L		07/22/19 14:58	07/23/19 13:00	1
PCB-1221	<0.18		0.37	0.18	ug/L		07/22/19 14:58	07/23/19 13:00	1
PCB-1232	<0.18		0.37	0.18	ug/L		07/22/19 14:58	07/23/19 13:00	1
PCB-1242	<0.18		0.37	0.18	ug/L		07/22/19 14:58	07/23/19 13:00	1
PCB-1248	<0.18		0.37	0.18	ug/L		07/22/19 14:58	07/23/19 13:00	1
PCB-1254	<0.18		0.37	0.18	ug/L		07/22/19 14:58	07/23/19 13:00	1
PCB-1260	<0.064		0.37	0.064	ug/L		07/22/19 14:58	07/23/19 13:00	1
Polychlorinated biphenyls, Total	<0.18		0.37	0.18	ug/L		07/22/19 14:58	07/23/19 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		30 - 120	07/22/19 14:58	07/23/19 13:00	1
DCB Decachlorobiphenyl	90		30 - 140	07/22/19 14:58	07/23/19 13:00	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	12		1.6	0.29	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoropentanoic acid (PFPeA)	3.6		1.6	0.40	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorohexanoic acid (PFHxA)	3.9		1.6	0.48	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.6	0.20	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorooctanoic acid (PFOA)	3.0		1.6	0.70	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorononanoic acid (PFNA)	0.55	J	1.6	0.22	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorodecanoic acid (PFDA)	0.90	J	1.6	0.25	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoroundecanoic acid (PFUnA)	<0.90		1.6	0.90	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorododecanoic acid (PFDoA)	<0.45		1.6	0.45	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorotridecanoic acid (PFTrIA)	<1.1		1.6	1.1	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorotetradecanoic acid (PFTeA)	<0.24		1.6	0.24	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.73		1.6	0.73	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorobutanesulfonic acid (PFBS)	<0.16		1.6	0.16	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.38		1.6	0.38	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoropentanesulfonic acid (PFPeS)	<0.25		1.6	0.25	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorohexanesulfonic acid (PFHxS)	3.9	B	1.6	0.14	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.16		1.6	0.16	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorooctanesulfonic acid (PFOS)	5.6		1.6	0.44	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluoronanesulfonic acid (PFNS)	<0.13		1.6	0.13	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorodecanesulfonic acid (PFDS)	<0.26		1.6	0.26	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorooctanesulfonamide (FOSA)	<0.29		1.6	0.29	ng/L		07/23/19 19:23	07/29/19 11:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.5		16	2.5	ng/L		07/23/19 19:23	07/29/19 11:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.6		16	1.6	ng/L		07/23/19 19:23	07/29/19 11:44	1
4:2 FTS	<4.3		16	4.3	ng/L		07/23/19 19:23	07/29/19 11:44	1
6:2 FTS	42		16	1.6	ng/L		07/23/19 19:23	07/29/19 11:44	1
8:2 FTS	1.7	J	16	1.6	ng/L		07/23/19 19:23	07/29/19 11:44	1
Perfluorododecanesulfonic acid (PFDoS)	<0.37		1.6	0.37	ng/L		07/23/19 19:23	07/29/19 11:44	1
ADONA	<0.16		1.7	0.16	ng/L		07/23/19 19:23	07/29/19 11:44	1

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Client Sample Results

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: Blount

Lab Sample ID: 500-167041-3

Date Collected: 07/19/19 17:00

Matrix: Water

Date Received: 07/20/19 09:15

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
F-53B Major	<0.20		1.6	0.20	ng/L		07/23/19 19:23	07/29/19 11:44	1
HFPO-DA (GenX)	<1.2		3.3	1.2	ng/L		07/23/19 19:23	07/29/19 11:44	1
F-53B Minor	<0.26		1.6	0.26	ng/L		07/23/19 19:23	07/29/19 11:44	1
10:2 FTS	0.28	J	1.6	0.16	ng/L		07/23/19 19:23	07/29/19 11:44	1
NaDONA	<0.16		1.7	0.16	ng/L		07/23/19 19:23	07/29/19 11:44	1
DONA	<0.15		1.6	0.15	ng/L		07/23/19 19:23	07/29/19 11:44	1
Ammonium Perfluorooctanoate (APFO)	3.1		1.7	0.72	ng/L		07/23/19 19:23	07/29/19 11:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	78		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C5 PFPeA	84		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C2 PFHxA	94		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C4 PFHpA	101		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C4 PFOA	99		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C5 PFNA	104		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C2 PFDA	104		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C2 PFHxDA	44		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C2 PFUnA	103		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C2 PFDxA	93		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C2 PFTeDA	62		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C3 PFBS	101		25 - 150	07/23/19 19:23	07/29/19 11:44	1
18O2 PFHxS	100		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C4 PFOS	96		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C8 FOSA	70		25 - 150	07/23/19 19:23	07/29/19 11:44	1
d3-NMeFOSAA	122		25 - 150	07/23/19 19:23	07/29/19 11:44	1
d5-NEtFOSAA	144		25 - 150	07/23/19 19:23	07/29/19 11:44	1
M2-6:2 FTS	198	*	25 - 150	07/23/19 19:23	07/29/19 11:44	1
M2-8:2 FTS	203	*	25 - 150	07/23/19 19:23	07/29/19 11:44	1
M2-4:2 FTS	136		25 - 150	07/23/19 19:23	07/29/19 11:44	1
13C3 HFPO-DA	86		25 - 150	07/23/19 19:23	07/29/19 11:44	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

GC Semi VOA

Prep Batch: 496018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167041-1	LW1	Total/NA	Water	3510C	
500-167041-2	LW2	Total/NA	Water	3510C	
500-167041-3	Blount	Total/NA	Water	3510C	
MB 500-496018/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-496018/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-496018/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 496153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167041-1	LW1	Total/NA	Water	8082A	496018
500-167041-2	LW2	Total/NA	Water	8082A	496018
500-167041-3	Blount	Total/NA	Water	8082A	496018
MB 500-496018/1-A	Method Blank	Total/NA	Water	8082A	496018
LCS 500-496018/4-A	Lab Control Sample	Total/NA	Water	8082A	496018
LCSD 500-496018/5-A	Lab Control Sample Dup	Total/NA	Water	8082A	496018

LCMS

Prep Batch: 309625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167041-1	LW1	Total/NA	Water	3535	
500-167041-2	LW2	Total/NA	Water	3535	
500-167041-3	Blount	Total/NA	Water	3535	
MB 320-309625/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-309625/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-309625/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 309956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-309625/1-A	Method Blank	Total/NA	Water	537 (modified)	309625
LCS 320-309625/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	309625
LCSD 320-309625/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	309625

Analysis Batch: 310701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167041-2	LW2	Total/NA	Water	537 (modified)	309625

Analysis Batch: 310996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167041-1	LW1	Total/NA	Water	537 (modified)	309625
500-167041-3	Blount	Total/NA	Water	537 (modified)	309625

Surrogate Summary

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2	DCBP2
		(30-120)	(30-140)
500-167041-1	LW1	71	61
500-167041-2	LW2	73	65
500-167041-3	Blount	68	90
LCS 500-496018/4-A	Lab Control Sample	84	80
LCSD 500-496018/5-A	Lab Control Sample Dup	79	88
MB 500-496018/1-A	Method Blank	100	103

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

QC Sample Results

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-496018/1-A
Matrix: Water
Analysis Batch: 496153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 496018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.067		0.40	0.067	ug/L		07/22/19 14:58	07/23/19 11:09	1
PCB-1221	<0.20		0.40	0.20	ug/L		07/22/19 14:58	07/23/19 11:09	1
PCB-1232	<0.20		0.40	0.20	ug/L		07/22/19 14:58	07/23/19 11:09	1
PCB-1242	<0.20		0.40	0.20	ug/L		07/22/19 14:58	07/23/19 11:09	1
PCB-1248	<0.20		0.40	0.20	ug/L		07/22/19 14:58	07/23/19 11:09	1
PCB-1254	<0.20		0.40	0.20	ug/L		07/22/19 14:58	07/23/19 11:09	1
PCB-1260	<0.070		0.40	0.070	ug/L		07/22/19 14:58	07/23/19 11:09	1
Polychlorinated biphenyls, Total	<0.20		0.40	0.20	ug/L		07/22/19 14:58	07/23/19 11:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		30 - 120	07/22/19 14:58	07/23/19 11:09	1
DCB Decachlorobiphenyl	103		30 - 140	07/22/19 14:58	07/23/19 11:09	1

Lab Sample ID: LCS 500-496018/4-A
Matrix: Water
Analysis Batch: 496153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 496018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	4.00	3.63		ug/L		91	56 - 120
PCB-1260	4.00	3.87		ug/L		97	53 - 137

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	84		30 - 120
DCB Decachlorobiphenyl	80		30 - 140

Lab Sample ID: LCSD 500-496018/5-A
Matrix: Water
Analysis Batch: 496153

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 496018

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PCB-1016	4.00	3.47		ug/L		87	56 - 120	4	20
PCB-1260	4.00	3.71		ug/L		93	53 - 137	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	79		30 - 120
DCB Decachlorobiphenyl	88		30 - 140

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-309625/1-A
Matrix: Water
Analysis Batch: 309956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309625

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.35		2.0	0.35	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoropentanoic acid (PFPeA)	<0.49		2.0	0.49	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorohexanoic acid (PFHxA)	<0.58		2.0	0.58	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoroheptanoic acid (PFHpA)	<0.25		2.0	0.25	ng/L		07/23/19 19:23	07/24/19 15:27	1

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QC Sample Results

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-309625/1-A
Matrix: Water
Analysis Batch: 309956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309625

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorooctanoic acid (PFOA)	<0.85		2.0	0.85	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorononanoic acid (PFNA)	<0.27		2.0	0.27	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	0.31	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.0	1.1	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorododecanoic acid (PFDoA)	<0.55		2.0	0.55	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorotridecanoic acid (PFTriA)	<1.3		2.0	1.3	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorotetradecanoic acid (PFTeA)	<0.29		2.0	0.29	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.89		2.0	0.89	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		2.0	0.20	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.46		2.0	0.46	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoropentanesulfonic acid (PFPeS)	<0.30		2.0	0.30	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorohexanesulfonic acid (PFHxS)	0.283	J	2.0	0.17	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.19		2.0	0.19	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorooctanesulfonic acid (PFOS)	<0.54		2.0	0.54	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorononanesulfonic acid (PFNS)	<0.16		2.0	0.16	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorodecanesulfonic acid (PFDS)	<0.32		2.0	0.32	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorooctanesulfonamide (FOSA)	<0.35		2.0	0.35	ng/L		07/23/19 19:23	07/24/19 15:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<3.1		20	3.1	ng/L		07/23/19 19:23	07/24/19 15:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		20	1.9	ng/L		07/23/19 19:23	07/24/19 15:27	1
4:2 FTS	<5.2		20	5.2	ng/L		07/23/19 19:23	07/24/19 15:27	1
6:2 FTS	<2.0		20	2.0	ng/L		07/23/19 19:23	07/24/19 15:27	1
8:2 FTS	<2.0		20	2.0	ng/L		07/23/19 19:23	07/24/19 15:27	1
Perfluorododecanesulfonic acid (PFDoS)	<0.45		2.0	0.45	ng/L		07/23/19 19:23	07/24/19 15:27	1
ADONA	<0.19		2.1	0.19	ng/L		07/23/19 19:23	07/24/19 15:27	1
F-53B Major	<0.24		2.0	0.24	ng/L		07/23/19 19:23	07/24/19 15:27	1
HFPO-DA (GenX)	<1.5		4.0	1.5	ng/L		07/23/19 19:23	07/24/19 15:27	1
F-53B Minor	<0.32		2.0	0.32	ng/L		07/23/19 19:23	07/24/19 15:27	1
10:2 FTS	<0.19		2.0	0.19	ng/L		07/23/19 19:23	07/24/19 15:27	1
NaDONA	<0.19		2.1	0.19	ng/L		07/23/19 19:23	07/24/19 15:27	1
DONA	<0.18		2.0	0.18	ng/L		07/23/19 19:23	07/24/19 15:27	1
Ammonium Perfluorooctanoate (APFO)	<0.88		2.1	0.88	ng/L		07/23/19 19:23	07/24/19 15:27	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	95		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C5 PFPeA	98		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C2 PFHxA	94		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C4 PFHpA	101		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C4 PFOA	98		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C5 PFNA	97		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C2 PFDA	101		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C2 PFHxDA	73		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C2 PFUnA	92		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C2 PFDoA	97		25 - 150	07/23/19 19:23	07/24/19 15:27	1

Eurofins TestAmerica, Chicago

QC Sample Results

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-309625/1-A
Matrix: Water
Analysis Batch: 309956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309625

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFTeDA	92		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C3 PFBS	99		25 - 150	07/23/19 19:23	07/24/19 15:27	1
18O2 PFHxS	97		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C4 PFOS	92		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C8 FOSA	87		25 - 150	07/23/19 19:23	07/24/19 15:27	1
d3-NMeFOSAA	93		25 - 150	07/23/19 19:23	07/24/19 15:27	1
d5-NEtFOSAA	97		25 - 150	07/23/19 19:23	07/24/19 15:27	1
M2-6:2 FTS	113		25 - 150	07/23/19 19:23	07/24/19 15:27	1
M2-8:2 FTS	105		25 - 150	07/23/19 19:23	07/24/19 15:27	1
M2-4:2 FTS	107		25 - 150	07/23/19 19:23	07/24/19 15:27	1
13C3 HFPO-DA	83		25 - 150	07/23/19 19:23	07/24/19 15:27	1

Lab Sample ID: LCS 320-309625/2-A
Matrix: Water
Analysis Batch: 309956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoropentanoic acid (PFPeA)	40.0	39.3		ng/L		98	66 - 126
Perfluorohexanoic acid (PFHxA)	40.0	41.1		ng/L		103	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	40.0		ng/L		100	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	37.7		ng/L		94	64 - 124
Perfluorononanoic acid (PFNA)	40.0	40.7		ng/L		102	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	38.9		ng/L		97	69 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	35.7		ng/L		89	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	37.6		ng/L		94	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	40.2		ng/L		101	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	39.3		ng/L		98	68 - 128
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	40.2		ng/L		100	72 - 132
Perfluorobutanesulfonic acid (PFBS)	35.4	34.9		ng/L		99	73 - 133
Perfluoro-n-octadecanoic acid (PFODA)	40.0	29.5		ng/L		74	74 - 134
Perfluoropentanesulfonic acid (PFPeS)	37.5	36.2		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.7		ng/L		95	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.0		ng/L		100	68 - 128
Perfluorooctanesulfonic acid (PFOS)	37.1	35.9		ng/L		97	67 - 127
Perfluorononanesulfonic acid (PFNS)	38.4	39.2		ng/L		102	70 - 130
Perfluorodecanesulfonic acid (PFDS)	38.6	37.2		ng/L		96	68 - 128
Perfluorooctanesulfonamide (FOSA)	40.0	44.1		ng/L		110	70 - 130

Eurofins TestAmerica, Chicago

QC Sample Results

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-309625/2-A
Matrix: Water
Analysis Batch: 309956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	40.0	39.9		ng/L		100	67 - 127
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	40.0	40.9		ng/L		102	65 - 125
4:2 FTS	37.4	34.3		ng/L		92	70 - 130
6:2 FTS	37.9	37.8		ng/L		100	66 - 126
8:2 FTS	38.3	37.7		ng/L		98	67 - 127
Perfluorododecanesulfonic acid (PFDoS)	38.7	35.9		ng/L		93	70 - 130
ADONA	39.5	44.1		ng/L		112	70 - 130
F-53B Major	37.3	39.3		ng/L		106	70 - 130
HFPO-DA (GenX)	40.0	43.2		ng/L		108	70 - 130
F-53B Minor	37.7	38.6		ng/L		102	70 - 130
10:2 FTS	38.6	36.4		ng/L		94	70 - 130
NaDONA	40.0	44.6		ng/L		112	70 - 130
DONA	37.7	42.1		ng/L		112	70 - 130
Ammonium Perfluorooctanoate (APFO)	41.6	39.3		ng/L		94	64 - 124

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	97		25 - 150
13C5 PFPeA	99		25 - 150
13C2 PFHxA	97		25 - 150
13C4 PFHpA	100		25 - 150
13C4 PFOA	100		25 - 150
13C5 PFNA	99		25 - 150
13C2 PFDA	102		25 - 150
13C2 PFHxDA	75		25 - 150
13C2 PFUnA	96		25 - 150
13C2 PFDoA	97		25 - 150
13C2 PFTeDA	106		25 - 150
13C3 PFBS	103		25 - 150
18O2 PFHxS	99		25 - 150
13C4 PFOS	97		25 - 150
13C8 FOSA	86		25 - 150
d3-NMeFOSAA	97		25 - 150
d5-NEtFOSAA	89		25 - 150
M2-6:2 FTS	107		25 - 150
M2-8:2 FTS	112		25 - 150
M2-4:2 FTS	113		25 - 150
13C3 HFPO-DA	87		25 - 150

Lab Sample ID: LCSD 320-309625/3-A
Matrix: Water
Analysis Batch: 309956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309625

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	42.0		ng/L		105	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	40.0	38.5		ng/L		96	66 - 126	2	30
Perfluorohexanoic acid (PFHxA)	40.0	41.0		ng/L		103	66 - 126	0	30

Eurofins TestAmerica, Chicago

QC Sample Results

Client: SCS Engineers
Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-309625/3-A

Matrix: Water

Analysis Batch: 309956

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 309625

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	40.0	40.8		ng/L		102	66 - 126	2	30
Perfluorooctanoic acid (PFOA)	40.0	39.5		ng/L		99	64 - 124	5	30
Perfluorononanoic acid (PFNA)	40.0	39.1		ng/L		98	68 - 128	4	30
Perfluorodecanoic acid (PFDA)	40.0	38.5		ng/L		96	69 - 129	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	37.3		ng/L		93	60 - 120	4	30
Perfluorododecanoic acid (PFDoA)	40.0	38.3		ng/L		96	71 - 131	2	30
Perfluorotridecanoic acid (PFTriA)	40.0	40.8		ng/L		102	72 - 132	1	30
Perfluorotetradecanoic acid (PFTeA)	40.0	37.8		ng/L		94	68 - 128	4	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	39.1		ng/L		98	72 - 132	3	30
Perfluorobutanesulfonic acid (PFBS)	35.4	34.0		ng/L		96	73 - 133	3	30
Perfluoro-n-octadecanoic acid (PFODA)	40.0	32.5		ng/L		81	74 - 134	10	30
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.6		ng/L		100	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.3		ng/L		91	63 - 123	4	30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.4		ng/L		104	68 - 128	4	30
Perfluorooctanesulfonic acid (PFOS)	37.1	37.0		ng/L		100	67 - 127	3	30
Perfluorononanesulfonic acid (PFNS)	38.4	39.4		ng/L		103	70 - 130	1	30
Perfluorodecanesulfonic acid (PFDS)	38.6	40.7		ng/L		106	68 - 128	9	30
Perfluorooctanesulfonamide (FOSA)	40.0	44.3		ng/L		111	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.1		ng/L		100	67 - 127	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.5		ng/L		104	65 - 125	1	30
4:2 FTS	37.4	32.1		ng/L		86	70 - 130	7	30
6:2 FTS	37.9	36.9		ng/L		97	66 - 126	2	30
8:2 FTS	38.3	42.2		ng/L		110	67 - 127	11	30
Perfluorododecanesulfonic acid (PFDoS)	38.7	39.1		ng/L		101	70 - 130	9	30
ADONA	39.5	46.1		ng/L		117	70 - 130	5	30
F-53B Major	37.3	40.7		ng/L		109	70 - 130	3	30
HFPO-DA (GenX)	40.0	39.1		ng/L		98	70 - 130	10	30
F-53B Minor	37.7	40.8		ng/L		108	70 - 130	5	30
10:2 FTS	38.6	37.7		ng/L		98	70 - 130	4	30
NaDONA	40.0	46.7		ng/L		117	70 - 130	5	30
DONA	37.7	44.0		ng/L		117	70 - 130	5	30
Ammonium Perfluorooctanoate (APFO)	41.6	41.2		ng/L		99	64 - 124	5	30

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
¹³ C4 PFBA	98		25 - 150

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QC Sample Results

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-309625/3-A

Matrix: Water

Analysis Batch: 309956

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 309625

<i>Isotope Dilution</i>	<i>LCSD %Recovery</i>	<i>LCSD Qualifier</i>	<i>Limits</i>
13C5 PFPeA	101		25 - 150
13C2 PFHxA	96		25 - 150
13C4 PFHpA	105		25 - 150
13C4 PFOA	102		25 - 150
13C5 PFNA	102		25 - 150
13C2 PFDA	106		25 - 150
13C2 PFHxDA	86		25 - 150
13C2 PFUnA	95		25 - 150
13C2 PFDoA	100		25 - 150
13C2 PFTeDA	115		25 - 150
13C3 PFBS	104		25 - 150
18O2 PFHxS	103		25 - 150
13C4 PFOS	95		25 - 150
13C8 FOSA	89		25 - 150
d3-NMeFOSAA	99		25 - 150
d5-NEtFOSAA	94		25 - 150
M2-6:2 FTS	114		25 - 150
M2-8:2 FTS	105		25 - 150
M2-4:2 FTS	114		25 - 150
13C3 HFPO-DA	100		25 - 150

Lab Chronicle

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Client Sample ID: LW1

Lab Sample ID: 500-167041-1

Date Collected: 07/19/19 14:30

Matrix: Water

Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			496018	07/22/19 14:58	DAK	TAL CHI
Total/NA	Analysis	8082A		1	496153	07/23/19 12:23	SS	TAL CHI
Total/NA	Prep	3535			309625	07/23/19 19:23	JER	TAL SAC
Total/NA	Analysis	537 (modified)		10	310996	07/29/19 11:52	GMK	TAL SAC

Client Sample ID: LW2

Lab Sample ID: 500-167041-2

Date Collected: 07/19/19 16:20

Matrix: Water

Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			496018	07/22/19 14:58	DAK	TAL CHI
Total/NA	Analysis	8082A		1	496153	07/23/19 12:41	SS	TAL CHI
Total/NA	Prep	3535			309625	07/23/19 19:23	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	310701	07/27/19 18:59	S1M	TAL SAC

Client Sample ID: Blount

Lab Sample ID: 500-167041-3

Date Collected: 07/19/19 17:00

Matrix: Water

Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			496018	07/22/19 14:58	DAK	TAL CHI
Total/NA	Analysis	8082A		1	496153	07/23/19 13:00	SS	TAL CHI
Total/NA	Prep	3535			309625	07/23/19 19:23	JER	TAL SAC
Total/NA	Analysis	537 (modified)		1	310996	07/29/19 11:44	GMK	TAL SAC

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-020	01-20-21
ANAB	DoD		L2468	01-20-21
ANAB	DOE		L2468.01	01-20-21
Arizona	State Program	9	AZ0708	08-11-19
Arkansas DEQ	State Program	6	88-0691	06-17-20
California	State Program	9	2897	01-31-20
Colorado	State Program	8	CA00044	08-31-19
Connecticut	State		PH-0691	06-30-21
Connecticut	State Program	1	PH-0691	06-30-21
Florida	NELAP	4	E87570	06-30-20
Florida	NELAP		E87570	06-30-20
Hawaii	State Program	9	N/A	01-29-20
Illinois	NELAP	5	200060	03-17-20 *
Kansas	NELAP	7	E-10375	10-31-19
Louisiana	NELAP	6	30612	06-30-20
Maine	State Program	1	CA0004	04-14-20
Michigan	State Program	5	9947	01-31-20
Nevada	State Program	9	CA00044	07-31-19
New Hampshire	NELAP	1	2997	04-20-20
New York	NELAP	2	11666	04-01-20
Oregon	NELAP	10	4040	01-29-20
Oregon	NELAP		4040	01-29-20
Pennsylvania	NELAP	3	68-01272	03-31-20
Pennsylvania	NELAP		68-01272	03-31-20
Texas	NELAP	6	T104704399	05-31-20
US Fish & Wildlife	Federal		LE148388-0	07-31-19
USDA	Federal		P330-18-00239	01-17-21
USEPA UCMR	Federal	1	CA00044	12-31-20
Utah	NELAP	8	CA00044	02-29-20
Vermont	State Program	1	VT-4040	04-16-20
Virginia	NELAP	3	460278	03-14-20
Washington	State Program	10	C581	05-05-20
West Virginia (DW)	State Program	3	9930C	12-31-19
Wyoming	State Program	8	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 6C
Phone: 708.534.5200 Fax: 708.534



500-167041 COC

Report To (optional)
Contact: Eric Oelkers
Company: SCS Engineers
Address: 2830 Dairy Drive
Address: Madison WI 53718
Phone: 608 216 7341
Fax: 608 224 -2839
E-Mail: eoelkers@scsengineers.com

Bill To (optional)
Contact: Same
Company: _____
Address: _____
Address: _____
Phone: _____
Fax: _____
PO#/Reference# _____

Chain of Custody Record

Lab Job #: 500-167041
Chain of Custody Number: _____
Page _____ of _____
Temperature °C of Cooler: 718

Client		Client Project #		Preservative		Parameter												Preservative Key	
<u>SCS Engineers</u>		<u>25219029</u>		<u>1</u>		<u>1</u>												1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Project Name		Project Location/State		Lab Project #		Lab PM												Comments	
<u>MGE Transformer Spill</u>		<u>Madison WI</u>				<u>Fredrick</u>													
Lab ID	MS/MSD	Sample ID		Sampling		# of Containers	Matrix												
		Date	Time																
<u>1</u>		<u>7/19/19</u>	<u>14:30</u>	<u>2</u>	<u>W</u>	<u>1</u>	<u>PCBs</u>	<u>1</u>											
<u>2</u>		<u>7/19/19</u>	<u>16:20</u>	<u>2</u>	<u>W</u>	<u>1</u>	<u>PFAS</u>	<u>1</u>											
<u>3</u>		<u>7/19/19</u>	<u>12:00</u>	<u>2</u>	<u>W</u>	<u>1</u>		<u>1</u>											

Turnaround Time Required (Business Days) ASAP
 Requested Due Date 8 Days 2 Days 7 Days 10 Days 15 Days Other
 Sample Disposal: Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>Eric Oelkers</u> Company: <u>SCS</u> Date: <u>7/19/19</u> Time: <u>19:10</u>	Received By: <u>Shari Scott</u> Company: <u>TA-Env</u> Date: <u>7/20/19</u> Time: <u>0915</u>	Lab Courier: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Shipped: <u>FedEx</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: _____

Matrix Key: WW - Wastewater, W - Water, S - Soil, SL - Sludge, MS - Miscellaneous, OL - Oil, A - Air, SE - Sediment, SO - Soil, L - Leachate, WI - Wipe, DW - Drinking Water, O - Other

Client Comments: _____

Lab Comments: _____

ORIGIN ID:LNRA (608) 224-2830
ERIC OELKERS
SCS ENGINEERS
2830 DAIRY DRIVE
MADISON, WI 53718
UNITED STATES US

SHIP DATE: 19JUL19
ACTWTG: 38.00 LB
CAD: 103175050/NET 4160
DIMS: 26x14x14 IN
BILL RECIPIENT

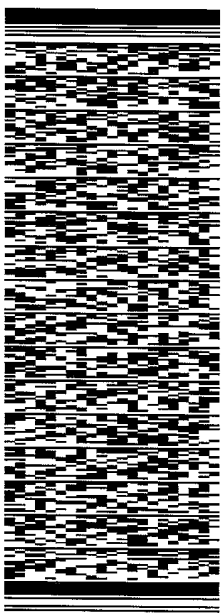
TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA
2417 BOND ST



500-167041 Waybill

557JZ7A6F9U3A2

UNIVERSITY PARK IL 60484
REF: 26219029
PO: (708) 534-5200
INVT: DEPT:



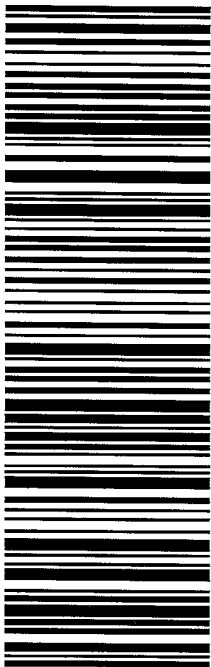
J192819062401uv

TRK# 7757 9209 8496
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 JOTA

60484
IL-US ORD



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Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-167041-1

Login Number: 167041

List Source: Eurofins TestAmerica, Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	ON ICE
Cooler Temperature is recorded.	True	7.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-167041-1

Login Number: 167041

List Number: 2

Creator: Nelson, Kym D

List Source: Eurofins TestAmerica, Sacramento

List Creation: 07/23/19 09:42 AM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	768031
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: SCS Engineers
 Project/Site: MGE Transformer Spill - 25219029

Job ID: 500-167041-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFHxDA (25-150)
500-167041-1	LW1	92	93	98	99	99	101	104	90
500-167041-2	LW2	76	95	89	99	102	114	117	93
500-167041-3	Blount	78	84	94	101	99	104	104	44
LCS 320-309625/2-A	Lab Control Sample	97	99	97	100	100	99	102	75
LCSD 320-309625/3-A	Lab Control Sample Dup	98	101	96	105	102	102	106	86
MB 320-309625/1-A	Method Blank	95	98	94	101	98	97	101	73

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBs (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOS (25-150)
500-167041-1	LW1	109	114	101	100	94	88	76	105
500-167041-2	LW2	118	114	114	96	97	94	85	114
500-167041-3	Blount	103	93	62	101	100	96	70	122
LCS 320-309625/2-A	Lab Control Sample	96	97	106	103	99	97	86	97
LCSD 320-309625/3-A	Lab Control Sample Dup	95	100	115	104	103	95	89	99
MB 320-309625/1-A	Method Blank	92	97	92	99	97	92	87	93

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	-NEtFOS/ (25-150)	M262FTS (25-150)	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)
500-167041-1	LW1	128	117	142	98	97
500-167041-2	LW2	131	154 *	159 *	130	90
500-167041-3	Blount	144	198 *	203 *	136	86
LCS 320-309625/2-A	Lab Control Sample	89	107	112	113	87
LCSD 320-309625/3-A	Lab Control Sample Dup	94	114	105	114	100
MB 320-309625/1-A	Method Blank	97	113	105	107	83

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- PFHpA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFHxDA = 13C2 PFHxDA
- PFUnA = 13C2 PFUnA
- PFDoA = 13C2 PFDoA
- PFTDA = 13C2 PFTeDA
- 13C3-PFBS = 13C3 PFBS
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS
- PFOSA = 13C8 FOSA
- d3-NMeFOSAA = d3-NMeFOSAA
- d5-NEtFOSAA = d5-NEtFOSAA
- M262FTS = M2-6:2 FTS
- M282FTS = M2-8:2 FTS
- M242FTS = M2-4:2 FTS
- HFPODA = 13C3 HFPO-DA