LANDLOGIC LIMITED
25 John Morten Place
Rolleston
NZ 7675

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Danny King**

Report **990173-W_INT**
Project name F500 PFAS ABSENCE
Received Date May 15, 2023

Client Sample ID			
Sample Matrix			**Water**
Eurofins Sample No.			**K23-My0041068**
Date Sampled			**Not Provided**[I12]
Test/Reference	LOR	Unit	
Perfluoroalkyl carboxylic acids (PFCAs) - Ultra Trace			
Comments			G01
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 100
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 100
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 100
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 100
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 100
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 100
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 100
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 100
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 100
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 100
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 100
13C4-PFBA (surr.)	1	%	103
13C5-PFPeA (surr.)	1	%	87
13C5-PFHxA (surr.)	1	%	93
13C4-PFHpA (surr.)	1	%	110
13C8-PFOA (surr.)	1	%	127
13C5-PFNA (surr.)	1	%	130
13C6-PFDA (surr.)	1	%	103
13C2-PFUnDA (surr.)	1	%	119
13C2-PFDoDA (surr.)	1	%	97
13C2-PFTeDA (surr.)	1	%	138
Perfluoroalkyl sulfonic acids (PFSAs)- Ultra Trace			
Comments			G01
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 100
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 100
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 100
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 100
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	< 100
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 100
Perfluorooctanesulfonic acid (PFOS)[N11]	0.0001	ug/L	< 100
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 100
13C3-PFBS (surr.)	1	%	INT
18O2-PFHxS (surr.)	1	%	127
13C8-PFOS (surr.)	1	%	101

Client Sample ID			
Sample Matrix			**Water**
Eurofins Sample No.			**K23-My0041068**
Date Sampled			**Not Provided**[I12]
Test/Reference	LOR	Unit	
Perfluoroalkyl sulfonamido substances- Ultra Trace			
Comments			G01
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 100
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 100
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 100
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 100
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 100
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 100
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 100
13C8-FOSA (surr.)	1	%	85
D3-N-MeFOSA (surr.)	1	%	179
D5-N-EtFOSA (surr.)	1	%	189
D7-N-MeFOSE (surr.)	1	%	37
D9-N-EtFOSE (surr.)	1	%	61
D5-N-EtFOSAA (surr.)	1	%	INT
D3-N-MeFOSAA (surr.)	1	%	194
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Ultra Trace			
Comments			G01
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 100
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 100
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 100
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 100
13C2-4:2 FTSA (surr.)	1	%	107
13C2-6:2 FTSA (surr.)	1	%	121
13C2-8:2 FTSA (surr.)	1	%	113
13C2-10:2 FTSA (surr.)	1	%	INT
PFASs Summations			
Comments			G01
Sum (PFHxS + PFOS)*	0.001	ug/L	< 100
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	< 100
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	< 100
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	< 100
Sum of PFASs (n=30)*	0.005	ug/L	< 100

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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) - Ultra Trace			
Perfluoroalkyl carboxylic acids (PFCAs) - Ultra Trace	Brisbane	Jun 12, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - ultra trace			
Perfluoroalkyl sulfonic acids (PFSAs)- Ultra Trace	Brisbane	Jun 12, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - ultra trace			
Perfluoroalkyl sulfonamido substances- Ultra Trace	Brisbane	Jun 12, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) Ultra trace			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Ultra Trace	Brisbane	Jun 12, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - ultra trace			
PFASs Summations	Brisbane	Jun 12, 2023	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

eurofins

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NATA# 2377 Site# 2370

Company Name: LANDLOGIC LIMITED
Address: 25 John Morten Place
Rolleston
NZ 7675

Project Name: F500 PFAS ABSENCE

Order No.:
Report #: 990173
Phone: 027 339 4854
Fax:

Received: May 15, 2023 9:45 AM
Due: May 22, 2023
Priority: 5 Day
Contact Name: Danny King

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						Per- and Polyfluoroalkyl Substances (PFASs) - Ultra Trace
Auckland Laboratory - IANZ# 1327						
Christchurch Laboratory - IANZ# 1290						
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1		Not Provided		Water	K23-My0041068	X
Test Counts						1

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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.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**µg/L:** micrograms per litre
ppm: parts per million	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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) - Ultra Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Ultra Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	0.0001			0.0001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Ultra Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Ultra Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Ultra Trace							
Perfluorobutanoic acid (PFBA)	%	86			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	83			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	84			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	100			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	115			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	106			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	94			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	86			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	89			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	107			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	97			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Ultra Trace							
Perfluorobutanesulfonic acid (PFBS)	%	91			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	66			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	130			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	88			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	77			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	96			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	85			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	72			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Ultra Trace							
Perfluorooctane sulfonamide (FOSA)	%	108			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	109			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	94			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	91			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	82			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	95			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	100			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Ultra Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	99			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	112			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	89			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Ultra Trace				Result 1					
Perfluorobutanoic acid (PFBA)	Z23-My0025756	NCP	%	135			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	Z23-My0025756	NCP	%	131			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	Z23-My0025756	NCP	%	143			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	Z23-My0025756	NCP	%	143			50-150	Pass	
Perfluorooctanoic acid (PFOA)	Z23-My0025756	NCP	%	150			50-150	Pass	
Perfluorononanoic acid (PFNA)	Z23-My0025756	NCP	%	123			50-150	Pass	
Perfluorodecanoic acid (PFDA)	Z23-My0025756	NCP	%	142			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	Z23-My0025756	NCP	%	115			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	Z23-My0025756	NCP	%	138			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	Z23-My0025756	NCP	%	95			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	Z23-My0025756	NCP	%	132			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Ultra Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	Z23-My0025756	NCP	%	79			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	Z23-My0025756	NCP	%	128			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	Z23-My0025756	NCP	%	134			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	Z23-My0025756	NCP	%	124			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	Z23-My0025756	NCP	%	100			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	Z23-My0025756	NCP	%	138			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	Z23-My0025756	NCP	%	137			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Ultra Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	Z23-My0025756	NCP	ug/L	18	23	22	30%	Pass	
Perfluoropentanoic acid (PFPeA)	Z23-My0025756	NCP	ug/L	1.5	1.5	3.8	30%	Pass	
Perfluorohexanoic acid (PFHxA)	Z23-My0025756	NCP	ug/L	0.41	0.52	23	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	Z23-My0025756	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Ultra Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	Z23-My0025756	NCP	ug/L	< 0.5	< 0.5	<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	N/A
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
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:

Katyana Gausel	Analytical Services Manager
Jonathon Angell	Senior Analyst-PFAS

Glenn Jackson
Managing Director

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.