

PFAS solid burn trials report

Appendix 2: Ashes and quench waters analytical results



Certificate of Analysis

Veolia Environmental Services (SA)
540 Churchill Rd
Kilburn
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NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or
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Attention: **HELENE MACREADY**

Report **643911-S**
Project name **BURN TRIALS**
Project ID **19E/40157**
Received Date **Mar 05, 2019**

Client Sample ID			BALIQ 27/02-1 Soil B19-Ma06370 Mar 01, 2019	BALIQ 27/02-1 TOP - Soil B19-Ma06371 Mar 01, 2019	BALIQ 27/02-2 Soil B19-Ma06372 Mar 01, 2019	BALIQ 27/02-2 TOP - Soil B19-Ma06373 Mar 01, 2019
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	19	< 5
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	175	74	104	109
13C2-8:2 FTSA (surr.)	1	%	INT	91	22	92
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	10	ug/kg	76	< 10	110	< 10
13C2-6:2 FTSA (surr.)	1	%	54	113	95	123
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	10	ug/kg	655.3	1074	1977	1034
Sum (PFHxS + PFOS)*	5	ug/kg	350	410	1460	440
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	209	264	890	213
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	389	474	1610	493
Sum of PFASs (n=30)*	50	ug/kg	704.9	1153	2141.2	1115
Total OrganoFluorine*	0.05	mg/kg	310	-	450	-
% Moisture	1	%	43	43	42	42
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	28	120	27	130
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	N0926	N09190	30	N09180
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	N09110	N09240	N09140	N09190
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	N099.3	N0927	N0919	N0920
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	N0939	N0964	N09150	N0953
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	6.3	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTriDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	41	104	37	97
13C5-PFPeA (surr.)	1	%	76	131	65	133
13C5-PFHxA (surr.)	1	%	36	107	32	114
13C4-PFHpA (surr.)	1	%	92	122	74	138

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Client Sample ID			BALIQ 27/02-1	BALIQ 27/02-1	BALIQ 27/02-2	BALIQ 27/02-2
Sample Matrix			Soil	TOP - Soil	Soil	TOP - Soil
Eurofins I mgt Sample No.			B19-Ma06370	B19-Ma06371	B19-Ma06372	B19-Ma06373
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
13C8-PFOA (surr.)	1	%	79	106	28	106
13C5-PFNA (surr.)	1	%	108	94	91	73
13C6-PFDA (surr.)	1	%	79	61	45	65
13C2-PFUnDA (surr.)	1	%	90	95	81	116
13C2-PFDoDA (surr.)	1	%	105	62	101	71
13C2-PFTeDA (surr.)	1	%	122	66	126	72
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	47	95	43	103
D3-N-MeFOSA (surr.)	1	%	INT	45	INT	45
D5-N-EtFOSA (surr.)	1	%	INT	50	INT	47
D7-N-MeFOSE (surr.)	1	%	25	46	42	49
D9-N-EtFOSE (surr.)	1	%	65	47	58	49
D5-N-EtFOSAA (surr.)	1	%	INT	93	33	97
D3-N-MeFOSAA (surr.)	1	%	172	104	177	120
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	17	N0923	22	N0921
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	7.6	N0911	6.9	N0910
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	N0925	N0945	N0969	N0942
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	N09180	N09210	N09720	N09280
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	N0917	N0923	N0982	N0929
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	N09170	N09200	N09740	N09160
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	85	65	86	75
18O2-PFHxS (surr.)	1	%	33	107	26	115
13C8-PFOS (surr.)	1	%	34	121	33	133

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Client Sample ID			FALIQ 27/02-1 Soil	FALIQ 27/02-1 TOP - Soil	FALIQ 27/02-2 Soil	FALIQ 27/02-2 TOP - Soil
Sample Matrix			B19-Ma06374	B19-Ma06375	B19-Ma06376	B19-Ma06377
Eurofins mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	INT	106	INT	113
13C2-8:2 FTSA (surr.)	1	%	INT	89	INT	87
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	INT	113	INT	121
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	< 10
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	< 50
Total OrganoFluorine*	0.05	mg/kg	420	-	350	-
% Moisture	1	%	< 1	< 1	< 1	< 1
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	11	88	11	89
13C5-PFPeA (surr.)	1	%	11	147	11	135
13C5-PFHxA (surr.)	1	%	13	134	13	140
13C4-PFHpA (surr.)	1	%	11	150	12	136
13C8-PFOA (surr.)	1	%	12	142	13	137
13C5-PFNA (surr.)	1	%	13	79	13	51
13C6-PFDA (surr.)	1	%	15	111	13	108
13C2-PFUnDA (surr.)	1	%	14	91	13	89
13C2-PFDoDA (surr.)	1	%	12	81	12	80
13C2-PFTeDA (surr.)	1	%	10	57	INT	56
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5

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Client Sample ID			FALIQ 27/02-1 Soil	FALIQ 27/02-1 TOP - Soil	FALIQ 27/02-2 Soil	FALIQ 27/02-2 TOP - Soil
Sample Matrix			B19-Ma06374	B19-Ma06375	B19-Ma06376	B19-Ma06377
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EiFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	35	118	39	102
D3-N-MeFOSA (surr.)	1	%	39	49	49	42
D5-N-EiFOSA (surr.)	1	%	53	39	66	39
D7-N-MeFOSE (surr.)	1	%	52	67	56	56
D9-N-EiFOSE (surr.)	1	%	48	61	60	56
D5-N-EiFOSAA (surr.)	1	%	INT	107	INT	109
D3-N-MeFOSAA (surr.)	1	%	INT	109	INT	115
Perfluoroalkyl sulfonic acids (PFSA's)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	40	128	50	126
18O2-PFHxS (surr.)	1	%	54	121	68	112
13C8-PFOS (surr.)	1	%	59	134	73	131

Client Sample ID			BALIQ 28/02-1 Soil	BALIQ 28/02-1 TOP - Soil	BALIQ 28/02-2 Soil	BALIQ 28/02-2 TOP - Soil
Sample Matrix			B19-Ma06378	B19-Ma06379	B19-Ma06380	B19-Ma06381
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	8.1	< 5	7.5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	20	45	53	123
13C2-8:2 FTSA (surr.)	1	%	65	106	89	93
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	10	ug/kg	62	< 10	52	< 10
13C2-6:2 FTSA (surr.)	1	%	56	121	92	107
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	10	ug/kg	675.1	589.1	588.4	623
Sum (PFHxS + PFOS)*	5	ug/kg	370	320	350	330
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	266	238	244	257
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	426	368	394	377
Sum of PFASs (n=30)*	50	ug/kg	720.1	621.1	607.4	655
Total OrganoFluorine*	0.05	mg/kg	270	-	220	-
% Moisture	1	%	37	37	32	32

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Client Sample ID			BALIQ 28/02-1 Soil B19-Ma06378 Mar 01, 2019	BALIQ 28/02-1 TOP - Soil B19-Ma06379 Mar 01, 2019	BALIQ 28/02-2 Soil B19-Ma06380 Mar 01, 2019	BALIQ 28/02-2 TOP - Soil B19-Ma06381 Mar 01, 2019
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	24	41	17	53
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	NO ⁹ 30	NO ⁹ 57	NO ⁹ 20	NO ⁹ 58
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	96	NO ⁹ 100	73	NO ⁹ 110
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	NO ⁹ 13	NO ⁹ 14	NO ⁹ 9.9	NO ⁹ 15
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	56	NO ⁹ 48	44	NO ⁹ 47
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	40	14	70	87
13C5-PFPeA (surr.)	1	%	47	57	84	149
13C5-PFHxA (surr.)	1	%	54	97	100	116
13C4-PFHpA (surr.)	1	%	78	137	98	133
13C8-PFOA (surr.)	1	%	62	113	97	106
13C5-PFNA (surr.)	1	%	79	86	87	84
13C6-PFDA (surr.)	1	%	80	71	81	60
13C2-PFUnDA (surr.)	1	%	100	141	82	110
13C2-PFDoDA (surr.)	1	%	93	120	97	70
13C2-PFTeDA (surr.)	1	%	50	112	83	72
Perfluoroalkyl sulfonamide substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	49	149	45	108
D3-N-MeFOSA (surr.)	1	%	10	89	INT	48
D5-N-EtFOSA (surr.)	1	%	10	75	INT	44
D7-N-MeFOSE (surr.)	1	%	14	70	20	50
D9-N-EtFOSE (surr.)	1	%	17	67	21	55
D5-N-EtFOSAA (surr.)	1	%	82	125	163	85
D3-N-MeFOSAA (surr.)	1	%	72	141	104	99
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	16	NO ⁹ 9.1	NO ⁹ 15	NO ⁹ 10
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	NO ⁹ 20	NO ⁹ 18	NO ⁹ 19	NO ⁹ 18
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	160	NO ⁹ 130	150	NO ⁹ 120
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	NO ⁹ 25	NO ⁹ 14	< 5	NO ⁹ 14
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	210	NO ⁹ 190	200	NO ⁹ 210
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	68	78	54	85

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Client Sample ID			BALIQ 28/02-1 Soil	BALIQ 28/02-1 TOP - Soil	BALIQ 28/02-2 Soil	BALIQ 28/02-2 TOP - Soil
Sample Matrix			B19-Ma06378	B19-Ma06379	B19-Ma06380	B19-Ma06381
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSA's)						
18O2-PFHxS (surr.)	1	%	85	109	105	106
13C8-PFOS (surr.)	1	%	115	110	107	112

Client Sample ID			FALIQ 28/02-1 Soil	FALIQ 28/02-1 TOP - Soil	FALIQ 28/02-2 Soil	FALIQ 28/02-2 TOP - Soil
Sample Matrix			B19-Ma06382	B19-Ma06383	B19-Ma06384	B19-Ma06385
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	INT	175	INT	186
13C2-8:2 FTSA (surr.)	1	%	INT	111	INT	125
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	INT	127	INT	126
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	< 10
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	< 50
Total OrganoFluorine*	0.05	mg/kg	99	-	140	-
% Moisture	1	%	< 1	< 1	< 1	< 1
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	INT	77	13	76
13C5-PFPeA (surr.)	1	%	INT	136	13	130
13C5-PFHxA (surr.)	1	%	11	141	17	132
13C4-PFHpA (surr.)	1	%	10	140	13	132
13C8-PFOA (surr.)	1	%	INT	137	16	138
13C5-PFNA (surr.)	1	%	10	42	17	35
13C6-PFDA (surr.)	1	%	INT	127	19	133
13C2-PFUnDA (surr.)	1	%	10	89	15	83

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			FALIQ 28/02-1	FALIQ 28/02-1	FALIQ 28/02-2	FALIQ 28/02-2
Sample Matrix			Soil	TOP - Soil	Soil	TOP - Soil
Eurofins I mgt Sample No.			B19-Ma06382	B19-Ma06383	B19-Ma06384	B19-Ma06385
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
13C2-PFDoDA (surr.)	1	%	INT	92	13	111
13C2-PFTeDA (surr.)	1	%	INT	78	11	90
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	31	87	48	91
D3-N-MeFOSA (surr.)	1	%	34	33	52	28
D5-N-EtFOSA (surr.)	1	%	56	38	67	38
D7-N-MeFOSE (surr.)	1	%	60	43	68	40
D9-N-EtFOSE (surr.)	1	%	49	44	67	46
D5-N-EtFOSAA (surr.)	1	%	INT	144	INT	196
D3-N-MeFOSAA (surr.)	1	%	INT	123	INT	167
Perfluoroalkyl sulfonic acids (PFSAAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	45	130	60	128
18O2-PFHxS (surr.)	1	%	62	123	71	115
13C8-PFOS (surr.)	1	%	62	127	83	126

Client Sample ID			BCAR 26/02-1	BCAR 26/02-1	BCAR 26/02-2	BCAR 26/02-2
Sample Matrix			Soil	TOP - Soil	Soil	TOP - Soil
Eurofins I mgt Sample No.			B19-Ma06398	B19-Ma06399	B19-Ma06400	B19-Ma06401
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSAAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	6.0	< 50	6.2	< 50
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	98	< 50	230	< 50
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	5	ug/kg	< 5	< 50	< 5	< 50
13C2-4:2 FTSA (surr.)	1	%	119	173	151	134
13C2-8:2 FTSA (surr.)	1	%	120	101	174	78
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	10	ug/kg	7400	< 50	17000	< 50
13C2-6:2 FTSA (surr.)	1	%	145	70	178	167

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			BCAR 26/02-1	BCAR 26/02-1	BCAR 26/02-2	BCAR 26/02-2
Sample Matrix			Soil	TOP - Soil	Soil	TOP - Soil
Eurofins I mgt Sample No.			B19-Ma06398	B19-Ma06399	B19-Ma06400	B19-Ma06401
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	10	ug/kg	42598	108200	119330	266600
Sum (PFHxS + PFOS)*	5	ug/kg	18900	33000	50000	91000
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	8000	21300	23300	46000
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	21000	41300	55300	103000
Sum of PFASs (n=30)*	50	ug/kg	46919	113705.9	130835.2	281885
Total OrganoFluorine*	0.05	mg/kg	690	-	2800	-
% Moisture	1	%	40	40	43	43
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	1400	14000	5000	33000
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	N092500	N0928000	N099700	N0978000
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	N097800	N0920000	N0925000	N0937000
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	N09900	N093100	N092100	N095900
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	N092100	N098300	N095300	N0912000
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	N0936	180	N0978	280
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
Perfluorotridecanoic acid (PFTriDA) ^{N15}	5	ug/kg	< 5	< 50	< 5	< 50
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
13C4-PFBA (surr.)	1	%	94	104	66	93
13C5-PFPeA (surr.)	1	%	107	107	91	88
13C5-PFHxA (surr.)	1	%	109	145	133	198
13C4-PFHpA (surr.)	1	%	128	113	122	119
13C8-PFOA (surr.)	1	%	122	111	111	109
13C5-PFNA (surr.)	1	%	139	83	137	65
13C6-PFDA (surr.)	1	%	113	84	92	71
13C2-PFUnDA (surr.)	1	%	126	88	121	80
13C2-PFDoDA (surr.)	1	%	123	68	64	67
13C2-PFTeDA (surr.)	1	%	99	74	104	70
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	N0919	< 50	N0921	< 50
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 50	< 5	< 50
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 50	< 10	< 50
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 50	< 10	< 50
13C8-FOSA (surr.)	1	%	68	67	64	62
D3-N-MeFOSA (surr.)	1	%	30	30	39	24
D5-N-EtFOSA (surr.)	1	%	38	28	41	25
D7-N-MeFOSE (surr.)	1	%	47	41	46	35
D9-N-EtFOSE (surr.)	1	%	47	37	50	31
D5-N-EtFOSAA (surr.)	1	%	58	80	61	64
D3-N-MeFOSAA (surr.)	1	%	48	76	46	73

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			BCAR 26/02-1	BCAR 26/02-1	BCAR 26/02-2	BCAR 26/02-2
Sample Matrix			Soil	TOP - Soil	Soil	TOP - Soil
Eurofins I mgt Sample No.			B19-Ma06398	B19-Ma06399	B19-Ma06400	B19-Ma06401
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	N091500	N091800	N095000	N099700
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	N0920	< 5	N09190
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	N09360	600	N091800	2600
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	N092700	N092400	N096600	N096500
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	N0913000	N0920000	N0932000	N0957000
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	N091200	N092300	N093000	N095700
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	N095900	N0913000	N0918000	N0934000
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	N095.9	< 5	N0915
13C3-PFBS (surr.)	1	%	102	N09121	76	N0985
18O2-PFHxS (surr.)	1	%	104	N09128	120	N09102
13C8-PFOS (surr.)	1	%	156	N09126	125	N09107

Client Sample ID			FACAR 26/02-1	FACAR 26/02-1	FACAR 26/02-2	FACAR 26/02-2
Sample Matrix			Soil	TOP - Soil	Soil	TOP - Soil
Eurofins I mgt Sample No.			B19-Ma06402	B19-Ma06403	B19-Ma06404	B19-Ma06405
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	INT	83	INT	76
13C2-8:2 FTSA (surr.)	1	%	INT	78	INT	99
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	INT	115	INT	140
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	< 10
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	< 50
Total OrganoFluorine*	0.05	mg/kg	1000	-	960	-
% Moisture	1	%	< 1	< 1	< 1	< 1
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			FACAR 26/02-1 Soil	FACAR 26/02-1 TOP - Soil	FACAR 26/02-2 Soil	FACAR 26/02-2 TOP - Soil
Sample Matrix			B19-Ma06402	B19-Ma06403	B19-Ma06404	B19-Ma06405
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	13	82	19	80
13C5-PFPeA (surr.)	1	%	12	144	14	144
13C5-PFHxA (surr.)	1	%	15	124	20	143
13C4-PFHpA (surr.)	1	%	13	142	18	162
13C8-PFOA (surr.)	1	%	13	131	19	154
13C5-PFNA (surr.)	1	%	15	93	21	93
13C6-PFDA (surr.)	1	%	17	91	22	123
13C2-PFUnDA (surr.)	1	%	13	57	17	87
13C2-PFDoDA (surr.)	1	%	10	44	16	70
13C2-PFTeDA (surr.)	1	%	9.0	34	12	58
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	41	69	49	116
D3-N-MeFOSA (surr.)	1	%	53	25	57	52
D5-N-EtFOSA (surr.)	1	%	77	16	90	36
D7-N-MeFOSE (surr.)	1	%	52	33	60	53
D9-N-EtFOSE (surr.)	1	%	57	30	63	49
D5-N-EtFOSAA (surr.)	1	%	INT	61	INT	87
D3-N-MeFOSAA (surr.)	1	%	INT	78	INT	106
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	50	118	56	133
18O2-PFHxS (surr.)	1	%	67	111	73	126
13C8-PFOS (surr.)	1	%	75	114	85	150

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Certificate of Analysis

Veolia Environmental Services (SA)
540 Churchill Rd
Kilburn
SA 5084



NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian national standards.

Attention: HELENE MACREADY

Report 643911-W
Project name BURN TRIALS
Project ID 19E/40157
Received Date Mar 05, 2019

Client Sample ID			QCAR 26/01-1	QCAR 26/01-1	QLIQ 27/02-1	QCAR 26/02-2
Sample Matrix			Water	TOP - Water	Water	TOP - Water
Eurofins mgt Sample No.			B19-Ma06386	B19-Ma06387	B19-Ma06388	B19-Ma06389
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.07	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	189	75	132	75
13C2-8:2 FTSA (surr.)	1	%	126	120	52	103
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	0.05	ug/L	2.2	0.57	4.4	0.08
13C2-6:2 FTSA (surr.)	1	%	84	99	121	104
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	8.7	18.08	27.77	382.36
Sum (PFHxS + PFOS)*	0.01	ug/L	0.36	0.49	9.6	4.42
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.11	0.23	4.08	1.58
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.4	0.59	10.58	5.08
Sum of PFASs (n=30)*	0.1	ug/L	8.8	18.57	29.04	404.58
Total OrganoFluorine*	0.05	mg/L	4.6	-	6.7	-
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	2.4	5.0	5.9	230
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	1.9	NO ₉ 7.2	2.0	NO ₉ 85
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	NO ₉ 1.5	NO ₉ 4.0	NO ₉ 3.7	NO ₉ 51
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	NO ₉ 0.03	NO ₉ 0.45	NO ₉ 0.33	NO ₉ 1.3
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	NO ₉ 0.04	NO ₉ 0.10	NO ₉ 0.98	NO ₉ 0.66
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.02	0.06
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.06
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.07
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.10
Perfluorotridecanoic acid (PFTeDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.10
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.11
13C4-PFBA (surr.)	1	%	69	38	107	60
13C5-PFPeA (surr.)	1	%	87	96	120	116
13C5-PFHxA (surr.)	1	%	88	101	132	127
13C4-PFHpA (surr.)	1	%	109	109	106	120
13C8-PFOA (surr.)	1	%	92	120	98	119

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			QCAR 26/01-1 Water	QCAR 26/01-1 TOP - Water	QLIQ 27/02-1 Water	QCAR 26/02-2 TOP - Water
Sample Matrix			B19-Ma06386	B19-Ma06387	B19-Ma06388	B19-Ma06389
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
13C5-PFNA (surr.)	1	%	99	90	110	110
13C6-PFDA (surr.)	1	%	104	130	110	115
13C2-PFUnDA (surr.)	1	%	87	102	119	93
13C2-PFDoDA (surr.)	1	%	84	72	100	76
13C2-PFTeDA (surr.)	1	%	88	84	94	90
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	123	100	137	111
D3-N-MeFOSA (surr.)	1	%	91	51	75	73
D5-N-EtFOSA (surr.)	1	%	106	52	79	80
D7-N-MeFOSE (surr.)	1	%	50	36	58	65
D9-N-EtFOSE (surr.)	1	%	47	37	55	64
D5-N-EtFOSAA (surr.)	1	%	110	62	137	80
D3-N-MeFOSAA (surr.)	1	%	110	66	175	82
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	NDS 0.27	NDS 0.27	NDS 0.79	NDS 9.9
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.03	0.35	0.19	19
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	NDS 0.06	NDS 0.12	NDS 0.70	NDS 2.6
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	NDS 0.29	NDS 0.36	NDS 6.5	NDS 3.5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	NDS 0.01	NDS 0.02	NDS 0.36	NDS 0.11
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	NDS 0.07	NDS 0.13	NDS 3.1	NDS 0.92
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	88	109	135	89
18O2-PFHxS (surr.)	1	%	105	122	92	111
13C8-PFOS (surr.)	1	%	100	123	96	109

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			QCAR 26/02 -2	QLIQ 27/02-1	QLIQ 27/02-2	QLIQ 27/02-2
Sample Matrix			Water	TOP - Water	Water	TOP - Water
Eurofins I mgt Sample No.			B19-Ma06390	B19-Ma06391	B19-Ma06392	B19-Ma06393
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.1	< 0.01	0.12	0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	88	84	108	66
13C2-8:2 FTSA (surr.)	1	%	123	117	181	109
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	0.05	ug/L	0.22	0.24	3.7	0.16
13C2-6:2 FTSA (surr.)	1	%	90	119	145	102
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	264.56	50.9	34.6	62.97
Sum (PFHxS + PFOS)*	0.01	ug/L	2.15	10.9	15.2	14.6
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.41	4.9	7.9	7.8
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	2.41	12.5	17.4	17.2
Sum of PFASs (n=30)*	0.1	ug/L	282.86	54.15	36.91	67.18
Total OrganoFluorine*	0.05	mg/L	3.5	-	7.2	-
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	170	Q0513	5.3	14
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	N0953	N0912	1.9	N0915
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	N0930	N0911	N094.6	N0914
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	N090.53	N090.96	N090.62	N091.2
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	N090.26	N091.6	N092.2	N092.6
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.1	N090.03	0.04	N090.06
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.1	< 0.01	< 0.01	0.01
Perfluorotridecanoic acid (PFTeDA) ^{N15}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	93	48	105	43
13C5-PFPeA (surr.)	1	%	121	91	134	76
13C5-PFHxA (surr.)	1	%	115	161	151	136
13C4-PFHpA (surr.)	1	%	134	118	84	107
13C8-PFOA (surr.)	1	%	133	104	92	110
13C5-PFNA (surr.)	1	%	131	92	88	98
13C6-PFDA (surr.)	1	%	132	91	86	70
13C2-PFUnDA (surr.)	1	%	150	106	93	102
13C2-PFDoDA (surr.)	1	%	161	83	91	78
13C2-PFTeDA (surr.)	1	%	166	83	90	77
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			QCAR 26/02 -2 Water	QLIQ 27/02-1 TOP - Water	QLIQ 27/02-2 Water	QLIQ 27/02-2 TOP - Water
Sample Matrix			B19-Ma06390	B19-Ma06391	B19-Ma06392	B19-Ma06393
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	170	124	124	118
D3-N-MeFOSA (surr.)	1	%	166	63	85	64
D5-N-EtFOSA (surr.)	1	%	INT	59	109	56
D7-N-MeFOSE (surr.)	1	%	147	51	53	55
D9-N-EtFOSE (surr.)	1	%	142	51	49	50
D5-N-EtFOSAA (surr.)	1	%	187	98	137	84
D3-N-MeFOSAA (surr.)	1	%	153	96	186	91
Perfluoroalkyl sulfonic acids (PFSA's)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	NO ⁹ 8.4	NO ⁹ 1.2	NO ⁹ 0.96	NO ⁹ 1.4
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.1	NO ⁹ 0.02	< 0.01	NO ⁹ 0.03
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	NO ⁹ 17	1.3	0.23	1.5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	NO ⁹ 1.3	NO ⁹ 1.3	NO ⁹ 1.4	NO ⁹ 1.8
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	NO ⁹ 2.0	NO ⁹ 7.6	NO ⁹ 9.5	NO ⁹ 9.4
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.1	NO ⁹ 0.60	NO ⁹ 0.64	NO ⁹ 0.81
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	NO ⁹ 0.15	NO ⁹ 3.3	NO ⁹ 5.7	NO ⁹ 5.2
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	140	80	162	69
18O2-PFHxS (surr.)	1	%	139	120	84	113
13C8-PFOS (surr.)	1	%	140	134	88	109

Client Sample ID			QLIQ 28/02-1 Water	QLIQ 28/02-1 TOP - Water	QLIQ 28/02-2 Water	QLIQ 28/02-2 TOP - Water
Sample Matrix			B19-Ma06394	B19-Ma06395	B19-Ma06396	B19-Ma06397
Eurofins I mgt Sample No.			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Date Sampled						
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.01	< 0.01
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	0.24	< 0.01	0.32	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	125	73	121	81
13C2-8:2 FTSA (surr.)	1	%	150	84	128	96
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	0.05	ug/L	6.9	< 0.05	8.8	< 0.05
13C2-6:2 FTSA (surr.)	1	%	151	98	192	114
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	106.44	166.1	144.42	239.4
Sum (PFHxS + PFOS)*	0.01	ug/L	50	49	66	77
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	24.5	26	42	42
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	59.5	60	83	94
Sum of PFASs (n=30)*	0.1	ug/L	113.19	177.36	153.2	256.05
Total OrganoFluorine*	0.05	mg/L	8.3	-	6.9	-

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			QCAR 26/02 -2	QLIQ 27/02-1	QLIQ 27/02-2	QLIQ 27/02-2
Sample Matrix			Water	TOP - Water	Water	TOP - Water
Eurofins mgt Sample No.			B19-Ma06390	B19-Ma06391	B19-Ma06392	B19-Ma06393
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.1	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	170	124	124	118
D3-N-MeFOSA (surr.)	1	%	166	63	85	64
D5-N-EtFOSA (surr.)	1	%	INT	59	109	56
D7-N-MeFOSE (surr.)	1	%	147	51	53	55
D9-N-EtFOSE (surr.)	1	%	142	51	49	50
D5-N-EtFOSAA (surr.)	1	%	187	98	137	84
D3-N-MeFOSAA (surr.)	1	%	153	96	186	91
Perfluoroalkyl sulfonic acids (PFSA's)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	NO ⁹ 8.4	NO ⁹ 1.2	NO ⁹ 0.96	NO ⁹ 1.4
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.1	NO ⁹ 0.02	< 0.01	NO ⁹ 0.03
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	NO ⁹ 17	1.3	0.23	1.5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	NO ⁹ 1.3	NO ⁹ 1.3	NO ⁹ 1.4	NO ⁹ 1.8
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	NO ⁹ 2.0	NO ⁹ 7.6	NO ⁹ 9.5	NO ⁹ 9.4
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.1	NO ⁹ 0.60	NO ⁹ 0.64	NO ⁹ 0.81
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	NO ⁹ 0.15	NO ⁹ 3.3	NO ⁹ 5.7	NO ⁹ 5.2
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.1	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	140	80	162	69
18O2-PFHxS (surr.)	1	%	139	120	84	113
13C8-PFOS (surr.)	1	%	140	134	88	109

Client Sample ID			QLIQ 28/02-1	QLIQ 28/02-1	QLIQ 28/02-2	QLIQ 28/02-2
Sample Matrix			Water	TOP - Water	Water	TOP - Water
Eurofins mgt Sample No.			B19-Ma06394	B19-Ma06395	B19-Ma06396	B19-Ma06397
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.01	< 0.01
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	0.24	< 0.01	0.32	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	125	73	121	81
13C2-8:2 FTSA (surr.)	1	%	150	84	128	96
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11}	0.05	ug/L	6.9	< 0.05	8.8	< 0.05
13C2-6:2 FTSA (surr.)	1	%	151	98	192	114
PFASs Summations						
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	106.44	166.1	144.42	239.4
Sum (PFHxS + PFOS)*	0.01	ug/L	50	49	66	77
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	24.5	26	42	42
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	59.5	60	83	94
Sum of PFASs (n=30)*	0.1	ug/L	113.19	177.36	153.2	256.05
Total OrganoFluorine*	0.05	mg/L	8.3	-	6.9	-

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			QLIQ 28/02-1	QLIQ 28/02-1	QLIQ 28/02-2	QLIQ 28/02-2
Sample Matrix			Water	TOP - Water	Water	TOP - Water
Eurofins I mgt Sample No.			B19-Ma06394	B19-Ma06395	B19-Ma06396	B19-Ma06397
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	7.7	23	11	28
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	4.9	ND ⁹ 26	8.4	ND ⁹ 34
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	ND ⁹ 21	ND ⁹ 49	ND ⁹ 23	ND ⁹ 72
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	ND ⁹ 2.6	ND ⁹ 3.6	ND ⁹ 4.4	ND ⁹ 5.5
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	ND ⁹ 9.5	ND ⁹ 11	ND ⁹ 17	ND ⁹ 17
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	0.18	ND ⁹ 0.20	0.26	ND ⁹ 0.32
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	0.03	< 0.01	0.04
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	0.02	< 0.01	0.02
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	0.06	< 0.01	0.04
Perfluorotridecanoic acid (PFTrDA) ^{N15}	0.01	ug/L	< 0.01	0.06	< 0.01	0.05
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	0.06	< 0.01	0.09
13C4-PFBA (surr.)	1	%	60	49	42	65
13C5-PFPeA (surr.)	1	%	106	97	72	115
13C5-PFHxA (surr.)	1	%	66	142	94	140
13C4-PFHpA (surr.)	1	%	109	124	110	123
13C8-PFOA (surr.)	1	%	106	99	98	96
13C5-PFNA (surr.)	1	%	58	102	53	106
13C6-PFDA (surr.)	1	%	75	84	62	88
13C2-PFUnDA (surr.)	1	%	78	77	75	92
13C2-PFDoDA (surr.)	1	%	115	63	128	71
13C2-PFTeDA (surr.)	1	%	139	80	145	82
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	0.07	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	149	102	146	117
D3-N-MeFOSA (surr.)	1	%	103	54	106	57
D5-N-EtFOSA (surr.)	1	%	104	63	128	64
D7-N-MeFOSE (surr.)	1	%	69	53	77	56
D9-N-EtFOSE (surr.)	1	%	56	53	66	55
D5-N-EtFOSAA (surr.)	1	%	163	73	90	86
D3-N-MeFOSAA (surr.)	1	%	146	77	88	82
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	ND ⁹ 3.6	ND ⁹ 4.5	ND ⁹ 5.5	ND ⁹ 5.9
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	0.03	< 0.01	ND ⁹ 0.09
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.27	2.6	0.34	3.5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	ND ⁹ 4.6	ND ⁹ 5.9	ND ⁹ 5.2	ND ⁹ 8.8
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	ND ⁹ 35	ND ⁹ 34	ND ⁹ 41	ND ⁹ 52
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	ND ⁹ 1.7	ND ⁹ 2.3	ND ⁹ 2.9	ND ⁹ 3.7
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	ND ⁹ 15	ND ⁹ 15	ND ⁹ 25	ND ⁹ 25
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	133	99	109	90

PFAS burn trial report

Appendix 2: Ashes and quench waters analytical results



Client Sample ID			QLIQ 28/02-1	QLIQ 28/02-1	QLIQ 28/02-2	QLIQ 28/02-2
Sample Matrix			Water	TOP - Water	Water	TOP - Water
Eurofins I mgt Sample No.			B19-Ma06394	B19-Ma06395	B19-Ma06396	B19-Ma06397
Date Sampled			Mar 01, 2019	Mar 01, 2019	Mar 01, 2019	Mar 01, 2019
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSA)						
18O2-PFHxS (surr.)	1	%	80	117	93	120
13C8-PFOS (surr.)	1	%	80	105	85	98