Firebox Australia Pty Ltd
Lot 5/19 Balook drive
Beresfield
NSW 2322

NATA Accredited
Accreditation Number 1261
Site Number 1254

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: **Steven Shi**

Report **669032-S**
Project name TOTAL ORGANO FLUORINE ANALYSIS
Received Date Aug 01, 2019

Client Sample ID			**FOAM SAMPLE - F-500**	**FOAM SAMPLE - F-500**
Sample Matrix			**TOP - Product**	**Product**
Eurofins Sample No.			**M19-Au00748**	**M19-Au00821**
Date Sampled			**Not Provided**	**Not Provided**
Test/Reference	LOR	Unit		
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA)[N11]	100	ug/kg	< 100	< 100
Perfluoropentanoic acid (PFPeA)[N11]	100	ug/kg	< 100	< 100
Perfluorohexanoic acid (PFHxA)[N11]	100	ug/kg	< 100	< 100
Perfluoroheptanoic acid (PFHpA)[N11]	100	ug/kg	< 100	< 100
Perfluorooctanoic acid (PFOA)[N11]	100	ug/kg	< 100	< 100
Perfluorononanoic acid (PFNA)[N11]	100	ug/kg	< 100	< 100
Perfluorodecanoic acid (PFDA)[N11]	100	ug/kg	< 100	< 100
Perfluoroundecanoic acid (PFUnDA)[N11]	100	ug/kg	< 100	< 100
Perfluorododecanoic acid (PFDoDA)[N11]	100	ug/kg	< 100	< 100
Perfluorotridecanoic acid (PFTrDA)[N15]	100	ug/kg	< 100	< 100
Perfluorotetradecanoic acid (PFTeDA)[N11]	100	ug/kg	< 100	< 100
13C4-PFBA (surr.)	1	%	77	77
13C5-PFPeA (surr.)	1	%	89	93
13C5-PFHxA (surr.)	1	%	87	88
13C4-PFHpA (surr.)	1	%	108	97
13C8-PFOA (surr.)	1	%	93	89
13C5-PFNA (surr.)	1	%	90	97
13C6-PFDA (surr.)	1	%	114	86
13C2-PFUnDA (surr.)	1	%	110	100
13C2-PFDoDA (surr.)	1	%	138	102
13C2-PFTeDA (surr.)	1	%	145	99
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA)[N11]	100	ug/kg	< 100	< 100
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	100	ug/kg	< 100	< 100
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	100	ug/kg	< 100	< 100
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)[N11]	100	ug/kg	< 100	< 100
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)[N11]	100	ug/kg	< 100	< 100
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	100	ug/kg	< 100	< 100
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	100	ug/kg	< 100	< 100
13C8-FOSA (surr.)	1	%	131	101
D3-N-MeFOSA (surr.)	1	%	12	109
D5-N-EtFOSA (surr.)	1	%	14	113

Client Sample ID			FOAM SAMPLE - F-500	FOAM SAMPLE - F-500
Sample Matrix			**TOP - Product**	**Product**
Eurofins Sample No.			**M19-Au00748**	**M19-Au00821**
Date Sampled			**Not Provided**	**Not Provided**
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances				
D7-N-MeFOSE (surr.)	1	%	48	104
D9-N-EtFOSE (surr.)	1	%	68	131
D5-N-EtFOSAA (surr.)	1	%	187	144
D3-N-MeFOSAA (surr.)	1	%	INT	101
Perfluoroalkyl sulfonic acids (PFSAs)				
Perfluorobutanesulfonic acid (PFBS)[N11]	100	ug/kg	< 100	< 100
Perfluorononanesulfonic acid (PFNS)[N15]	100	ug/kg	< 100	< 100
Perfluoropropanesulfonic acid (PFPrS)[N15]	100	ug/kg	< 100	< 100
Perfluoropentanesulfonic acid (PFPeS)[N15]	100	ug/kg	< 100	< 100
Perfluorohexanesulfonic acid (PFHxS)[N11]	100	ug/kg	< 100	< 100
Perfluoroheptanesulfonic acid (PFHpS)[N15]	100	ug/kg	< 100	< 100
Perfluorooctanesulfonic acid (PFOS)[N11]	100	ug/kg	< 100	< 100
Perfluorodecanesulfonic acid (PFDS)[N15]	100	ug/kg	< 100	< 100
13C3-PFBS (surr.)	1	%	111	110
18O2-PFHxS (surr.)	1	%	119	107
13C8-PFOS (surr.)	1	%	129	94
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	100	ug/kg	< 100	< 100
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)[N11]	100	ug/kg	< 100	< 100
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	100	ug/kg	< 100	< 100
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N15]	100	ug/kg	< 100	< 100
13C2-4:2 FTSA (surr.)	1	%	158	72
13C2-6:2 FTSA (surr.)	1	%	INT	127
13C2-8:2 FTSA (surr.)	1	%	173	81
PFASs Summations				
Sum (PFHxS + PFOS)*	100	ug/kg	< 100	< 100
Sum of US EPA PFAS (PFOS + PFOA)*	100	ug/kg	< 100	< 100
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	100	ug/kg	< 100	< 100
Sum of WA DWER PFAS (n=10)*	100	ug/kg	< 100	< 100
Sum of PFASs (n=30)*	100	ug/kg	< 100	< 100

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Aug 01, 2019	180 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Aug 01, 2019	180 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Brisbane	Aug 08, 2019	180 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Aug 08, 2019	180 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

Company Name:	Firebox Australia Pty Ltd	**Order No.:**		**Received:**	Aug 1, 2019 12:30 PM
Address:	Lot 5/19 Balook drive Beresfield NSW 2322	**Report #:**	669032	**Due:**	Aug 8, 2019
		Phone:	(02) 98298547	**Priority:**	5 Day
		Fax:	(02) 98293355	**Contact Name:**	Steven Shi
Project Name:	TOTAL ORGANO FLUORINE ANALYSIS				

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Total Oxidisable Precursor	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794						X	X
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	FOAM SAMPLE - F-500	Not Provided		TOP - Product	M19-Au00748	X	X
2	FOAM SAMPLE - F-500	Not Provided		Product	M19-Au00821		X
Test Counts						1	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/kg	< 100			100	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 100			100	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 100			100	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 100			100	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 100			100	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 100			100	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 100			100	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 100			100	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 100			100	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 100			100	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 100			100	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 100			100	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 100			100	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 100			100	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/kg	< 100			100	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	ug/kg	< 100			100	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 100			100	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 100			100	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 100			100	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 100			100	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 100			100	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 100			100	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 100			100	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 100			100	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 100			100	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 100			100	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 100			100	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	ug/kg	< 100			100	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 100			100	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 100			100	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	98			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	89			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	112			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	98			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	96			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	105			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	103			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	104			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	96			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	98			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	118			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	99			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	125			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	108			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	%	97			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	%	93			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	101			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	102			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	79			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	112			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	97			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	94			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	106			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	114			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	86			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	108			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	92			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	%	92			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	134			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	96			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S19-Au11793	NCP	%	96			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S19-Au11793	NCP	%	110			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S19-Au11793	NCP	%	117			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	S19-Au11793	NCP	%	102			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S19-Au11793	NCP	%	94			50-150	Pass	
Perfluorononanoic acid (PFNA)	S19-Au11793	NCP	%	104			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S19-Au11793	NCP	%	102			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S19-Au11793	NCP	%	110			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S19-Au11793	NCP	%	87			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	S19-Au11793	NCP	%	99			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S19-Au11793	NCP	%	130			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S19-Au11793	NCP	%	104			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S19-Au11793	NCP	%	129			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S19-Au11793	NCP	%	95			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	S19-Au11793	NCP	%	102			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	S19-Au11793	NCP	%	98			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S19-Au11793	NCP	%	100			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S19-Au11793	NCP	%	99			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S19-Au11793	NCP	%	78			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S19-Au11793	NCP	%	118			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S19-Au11793	NCP	%	107			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S19-Au11793	NCP	%	98			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S19-Au11793	NCP	%	96			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S19-Au11793	NCP	%	127			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S19-Au11793	NCP	%	86			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	S19-Au11793	NCP	%	100			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S19-Au11793	NCP	%	148			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	S19-Au11793	NCP	%	140			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S19-Au11793	NCP	%	141			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S19-Au11793	NCP	%	132			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M19-Au00748	CP	ug/kg	< 100	< 100	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised By

Asim Khan	Analytical Services Manager
Jonathon Angell	Senior Analyst-Organic (QLD)
Bryan Wilson	Senior Analyst-PFAS (QLD)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.