APPENDIX G

Data Validation Summary and Field Control Sample Results

DATA VALIDATION SUMMARY SHEET

Project Name:			PSI			Project Number:	18100235	
Primary Laboratory	**Workorder Number**	**Sample Date**	**Sample Event**	**Sample Medium**	**Number of Primary Samples**	**Number of Duplicate Samples**	**Number of Rinsate sample**	**Number of Trip Blanks**
ALS	EB1810438	Apr-18	April 2018 Surface Water Sampling	Water	24	3	1	2
ALS	EB1810440	Apr-18	April 2018 Potable Water Sampling	Water	24	3	1	2
ALS	ES1817464	Jun-18	June 2018 Groundwater Monitoring Event	Water	49	5	5	2
ALS	EB1816377	Jul-18	July 2018 Confirmation sampling	Water	29	2	2	1
ALS	EB1816698	Jul-18	July 2018 Confirmation sampling	Water	5	1	1	0
ALS	EB1817467	Jul-18	July 2018 Potable Water Sampling	Water	24	3	2	2

Secondary Laboratory	**Workorder Number**	**Sample Date**		**Sample Medium**	**Number of Triplicate Samples**
Eurofins	596498	Apr-18		Water	3
Eurofins	596501	Apr-18		Water	3
Eurofins	602941	Jun-18		Water	3
Eurofins	603377	Jun-18		Water	1
Eurofins	607361	Jul-18		Water	3
Eurofins	608558	Jul-18		Water	2

Sample Information Summary

Number of Primary Samples:	**155**	**Number of Triplicate Samples:**	15
Number of Duplicate Samples:	**17**	**Number of Other QAQC Samples:**	11 Rinsate samples and 9 trip blank samples

Documentation and Sample Handling Information

		Y/N	Comments
COC completed properly?		N	Workorder EB1810438 sample "SW/LUT/UPS_23-4-2018" and "QC402_23-4-2018" were not received. Golder advised ALS to conduct analysis on two samples received without ID's on them as "NO ID (A)" and "NO ID (B)" (ALS #30-31). Both samples had concentrations below LOR. No ID (A) was considered to be rinsate sample "QC402_23-4-2018" and No ID (B) was assigned to be sample "SW/LUT/UPS_23-4-2018" . Refer to overall comments. Workorder 602941 received sample labelled QC110 instead of QC210. Golder requested the sample to be analysed as QC210 as per the COC. Workorder ES1817464 sent QC210 (formerly QC110) to Eurofins. ALS analysed QC210 as QC101 per the COC.
All requested analysis completed?		Y	
Samples received intact and chilled?		Y	Workorder EB1810438 ice present with temperature of 15.2°C and 17.5°C. Workorder EB1810440 ice present with temperature of 15.2°C and 17.5°C. Workorder ES1817646 ice present with a temperature of 5°C. Workorder EB1816377 ice present with temperatures of 18.6°C and 16°C. Workorder EB1816696 ice present with temperatures of 13°C. Workorder 596498 had a temperature of 5.6°C. Workorder 596501 had a temperature of 5.6°C.Workorder 602941 had a temperature of 9.5°C. Workorder 603377 had a temperature of 12.4°C. Workorder 607361 had a temperature of 8.2°C. Refer to overall comments
Samples analysed within appropriate holding times?		Y	
Sample volumes sufficient for QC analysis?		Y	
Are there non-NATA accredited methods used?		N	
Chromatograms supplied as appropriate?		Not Applicable	
Laboratory reports signed by authorised personnel?		Y	

QAQC Sample Information (Method Blank - MB, Rinsate Blank - RB, Field Blank - FB, Trip Blank - TB)

Type	**Workorder Number**	**Sample ID**		**Comments**
Rinsate	EB1810438	NO ID (A)		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix. Rinsate sample collected from sample pole following triple stage decontaminated process that was used between sample locations.
Rinsate	EB1810440	QC401 26-4-2018		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix . Rinsate sample collected from sample pole following triple stage decontaminated process that was used between sample collection.
Rinsate	ES1817464	QC310		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix . Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations.
Rinsate	ES1817464	QC313		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix . Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations.
Rinsate	ES1817464	QC314		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix . Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations.
Rinsate	ES1817464	QC315		**PFOS detected at low concentrations being the laboratory limit of reporting refer to Table 1 of Appendix.** All remaining PFAS analytes are below the laboratory limit of reporting. Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations. Refer to overall comments
Rinsate	ES1817464	QC319		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix . Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations.
Rinsate	EB1816377	QC320 20180703		**PFOS detected at low concentrations being the laboratory limit of reporting refer to Table 1 of Appendix.** All remaining PFAS analytes are below the laboratory limit of reporting. Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations. Refer to overall comments.
Rinsate	EB1816377	QC321 20180704		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix. Rinsate sample collected from sample pole following triple stage
Rinsate	EB1816698	QC322 20180705		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix . Rinsate sample collected from interface probe used for measuring groundwater level following triple stage decontaminated process that was used between well locations.
Rinsate	EB1817467	QC323 17-7-2018		All PFAS are below the laboratory limit of reporting refer to Table 1 of Appendix. Rinsate sample collected from sample pole following triple stage decontaminated process that was used between sample locations.
Trip Blank	EB1810438	QC303 23-4-2018		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	EB1810438	QC304 23-4-2018		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	EB1810440	QC301 26-4-2018		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	EB1810440	QC302 26-4-2018		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	ES1817464	QC410		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	ES1817464	QC411		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	EB1816377	QC412 20180703		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	EB1817467	QC414 17-7-2018		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.
Trip Blank	EB1817467	QC415_17-7-2018		All PFAS are below the laboratory limit of reporting refer to Table 2 of Appendix.

Trip Spike Information

Analyte	**Spike Concentrations**	**Recovery Concentration**	**% Recovery**	**Comments**
				No trip spike submitted as per sampling and analysis plan.

Laboratory Control Spike (LCS) Analyses

Analyte Group	**Comments**
PFAS	All workorders had laboratory control spike recoveries that were within the data quality objectives.

Matrix Spike (MS) Analyses

Analyte Group	**Comments**
Perfluoroalkyl Carboxylic Acids	Workorder ES1817464 with sample ID EWHEQ-MW-02 had a matrix spike recovery for perfluorobutanoic acid that was 16% which is lower than the data quality objective of 30% to 130%, with the COA stating that the matrix spike recovery bias low due to sample matrix interferences.
	All remaining workorders had matrix spike recoveries that were within the data quality objectives.

Laboratory Duplicates (LD) Analyses

Analyte Group	**Analyte(s)**	**Sample ID**	**Comments**
PFAS	Not Applicable	Not Applicable	No duplicate analyses outliers for all workorders.

Primary laboratory blind duplicate

Analyte Group	**Primary ID**	**Primary laboratory blind duplicate ID**	**Sample Location Type**	**Comments**
PFAS	SA037_25-4-2018	QC101_25-4-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA015_25-4-2018	QC102_25-4-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA027_25-4-2018	QC103_25-4-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SW/MAR/UPS_24-4-2018	QC104_24-4-2018	Surface water	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	LAKE/PAT_24-4-2018	QC105_24-4-2018	Surface water	**PFOS has a RPD of 108% which is above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	PR/EWM/MP_25-4-2018	QC106_24-4-2018	Surface water	**PFOS has a RPD of 31%, PFHxS has an RPD of 61 % and PFPeA has an RPD of 85% which are above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	ELS-MW-23	QC110	Groundwater Well	**PFHxS has an RPD of 70 % which is above the acceptance criteria refer to overall comments. Refer to Table 3 of Appendix.**
PFAS	LDP-MW-10	QC111	Groundwater Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	ELN-MW-02	QC112	Groundwater Well	**PFOS has a RPD of 39% which is above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.

DATA VALIDATION SUMMARY SHEET

Project Name:			**PSI**		**Project Number:**		**18100235**	
Primary Laboratory	**Workorder Number**	**Sample Date**	**Sample Event**	**Sample Medium**	**Number of Primary Samples**	**Number of Duplicate Samples**	**Number of Rinsate sample**	**Number of Trip Blanks**
ALS	EB1810438	Apr-18	April 2018 Surface Water Sampling	Water	24	3	1	2
ALS	EB1810440	Apr-18	April 2018 Potable Water Sampling	Water	24	3	1	2
ALS	ES1817464	Jun-18	June 2018 Groundwater Monitoring Event	Water	49	5	5	2
ALS	EB1816377	Jul-18	July 2018 Confirmation sampling	Water	29	2	2	1
ALS	EB1816698	Jul-18	July 2018 Confirmation sampling	Water	5	1	1	0
ALS	EB1817467	Jul-18	July 2018 Potable Water Sampling	Water	24	3	2	2

Secondary Laboratory	**Workorder Number**	**Sample Date**		**Sample Medium**	**Number of Triplicate Samples**
Eurofins	596498	Apr-18		Water	3
Eurofins	596501	Apr-18		Water	3
Eurofins	602941	Jun-18		Water	3
Eurofins	603377	Jun-18		Water	1
Eurofins	607361	Jul-18		Water	3
Eurofins	608558	Jul-18		Water	2

PFAS	LPI-MW-21	QC114	Groundwater Well	**PFOS has a RPD of 33% which is above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	LPI-MW-20	QC115	Groundwater Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA015_20180702	QC116_20180703	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	MRC/DOS_20180704	QC117_20180704	Surface water	**PFPeA has an RPD of 129% which is above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	LPI_MW8_20180705	QC118_20180705	Groundwater Well	**FOSA has an RPD of 89% which is above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	APT_17-7-2018	QC119_17-7-2018	Accumulation Point	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA107_17-7-2018	QC120_17-7-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA036_17-7-2018	QC121_17-7-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.

Secondary Laboratory Triplicates Analyses

Analyte Group	**Primary ID**	**Secondary laboratory triplicate**	**Sample Location Type**	**Comments**
PFAS	SA037_25-4-2018	QC201_25-4-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA015_25-4-2018	QC202_25-4-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA027_25-4-2018	QC203_25-4-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SW/MAR/UPS_24-4-2018	QC204_24-4-2018	Surface water	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	LAKE/PAT_24-4-2018	QC205_24-4-2018	Surface water	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	PR/EWM/MP_25-4-2018	QC206_24-4-2018	Surface water	**6:2 FTSA has an RPD of 115 % which is above acceptance criteria. All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.**
PFAS	ELS-MW-23	QC210	Groundwater Well	**PFHxS has a RPD of 56% and PFBS has an RPD of 82% which is above the acceptance criteria refer to overall comments. All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.**
PFAS	LPI-MW-21	QC214	Groundwater Well	**PFOS has a RPD of 88%. PFHxS has a RPD of 46%, PFPeA has a RPD of 55% and PFPeS has a RPD of 43% which is above the acceptance criteria refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	LPI-MW-20	QC215	Groundwater Well	**PFOS has a RPD of 81% and PFPeA has a RPD of 102% which is above the acceptance criteria, refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA015_20180702	QC216_20180703	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	MCR/DOS_20180704	QC217_20180704	Surface water	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	LPI_MW8_20180705	QC218_20180705	Groundwater Well	**Following analyte RPD results exceed the acceptance criteria: PFOA 46%, PFOS 63%, PFHpS 43%, PFPeS 44% and PFBS 30%. Refer to overall comments.** All remaining RPD results are below the acceptance criteria. Refer to Table 3 of Appendix.
PFAS	APT_17-7-2018	QC219_17-7-2018	Accumulation Point	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	SA107_17-7-2018	QC220_17-7-2018	Potable Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.
PFAS	HOS-SA/4	QC113	Groundwater Well	No RPD results exceed acceptance criteria. Refer to Table 3 of Appendix.

Surrogate Compound Monitoring Analyses

Analyte Group	**Analyte(s)**	**Comments**
PFAS	Not Applicable	No surrogate compound monitoring analyses outliers for all workorders.

Overall Comments

Fieldwork	Standard Golder internal fieldwork procedures were complied with and considered acceptable for the purposes of this sampling;
	Some inconsistencies with the sample labelling suffix for QA/QC sample type and that stated in the SAQP. Where the data of these samples are presented the QAQC sample type is presented alongside; and
	Two samples noted on a COC were received without sample labels and analysed as No ID sample. Results of the samples were less than the laboratory limit of reporting of all analytes. The samples were assessed as those stated on the COC.
Samples	Standard Golder internal sample collection, handling and storage procedures were complied with.
	Primary laboratory blind duplicates were analysed at a rate of 11% to primary samples, this meets the requirements of NEMP 2018.
	Secondary laboratory triplicate samples were analysed at a rate of 9% of primary samples, this is slightly below the 10% rate recommended in NEMP 2018.
	Rinsate blanks and trip blanks were submitted for each sampling event undertaken. All field blanks results were below the laboratory limit of detection. Two rinsate samples detected PFOS at the limit of reporting and all remaining rinsate blanks recorded results below the limit of reporting. Cross contamination is not considered to be an issue for sampling equipment that was reused between sample
Analysis	Laboratory analysis of samples was undertaken by NATA accredited facilities.
	Relative percentage differences (RPD) between the primary samples and the primary laboratory blind duplicates exceeded the acceptance criteria for 9 of the 476 comparisons. The remaining RPD were acceptable or were not calculated as all results were reported below the laboratory LOR. This indicates that approximately 98% of the analysis conducted by ALS is reproducible.
	RPD between the primary samples and the secondary laboratory triplicate samples exceeded the acceptance criteria for 14 of the 420 comparisons. The remaining RPD were acceptable or were not calculated as all results were reported below the laboratory LOR. This indicates that approximately 97% of analysis conducted by ALS is reproducible at Eurofins.
	Laboratory QA/QC included laboratory control samples, matrix spikes, laboratory duplicates and surrogates. There were no outliers of laboratory data quality objectives for laboratory control samples, laboratory duplicates and surrogates. One matrix spike analysis for a PFAS analyte was lower than the laboratory data quality objective due to sample matrix interferences. All remaining matrix spike recoveries were within the laboratory data quality objectives. Laboratory QA/QC samples were analysed at the appropriate frequency.
	All samples were chilled to 4 C in airtight containers and transported with ice in appropriate storage containers. Due to the transport time from Weipa to the laboratories, the samples where received at greater than 6 C. This is not considered significant for analysis of PFAS.

This batch has been validated and is considered suitable for environmental interpretive use.

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

*When concentrations are less than the LOR for both primary and duplicate/triplicate results, no RPDs are calculated

Performed By: **Emma Cornish**
Date: **9/08/2018**

Checked By Greg Whitmore
Date: 4-Sep-18

GOLDER

Table 1 - Rinsate Sample Results

Project Number 18100235

	Lab Report No.		EB1810438	EB1810440	ES1817464	ES1817464	ES1817464	ES1817464	ES1817464	EB1816377	EB1816377	EB1816698	EB1817467
	Field ID		NO ID (A)	QC401_26-4-2018	QC310	QC313	QC314	QC315	QC319	QC320_20180703	QC321_20180704	QC322_20180705	QC323_17-7-2018
	Sampled_Date		23/04/2018 8:52	26/04/2018	2/06/2018	5/06/2018	6/06/2018	6/06/2018	9/06/2018	3/07/2018 15:11	4/07/2018	5/07/2018 0:00	17/07/2018 13:52
	Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Per- and Polyfluoroalkyl Substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0003	<0.0003	<0.002	<0.0003	<0.0003	<0.0003	**0.0005**	**0.0003**	<0.0003	<0.0003	<0.0003	<0.002
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Sum of PFHxS and PFOS (lab reported)	µg/L	0.0003	<0.0003	<0.002	<0.0003	<0.0003	<0.0003	**0.0005**	**0.0003**	<0.0003	<0.0003	<0.0003	<0.002
	Sum of WA DER PFAS (n=10)	µg/L	0.0003	<0.0003	<0.002	<0.0003	<0.0003	<0.0003	**0.0005**	**0.0003**	<0.0003	<0.0003	<0.0003	<0.002
	Sum of PFASs (n=28 - Lab Reported)	µg/L	0.0003	<0.0003	<0.002	<0.0003	<0.0003	<0.0003	**0.0005**	**0.0003**	<0.0003	<0.0003	<0.0003	<0.002
	Perfluorobutanoic acid (PFBA)	µg/L	0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorodecanoic acid (PFDA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorononanoic acid (PFNA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	N-Ethyl PFO sulfonamide (EtFOSA)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	N-Methyl PFO sulfonamide (MeFOSA)	µg/L	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	µg/L	0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002

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Table 2 - Trip Blank Sample Results

Project Number 18100235

	Lab Report No.			EB1810440	EB1810440	EB1810438	EB1810438	ES1817464	ES1817464	EB1816377	EB1817467	EB1817467
	Field ID			QC301_26-4-2018	QC302_26-4-2018	QC303_23-4-2018	QC304_23-4-2018	QC410	QC411	QC412_20180703	QC414_17-7-2018	QC415_17-7-2018
	Sampled_Date			26/04/2018 9:08	26/04/2018	23/04/2018	23/04/2018	2/06/2018 15:00	3/06/2018	3/07/2018	18/07/2018	19/07/2018
	Sample Type			Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Per- and Polyfluoroalkyl Substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0003	<0.002	<0.002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.002	<0.002
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Sum of PFHxS and PFOS (lab reported)	µg/L	0.0003	<0.002	<0.002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.002	<0.002
	Sum of WA DER PFAS (n=10)	µg/L	0.0003	<0.002	<0.002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.002	<0.002
	Sum of PFASs (n=28 - Lab Reported)	µg/L	0.0003	<0.002	<0.002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.002	<0.002
	Perfluorobutanoic acid (PFBA)	µg/L	0.002	<0.01	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorodecanoic acid (PFDA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorononanoic acid (PFNA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.0005	<0.005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.005
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	N-Ethyl PFO sulfonamide (EtFOSA)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	N-Methyl PFO sulfonamide (MeFOSA)	µg/L	0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	µg/L	0.0005	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002

GOLDER

Table 1- Primary laboratory blind duplicates and Secondary laboraotry triplicate samples

Project Number 18100235

	Lab Report Number	EB1810440	EB1810440		EB1810440	EB1810440		EB1810440	EB1810440		EB1810438	EB1810438		EB1810438	EB1810438		EB1810438	EB1810438	
	Field ID	SA037_25-4-2018	QC101_25-4-2018	**RPD**	SA015_25-4-2018	QC102_25-4-2018	**RPD**	SA027_25-4-2018	QC103_25-4-2018	**RPD**	SW/MAR/UPS_24-4-2018	QC104_24-4-2018	**RPD**	LAKE/PAT_24-4-2018	QC105_24-4-2018	**RPD**	PR/EWM/MP_25-4-2018	QC106_24-4-2018	**RPD**
	Sample Type	Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate	
	Sampled Date/Time	25/04/2018	25/04/2018		25/04/2018	25/04/2018		25/04/2018	25/04/2018		24/04/2018	24/04/2018		24/04/2018	24/04/2018		25/04/2018	25/04/2018	
	ChemName	**Units**	**EQL**																
Per- and polyfluoroalkyl substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)	µg/L	0.005 : 0.002 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA								
	N-Methyl PFO sulfonamidoethanol (MeFOSE)	µg/L	0.001 : 0.005 (Interlab)											<0.001	<0.001	NA	<0.001	<0.001	0	<0.001	<0.001	NA
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	µg/L	0.0005 : 0.005 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorooctanoic Acid (PFOA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	0.0038	0.0031	20
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	0.002	NA	0.003	<0.002	40										
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0003 : 0.0001 (Interlab)											<0.0003	<0.0003	NA	**<0.0003**	**0.001**	**108**	**0.0391**	**0.0287**	**31**
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	0.003	0.003	NA	0.008	0.009	12										
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	**0.0112**	**0.021**	**61**
	Perfluorobutanoic acid (PFBA)	µg/L	0.01 : 0.005 (Interlab)	<0.01	<0.01	NA	<0.01	<0.01	NA	<0.01	<0.01	NA										
	Perfluorobutanoic acid (PFBA)	µg/L	0.002 : 0.005 (Interlab)											<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA
	Perfluorohexanoic acid (PFHxA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	0.0162	0.0143	12
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	0.0006	18	0.0022	0.0028	24
	Perfluorodecanoic acid (PFDA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorodecanoic acid (PFDA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoropentanoic acid (PFPeA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	**0.0047**	**0.0019**	**85**
	Perfluorononanoic acid (PFNA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorononanoic acid (PFNA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005 : 0.001 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	0.0016	0.0019	17
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002 : 0.001 (Interlab)	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.0005 : 0.001 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	0.0032	0.0051	46
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	µg/L	0.005 : 0.001 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	µg/L	0.001											<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	µg/L	0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	µg/L	0.001 : 0.005 (Interlab)											<0.001	<0.001	NA	<0.001	<0.001	NA	0.14	0.17	19
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	µg/L	0.005 : 0.001 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	µg/L	0.001											<0.001	<0.001	NA	<0.001	<0.001	NA	0.008	0.006	29
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	µg/L	0.005 : 0.001 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	µg/L	0.001											<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Ethyl PFO sulfonamide (EtFOSA)	µg/L	0.005 : 0.002 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	N-Ethyl PFO sulfonamide (EtFOSA)	µg/L	0.001 : 0.005 (Interlab)											<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	µg/L	0.005 : 0.002 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	µg/L	0.001 : 0.005 (Interlab)											<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Methyl PFO sulfonamide (MeFOSA)	µg/L	0.005 : 0.002 (Interlab)	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA										
	N-Methyl PFO sulfonamide (MeFOSA)	µg/L	0.001 : 0.005 (Interlab)											<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.002	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.0005 : 0.005 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA										
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	µg/L	0.0005 : 0.005 (Interlab)											<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
																			1			2

Legend
N/A = Not applicable (RPDs not calculated as primary and/or duplicate results are below LOR)
Acceptable RPD for high, moderate and low concentration samples are as follows:
30% for concentrations > 30 x LOR
50% for concentrations between 10 to 30 x LOR
80% for concentrations < 10 x LOR
RPD Exceedance

GOLDER

Table 1- Primary laboratory blind duplicates and Secondary laboraotry triplicate samples

Project Number 18100235

	ES1817464	ES1817464		ES1817464	ES1817464		ES1817464	ES1817464		ES1817464	ES1817464		ES1817464	ES1817464		EB1816377	EB1816377		EB1816377	EB1816377	
	ELS-MW-23	QC110	**RPD**	LDP-MW-10	QC111	**RPD**	ELN-MW-02	QC112	**RPD**	LPI-MW-21	QC114	**RPD**	LPI-MW-20	QC115	**RPD**	SA015_2018 0702	QC116_201 80703	**RPD**	MRC/DOS__ 20180704	QC117_201 80704	**RPD**
	Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate	
	2/06/2018	2/06/2018		3/06/2018	3/06/2018		4/06/2018	4/06/2018		9/06/2018	9/06/2018		9/06/2018	9/06/2018		3/07/2018	3/07/2018		4/07/2018	4/07/2018	
	ChemName																					
Per- and polyfluoroalkyl substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)																					
	N-Methyl PFO sulfonamidoethanol (MeFOSE)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	Perfluorodecane sulfonic acid (PFDS)																					
	Perfluorodecane sulfonic acid (PFDS)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)																					
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorooctanoic Acid (PFOA)																					
	Perfluorooctanoic Acid (PFOA)	0.0015	0.0009	50	<0.0005	<0.0005	NA	0.0068	0.0057	18	0.0631	0.0665	5	0.0033	0.003	10	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorooctane sulfonic acid (PFOS)																					
	Perfluorooctane sulfonic acid (PFOS)	0.0467	0.0359	26	0.0018	0.0022	20	**0.0459**	**0.0308**	39	**0.696**	**0.97**	33	0.0421	0.0352	18	0.0037	0.0034	8	0.0009	0.001	11
	Perfluorohexane sulfonic acid (PFHxS)																					
	Perfluorohexane sulfonic acid (PFHxS)	**0.0284**	**0.0136**	70	0.0026	0.0028	7	0.0203	0.0209	3	0.439	0.534	20	0.0229	0.0214	7	0.0041	0.0034	19	0.0014	0.0016	13
	Perfluorobutanoic acid (PFBA)																					
	Perfluorobutanoic acid (PFBA)	<0.002	<0.002	NA	<0.002	<0.002	NA	0.006	0.006	NA	0.014	0.009	43	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA
	Perfluorohexanoic acid (PFHxA)																					
	Perfluorohexanoic acid (PFHxA)	0.0011	<0.0005	75	<0.0005	<0.0005	NA	0.0141	0.0139	1	0.108	0.118	9	0.0044	0.0051	15	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoroheptanoic acid (PFHpA)																					
	Perfluoroheptanoic acid (PFHpA)	0.001	<0.0005	67	<0.0005	<0.0005	NA	0.0103	0.0113	9	0.0504	0.0572	13	0.0033	0.0026	24	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorodecanoic acid (PFDA)																					
	Perfluorodecanoic acid (PFDA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoropentanoic acid (PFPeA)																					
	Perfluoropentanoic acid (PFPeA)	0.0006	<0.0005	18	<0.0005	<0.0005	NA	0.017	0.0132	25	0.0297	0.0322	8	0.0013	0.0014	7	<0.0005	<0.0005	NA	**0.0005**	**0.0023**	**129**
	Perfluorononanoic acid (PFNA)																					
	Perfluorononanoic acid (PFNA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	0.002	0.0012	50	0.0021	0.0026	21	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorotetradecanoic acid (PFTeDA)																					
	Perfluorotetradecanoic acid (PFTeDA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorotridecanoic acid (PFTrDA)																					
	Perfluorotridecanoic acid (PFTrDA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluorododecanoic acid (PFDoDA)																					
	Perfluorododecanoic acid (PFDoDA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoroundecanoic acid (PFUnDA)																					
	Perfluoroundecanoic acid (PFUnDA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoroheptane sulfonic acid (PFHpS)																					
	Perfluoroheptane sulfonic acid (PFHpS)	0.0011	0.0007	44	<0.0005	<0.0005	NA	0.0006	0.0006	NA	0.0315	0.0292	8	0.0011	0.001	10	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	Perfluoropentane sulfonic acid (PFPeS)																					
	Perfluoropentane sulfonic acid (PFPeS)	0.0023	0.001	79	<0.0005	<0.0005	NA	0.001	0.0008	22	0.0574	0.0603	5	0.0014	0.0013	7	0.0005	0.0005	NA	<0.0005	<0.0005	NA
	Perfluorobutane sulfonic acid (PFBS)																					
	Perfluorobutane sulfonic acid (PFBS)	0.0024	0.0011	74	<0.0005	<0.0005	NA	0.001	0.0008	22	0.039	0.0421	8	0.0015	0.0014	7	0.0007	0.0006	15	<0.0005	<0.0005	NA
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)																					
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)																					
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	0.007	0.007	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)																					
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)																					
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Ethyl PFO sulfonamide (EtFOSA)																					
	N-Ethyl PFO sulfonamide (EtFOSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)																					
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Methyl PFO sulfonamide (MeFOSA)																					
	N-Methyl PFO sulfonamide (MeFOSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	Perfluorooctane sulfonamide (FOSA)																					
	Perfluorooctane sulfonamide (FOSA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)																					
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA
				1						1			1									1

Legend

N/A = Not applicable (RPDs not calculated as primary and/or dup

Acceptable RPD for high, moderate and low concentration samp

30% for concentrations > 30 x LOR

50% for concentrations between 10 to 30 x LOR

80% for concentrations < 10 x LOR

RPD Exceedance

GOLDER

Table 1- Primary laboratory blind duplicates and Secondary laboraotry triplicate samples

Project Number 18100235

	EB1816698	EB1816698		EB1817467	EB1817467		EB1817467	EB1817467		EB1817467	EB1817467		EB1810440	596501		EB1810440	596501		EB1810440	596501	
	LPI_MW8_20180705	QC118_20180705	RPD	APT_17-7-2018	QC119_17-7-2018	RPD	SA107_17-7-2018	QC120_17-7-2018	RPD	SA036_17-7-2018	QC121_17-7-2018	RPD	SA037_25-4-2018	QC201_25-4-2018	RPD	SA015_25-4-2018	QC202_25-4-2018	RPD	SA027_25-4-2018	QC203_25-4-2018	RPD
	Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Primary laboratory blind duplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate	
	5/07/2018	5/07/2018		17/07/2018	17/07/2018		17/07/2018	17/07/2018		17/07/2018	17/07/2018		25/04/2018	25/04/2018		25/04/2018	25/04/2018		25/04/2018	25/04/2018	
	ChemName																					
Per- and polyfluoroalkyl substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.002	NA	<0.005	<0.002	NA	<0.005	<0.002	NA
	N-Methyl PFO sulfonamidoethanol (MeFOSE)	<0.001	<0.001	NA																		
	Perfluorodecane sulfonic acid (PFDS)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorodecane sulfonic acid (PFDS)	<0.0005	<0.0005	NA																		
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	<0.0005	<0.0005	NA																		
	Perfluorooctanoic Acid (PFOA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorooctanoic Acid (PFOA)	0.137	0.141	3																		
	Perfluorooctane sulfonic acid (PFOS)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	0.002	NA	<0.002	0.003	40	0.003	0.005	50
	Perfluorooctane sulfonic acid (PFOS)	2.25	2.33	3																		
	Perfluorohexane sulfonic acid (PFHxS)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	0.003	0.002	40	0.008	0.006	29
	Perfluorohexane sulfonic acid (PFHxS)	1.88	1.9	1																		
	Perfluorobutanoic acid (PFBA)				<0.01	<0.01	NA	<0.01	<0.01	NA	<0.01	<0.01	NA	<0.01	<0.005	NA	<0.01	<0.005	NA	<0.01	<0.005	NA
	Perfluorobutanoic acid (PFBA)	0.027	0.026	4																		
	Perfluorohexanoic acid (PFHxA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorohexanoic acid (PFHxA)	0.356	0.374	5																		
	Perfluoroheptanoic acid (PFHpA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluoroheptanoic acid (PFHpA)	0.112	0.117	4																		
	Perfluorodecanoic acid (PFDA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorodecanoic acid (PFDA)	<0.0005	<0.0005	NA																		
	Perfluoropentanoic acid (PFPeA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluoropentanoic acid (PFPeA)	0.0952	0.0916	4																		
	Perfluorononanoic acid (PFNA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorononanoic acid (PFNA)	0.0046	0.0043	7																		
	Perfluorotetradecanoic acid (PFTeDA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.001	NA	<0.005	<0.001	NA	<0.005	<0.001	NA
	Perfluorotetradecanoic acid (PFTeDA)	<0.0005	<0.0005	NA																		
	Perfluorotridecanoic acid (PFTrDA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorotridecanoic acid (PFTrDA)	<0.0005	<0.0005	NA																		
	Perfluorododecanoic acid (PFDoDA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorododecanoic acid (PFDoDA)	<0.0005	<0.0005	NA																		
	Perfluoroundecanoic acid (PFUnDA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluoroundecanoic acid (PFUnDA)	<0.0005	<0.0005	NA																		
	Perfluoroheptane sulfonic acid (PFHpS)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluoroheptane sulfonic acid (PFHpS)	0.186	0.178	4																		
	Perfluoropentane sulfonic acid (PFPeS)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	0.002	NA
	Perfluoropentane sulfonic acid (PFPeS)	0.147	0.158	7																		
	Perfluorobutane sulfonic acid (PFBS)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.001	NA	<0.002	<0.001	NA	<0.002	<0.001	NA
	Perfluorobutane sulfonic acid (PFBS)	0.184	0.179	3																		
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.001	NA	<0.005	<0.001	NA	<0.005	<0.001	NA
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	<0.001	<0.001	NA																		
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	0.014	0.014	NA																		
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.001	NA	<0.005	<0.001	NA	<0.005	<0.001	NA
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	<0.001	<0.001	NA																		
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.001	NA	<0.005	<0.001	NA	<0.005	<0.001	NA
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	<0.001	<0.001	NA																		
	N-Ethyl PFO sulfonamide (EtFOSA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.002	NA	<0.005	<0.002	NA	<0.005	<0.002	NA
	N-Ethyl PFO sulfonamide (EtFOSA)	<0.001	<0.001	NA																		
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.002	NA	<0.005	<0.002	NA	<0.005	<0.002	NA
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	<0.001	<0.001	NA																		
	N-Methyl PFO sulfonamide (MeFOSA)				<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.002	NA	<0.005	<0.002	NA	<0.005	<0.002	NA
	N-Methyl PFO sulfonamide (MeFOSA)	<0.001	<0.001	NA																		
	Perfluorooctane sulfonamide (FOSA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA
	Perfluorooctane sulfonamide (FOSA)	**0.0013**	**<0.0005**	89																		
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)				<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA	<0.002	<0.002	NA
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	<0.0005	<0.0005	NA																		

1

Legend

N/A = Not applicable (RPDs not calculated as primary and/or dup
Acceptable RPD for high, moderate and low concentration samp
30% for concentrations > 30 x LOR
50% for concentrations between 10 to 30 x LOR
80% for concentrations < 10 x LOR
RPD Exceedance

GOLDER

Table 1- Primary laboratory blind duplicates and Secondary laboraotry triplicate samples

Project Number 18100235

	EB1810438	596498		EB1810438	596498		EB1810438	596498		ES1817464	602941		ES1817464	602941		ES1817464	602941		EB1816377	607361	
	SW/MAR/UPS_24-4-2018	QC204_24-4-2018	RPD	LAKE/PAT_24-4-2018	QC205_24-4-2018	RPD	PR/EWM/MP_25-4-2018	QC206_24-4-2018	RPD	ELS-MW-23	QC210	RPD	LPI-MW-21	QC214	RPD	LPI-MW-20	QC215	RPD	SA015_20180702	QC216_20180703	RPD
	Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate	
	24/04/2018	24/04/2018		24/04/2018	24/04/2018		25/04/2018	25/04/2018		2/06/2018	2/06/2018		9/06/2018	9/06/2018		9/06/2018	9/06/2018		3/07/2018	3/07/2018	
	ChemName																				
Per- and polyfluoroalkyl substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)																				
	N-Methyl PFO sulfonamidoethanol (MeFOSE)	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA
	Perfluorodecane sulfonic acid (PFDS)																				
	Perfluorodecane sulfonic acid (PFDS)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)																				
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA
	Perfluorooctanoic Acid (PFOA)																				
	Perfluorooctanoic Acid (PFOA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0038	0.004	5	0.0015	0.002	29	0.0631	0.076	19	0.0033	0.005	41	<0.0005	<0.001	NA
	Perfluorooctane sulfonic acid (PFOS)																				
	Perfluorooctane sulfonic acid (PFOS)	<0.0003	<0.0001	NA	<0.0003	0.0007	80	0.0391	0.037	6	0.0467	0.053	13	**0.696**	**1.8**	**88**	**0.0421**	**0.099**	**81**	0.0037	0.0042	13
	Perfluorohexane sulfonic acid (PFHxS)																				
	Perfluorohexane sulfonic acid (PFHxS)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0112	0.016	35	**0.0284**	**0.016**	**56**	**0.439**	**0.7**	**46**	0.0229	0.03	27	0.0041	0.003	31
	Perfluorobutanoic acid (PFBA)																				
	Perfluorobutanoic acid (PFBA)	<0.002	<0.005	NA	<0.002	<0.005	NA	<0.002	<0.005	NA	<0.002	<0.005	NA	0.014	0.015	7	<0.002	<0.005	NA	<0.002	<0.005	NA
	Perfluorohexanoic acid (PFHxA)																				
	Perfluorohexanoic acid (PFHxA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0162	0.014	15	0.0011	<0.001	10	0.108	0.11	2	0.0044	0.006	31	<0.0005	<0.001	NA
	Perfluoroheptanoic acid (PFHpA)																				
	Perfluoroheptanoic acid (PFHpA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0022	0.002	10	0.001	<0.001	NA	0.0504	0.055	9	0.0033	0.003	10	<0.0005	<0.001	NA
	Perfluorodecanoic acid (PFDA)																				
	Perfluorodecanoic acid (PFDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	Perfluoropentanoic acid (PFPeA)																				
	Perfluoropentanoic acid (PFPeA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0047	0.01	72	0.0006	0.001	50	**0.0297**	**0.052**	**55**	**0.0013**	**0.004**	**102**	<0.0005	<0.001	NA
	Perfluorononanoic acid (PFNA)																				
	Perfluorononanoic acid (PFNA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0021	0.002	5	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	Perfluorotetradecanoic acid (PFTeDA)																				
	Perfluorotetradecanoic acid (PFTeDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	Perfluorotridecanoic acid (PFTrDA)																				
	Perfluorotridecanoic acid (PFTrDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	Perfluorododecanoic acid (PFDoDA)																				
	Perfluorododecanoic acid (PFDoDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	Perfluoroundecanoic acid (PFUnDA)																				
	Perfluoroundecanoic acid (PFUnDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	<0.001	NA
	Perfluoroheptane sulfonic acid (PFHpS)																				
	Perfluoroheptane sulfonic acid (PFHpS)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	<0.0005	0.001	67	0.0011	<0.001	10	0.0315	0.027	15	0.0011	<0.001	10	<0.0005	<0.001	NA
	Perfluoropentane sulfonic acid (PFPeS)																				
	Perfluoropentane sulfonic acid (PFPeS)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0016	0.003	61	0.0023	<0.001	79	**0.0574**	**0.037**	**43**	0.0014	0.002	35	0.0005	<0.001	NA
	Perfluorobutane sulfonic acid (PFBS)																				
	Perfluorobutane sulfonic acid (PFBS)	<0.0005	<0.001	NA	<0.0005	<0.001	NA	0.0032	0.005	44	**0.0024**	**0.001**	**82**	0.039	0.048	21	0.0015	0.003	67	0.0007	0.001	35
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)																				
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)																				
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	<0.001	<0.005	NA	<0.001	<0.005	NA	**0.14**	**0.52**	**115**	<0.001	<0.005	NA	0.007	0.006	15	<0.001	<0.005	NA	<0.001	<0.005	NA
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)																				
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	0.008	0.006	29	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)																				
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	NA
	N-Ethyl PFO sulfonamide (EtFOSA)																				
	N-Ethyl PFO sulfonamide (EtFOSA)	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)																				
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA
	N-Methyl PFO sulfonamide (MeFOSA)																				
	N-Methyl PFO sulfonamide (MeFOSA)	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA	<0.001	<0.005	NA
	Perfluorooctane sulfonamide (FOSA)																				
	Perfluorooctane sulfonamide (FOSA)	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)																				
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA	<0.0005	<0.005	NA

1

Legend

N/A = Not applicable (RPDs not calculated as primary and/or dup

Acceptable RPD for high, moderate and low concentration samp

30% for concentrations > 30 x LOR

50% for concentrations between 10 to 30 x LOR

80% for concentrations < 10 x LOR

RPD Exceedance

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Table 1- Primary laboratory blind duplicates and Secondary laboraotry triplicate samples

	EB1816377	607361		EB1816698	607361		EB1817467	608558		EB1817467	608558		ES1817464	603377	
	MRC/DOS__20180704	QC217_20180704	RPD	LPI_MW8_20180705	QC218_20180705	RPD	APT_17-7-2018	QC219_17-7-2018	RPD	SA107_17-7-2018	QC220_17-7-2018	RPD	HOS-SA/4	QC113	RPD
	Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate		Primary	Secondary laboratory triplicate	
	4/07/2018	4/07/2018		5/07/2018	5/07/2018		17/07/2018	17/07/2018		17/07/2018	17/07/2018		5/06/2018	5/06/2018	
	ChemName														
Per- and polyfluoroalkyl substances (PFAS)	N-Methyl PFO sulfonamidoethanol (MeFOSE)						<0.005	<0.002	NA	<0.005	<0.002	NA			
	N-Methyl PFO sulfonamidoethanol (MeFOSE)	<0.001	<0.005	NA	<0.001	<0.005	NA						<0.001	<0.005	NA
	Perfluorodecane sulfonic acid (PFDS)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorodecane sulfonic acid (PFDS)	<0.0005	<0.001	NA	<0.0005	<0.001	NA						<0.0005	<0.001	NA
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)						<0.002	<0.002	NA	<0.002	<0.002	NA			
	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	<0.0005	<0.005	NA	<0.0005	<0.005	NA						<0.0005	<0.005	NA
	Perfluorooctanoic Acid (PFOA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorooctanoic Acid (PFOA)	<0.0005	<0.001	NA	**0.137**	**0.22**	**46**						<0.0005	<0.001	NA
	Perfluorooctane sulfonic acid (PFOS)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorooctane sulfonic acid (PFOS)	0.0009	0.0011	20	**2.25**	**4.3**	**63**						<0.0003	0.0006	67
	Perfluorohexane sulfonic acid (PFHxS)						<0.002	0.002	NA	<0.002	<0.001	NA			
	Perfluorohexane sulfonic acid (PFHxS)	0.0014	<0.001	33	1.88	1.9	1						0.0007	<0.001	NA
	Perfluorobutanoic acid (PFBA)						<0.01	<0.005	NA	<0.01	<0.005	NA			
	Perfluorobutanoic acid (PFBA)	<0.002	<0.005	NA	**0.027**	**0.062**	**79**						<0.002	<0.005	NA
	Perfluorohexanoic acid (PFHxA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorohexanoic acid (PFHxA)	<0.0005	<0.001	NA	0.356	0.44	21						<0.0005	<0.001	NA
	Perfluoroheptanoic acid (PFHpA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluoroheptanoic acid (PFHpA)	<0.0005	<0.001	NA	0.112	0.1	11						<0.0005	<0.001	NA
	Perfluorodecanoic acid (PFDA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorodecanoic acid (PFDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA						<0.0005	<0.001	NA
	Perfluoropentanoic acid (PFPeA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluoropentanoic acid (PFPeA)	0.0005	<0.001	NA	0.0952	0.12	23						<0.0005	<0.001	NA
	Perfluorononanoic acid (PFNA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorononanoic acid (PFNA)	<0.0005	<0.001	NA	0.0046	0.005	8						<0.0005	<0.001	NA
	Perfluorotetradecanoic acid (PFTeDA)						<0.005	<0.001	NA	<0.005	<0.001	NA			
	Perfluorotetradecanoic acid (PFTeDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA						<0.0005	<0.001	NA
	Perfluorotridecanoic acid (PFTrDA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorotridecanoic acid (PFTrDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA						<0.0005	<0.001	NA
	Perfluorododecanoic acid (PFDoDA)						<0.002	<0.001	NA	<0.002	0.001	NA			
	Perfluorododecanoic acid (PFDoDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA						<0.0005	<0.001	NA
	Perfluoroundecanoic acid (PFUnDA)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluoroundecanoic acid (PFUnDA)	<0.0005	<0.001	NA	<0.0005	<0.001	NA						<0.0005	<0.001	NA
	Perfluoroheptane sulfonic acid (PFHpS)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluoroheptane sulfonic acid (PFHpS)	<0.0005	<0.001	NA	**0.186**	**0.12**	**43**						<0.0005	<0.001	NA
	Perfluoropentane sulfonic acid (PFPeS)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluoropentane sulfonic acid (PFPeS)	<0.0005	<0.001	NA	**0.147**	**0.23**	**44**						<0.0005	<0.001	NA
	Perfluorobutane sulfonic acid (PFBS)						<0.002	<0.001	NA	<0.002	<0.001	NA			
	Perfluorobutane sulfonic acid (PFBS)	<0.0005	<0.001	NA	**0.184**	**0.25**	**30**						<0.0005	<0.001	NA
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)						<0.005	<0.001	NA	<0.005	<0.001	NA			
	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA						<0.001	<0.001	NA
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)						<0.005	<0.005	NA	<0.005	<0.005	NA			
	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	<0.001	<0.005	NA	0.014	0.019	30						<0.001	<0.005	NA
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)						<0.005	<0.001	NA	<0.005	<0.001	NA			
	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA						<0.001	<0.001	NA
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)						<0.005	<0.001	NA	<0.005	<0.001	NA			
	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	<0.001	<0.001	NA	<0.001	<0.001	NA						<0.001	<0.001	NA
	N-Ethyl PFO sulfonamide (EtFOSA)						<0.005	<0.002	NA	<0.005	<0.002	NA			
	N-Ethyl PFO sulfonamide (EtFOSA)	<0.001	<0.005	NA	<0.001	<0.005	NA						<0.001	<0.005	NA
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)						<0.005	<0.002	NA	<0.005	<0.002	NA			
	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	<0.001	<0.005	NA	<0.001	<0.005	NA						<0.001	<0.005	NA
	N-Methyl PFO sulfonamide (MeFOSA)						<0.005	<0.002	NA	<0.005	<0.002	NA			
	N-Methyl PFO sulfonamide (MeFOSA)	<0.001	<0.005	NA	<0.001	<0.005	NA						<0.001	<0.005	NA
	Perfluorooctane sulfonamide (FOSA)						<0.002	<0.002	NA	<0.002	<0.002	NA			
	Perfluorooctane sulfonamide (FOSA)	<0.0005	<0.005	NA	0.0013	<0.005	NA						<0.0005	<0.005	NA
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)						<0.002	<0.002	NA	<0.002	<0.002	NA			
	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)	<0.0005	<0.005	NA	<0.0005	<0.005	NA						<0.0005	<0.005	NA

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Legend

N/A = Not applicable (RPDs not calculated as primary and/or du

Acceptable RPD for high, moderate and low concentration samp

30% for concentrations > 30 x LOR

50% for concentrations between 10 to 30 x LOR

80% for concentrations < 10 x LOR

RPD Exceedance

DATA VALIDATION SUMMARY SHEET

Project Name:	**PFAS Contamination Assessment**	**Project Number:**	**1780457-R-001**
Primary Laboratory:	**ALS**	**Workorder Number:**	**EB1721789, EB1722399 and ES1727434**
Secondary Laboratory:	**Eurofins**	**Workorder Number:**	**568771 and 570280**
Date Sampled:	**18 and 19 October 2017**	**Sample Medium:**	**Soil, groundwater and AFFF liquid concentrate**

Documentation and Sample Handling Information

	Y/N	Comments
COC completed properly?	Y	Signed by field staff and laboratory personnel.
All requested analysis completed?	Y	All requested analyses on the COC performed by ALS and Eurofins.
Samples received intact and chilled?	Y	ALS: 4-25.5˚C, ice present, security seal intact. Eurofins: workorder 568771 not preserved with ice, samples in good order and workorder 570280 28.8˚C preserved with ice, samples in good order,
Samples analysed within appropiate holding times?	Y	Workorder ES1727434 sampled exceeded holding time for leaching by 2 days. All remaining workorders were within the holdings times.
Sample volumes sufficient for QC analysis?	Y	Sufficient sample volume provided for ALS and Eurofins laboratory QC analysis
Are there non-NATA accredited methods used?	N	ALS and Eurofins are NATA accredited for all other methods used in this batch.
Chromatograms supplied as appropriate?	N/A	N/A
Laboratory reports signed by authorised personnel?	Y	All reports signed.

QAQC Sample Information (Method Blank - MB, Rinsate Blank - RB, Field Blank - FB, Trip Blank - TB)

Type	Sample ID	Comments
Rinsate Blank	QC301	All results are below the laboratory detection limit, refer to table 1 attached.

Trip Spike Information

Analyte	Spike Concentrations	Recovery Concentration	% Recovery	Comments
				No trip spike collected

Laboratory Control Spike (LCS) Analyses

Analyte Group	Comments
	All LCS recoveries are within the laboratory based data quality objectives (ALS & Eurofins).

Matrix Spike (MS) Analyses

Analyte Group	Comments
	All MS recoveries are within the laboratory based data quality objectives (ALS & Eurofins).

Laboratory Duplicates (LD) Analyses

Analyte Group	Analyte(s)	Sample ID	Comments
			All laboratory duplicate RPDs are within the laboratory based data quality objectives (ALS & Eurofins).

Field Duplicates (FD) Analyses

Analyte Group	Primary ID	Duplicate ID	Comments
Water	AHEQ-MW3	QC101	RPD results are presented in Table 2. Some PFAS results are above the data quality objectives.
Soil	AP - SS03 0-0.1	QC104	RPD results are presented in Table 3. All field duplicate RPDs are within the data quality objectives.
Soil	FRTP - SS11 0.0.1	QC105	RPD results are presented in Table 3. Some PFAS results are above the data quality objectives.
Soil	AHEQ - SS15 0.0.1	QC106	RPD results are presented in Table 3. Some PFAS results are above the data quality objectives.

Field Triplicates (FT) Analyses

Analyte Group	Primary ID	Triplicate ID	Comments
Water	AHEQ-MW3	QC201	RPD results are presented in Table 2. Some PFAS results are above the data quality objectives.
Soil	AP - SS03 0-0.1	QC204	RPD results are presented in Table 3. Some PFAS results are above the data quality objectives.
Soil	FRTP - SS11 0.0.1	QC205	RPD results are presented in Table 3. Some PFAS results are above the data quality objectives.
Soil	AHEQ - SS15 0.0.1	QC206	RPD results are presented in Table 3. Some PFAS results are above the data quality objectives.

Analyte Group	Analyte(s)	Comments
PFAS	13C8-PFOA	Workoder ES1727434 one sample had recovery less than lower data quality objective. Workoder EB1721789 twenty one sample had recovery less than lower data quality objective. As stated by ALS poor surrogate recovery is due to matrix interference.
		All remaining surrogate recoveries are within the laboratory based data quality objectives (ALS & Eurofins).

Overall Comments

Some minor non-conformances, including surrogate sample recovery less than data quality objectives. ALS have reported that these minor non-conformances are due to matrix interference, confirmed by reanalysis.

Some relative percentage differences (RPDs) between soil plus groundwater primary, duplicate and triplicate samples were above the acceptable criteria. This is considered to be a result of sample heterogeneity and for the triplicate results variation between the testing methods at each laboratory.

This batch has been validated and is considered suitable for environmnetal interpretive use.

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

*When concentrations are less than the LOR for both primary and duplicate/triplicate results, no RPDs are calculated

Performed By: **Emma Cornish** **Checked By** **Fran Mitchell**
Date: **24/11/2017** **Date:** **18/12/2017**

Table A -Rinsate Results

Lab Report Number	EB1721789
Field ID	QC301
Sampled_Date/Time	10/19/2017 12:56:00 PM
Sample Type	Rinsate

Method_Type	ChemName	Units	EQL	
Per- and Polyfluoroalkyl Substances (PFAS by LCMSM	10:2 Fluorotelomer sulfonic acid	µg/L	0.005	<0.005
	4:2 Fluorotelomer sulfonic acid	µg/L	0.005	<0.005
	8:2 Fluorotelomer sulfonate	ug/L	0.005	<0.005
	N-Et-FOSA	µg/L	0.005	<0.005
	N-Et-FOSE	µg/L	0.005	<0.005
	N-Me-FOSA	µg/L	0.005	<0.005
	N-Me-FOSE	µg/L	0.005	<0.005
	Perfluorobutanoic acid (PFBA)	µg/L	0.01	<0.01
	Perfluoroheptane sulfonic acid	µg/L	0.002	<0.002
	Perfluoro-n-pentanoic acid (PFPeA)	µg/L	0.002	<0.002
	Perfluoropentane sulfonic acid	µg/L	0.002	<0.002
	PFDcS	µg/L	0.002	<0.002
	N-methyl-perfluorooctanesulfonamidoacetic acid	ug/L	0.002	<0.002
	Sum of PFHxS and PFOS (calculated)	mg/l	0.000002	<2e-006
	Perfluorobutanesulfonic acid (PFBS)	µg/L	0.002	<0.002
	Perfluorodecanoic acid (PFDA)	µg/L	0.002	<0.002
	Perfluorododecanoic acid (PFDoA)	µg/L	0.002	<0.002
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.002	<0.002
	Perfluorohexanesulfonic acid (PFHxS)	µg/L	0.002	<0.002
	Perfluorohexanoic acid (PFHxA)	µg/L	0.002	<0.002
	Perfluorononanoic acid (PFNA)	µg/L	0.002	<0.002
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.005	<0.005
	N-ethyl-perfluorooctanesulfonamidoacetic acid	ug/L	0.002	<0.002
	Perfluorooctanoate (PFOA)	µg/L	0.002	<0.002
	Perfluorooctanesulfonamide (PFOSA)	µg/L	0.002	<0.002
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005	<0.005
	Perfluorooctanesulfonic acid (PFOS)3	µg/L	0.002	<0.002
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002	<0.002
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.002	<0.002

GOLDER

Table B - Groundwater Field Duplicate and Triplicate Results

Project Number 18100235

Lab Report Number	EB1722399	EB1722399		EB1722399	570280	
Field ID	AHEQ-MW3	QC101	**RPD**	AHEQ-MW3	QC201	**RPD**
Sampled Date/Time	20/10/2017 13:20	20/10/2017 13:20		20/10/2017 13:20	20/10/2017 13:20	

Method_Type	ChemName	Units	EQL						
Per- and Polyfluoroalkyl Substances (PFAS by LCMSM	10:2 Fluorotelomer sulfonic acid	µg/L	0.005 : 0.01 (Interlab)	<0.005	<0.005	0	<0.005	<0.01	0
	4:2 Fluorotelomer sulfonic acid	µg/L	0.005 : 0.01 (Interlab)	<0.005	<0.005	0	<0.005	<0.01	0
	8:2 Fluorotelomer sulfonate	ug/L	0.005 : 0.01 (Interlab)	<0.005	<0.005	0	<0.005	<0.01	0
	N-Et-FOSA	µg/L	0.005 : 0.05 (Interlab)	<0.005	<0.005	0	<0.005	<0.05	0
	N-Et-FOSE	µg/L	0.005 : 0.05 (Interlab)	<0.005	<0.005	0	<0.005	<0.05	0
	N-Me-FOSA	µg/L	0.005 : 0.05 (Interlab)	<0.005	<0.005	0	<0.005	<0.05	0
	N-Me-FOSE	µg/L	0.005 : 0.05 (Interlab)	<0.005	<0.005	0	<0.005	<0.05	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.01 : 0.05 (Interlab)	<0.01	<0.01	0	<0.01	<0.05	0
	Perfluoroheptane sulfonic acid	µg/L	0.002 : 0.01 (Interlab)	**<0.002**	**0.006**	**100**	<0.002	<0.01	0
	Perfluoro-n-pentanoic acid (PFPeA)	µg/L	0.002 : 0.01 (Interlab)	**0.006**	**<0.002**	**100**	0.006	<0.01	0
	Perfluoropentane sulfonic acid	µg/L	0.002 : 0.01 (Interlab)	**0.003**	**0.018**	**143**	**0.003**	**0.02**	**148**
	PFDcS	µg/L	0.002 : 0.01 (Interlab)	<0.002	<0.002	0	<0.002	<0.01	0
	N-methyl-perfluorooctanesulfonamidoacetic acid	ug/L	0.002 : 0.05 (Interlab)	<0.002	<0.002	0	<0.002	<0.05	0
	Sum of PFHxS and PFOS (calculated)	mg/l	2e-006 : 1e-006 (Interlab)	0.000099	0.000126	24	**0.000099**	**0.00014**	**34**
	Perfluorobutanesulfonic acid (PFBS)	µg/L	0.002 : 0.01 (Interlab)	**<0.002**	**0.024**	**169**	**<0.002**	**0.02**	**164**
	Perfluorodecanoic acid (PFDA)	µg/L	0.002 : 0.01 (Interlab)	<0.002	<0.002	0	<0.002	<0.01	0
	Perfluorododecanoic acid (PFDoA)	µg/L	0.002 : 0.01 (Interlab)	<0.002	<0.002	0	<0.002	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.002 : 0.01 (Interlab)	0.004	<0.002	67	0.004	<0.01	0
	Perfluorohexanesulfonic acid (PFHxS)	µg/L	0.002 : 0.01 (Interlab)	**0.03**	**0.079**	**90**	**0.03**	**0.08**	**91**
	Perfluorohexanoic acid (PFHxA)	µg/L	0.002 : 0.01 (Interlab)	**0.012**	**0.004**	**100**	0.012	<0.01	18
	Perfluorononanoic acid (PFNA)	µg/L	0.002 : 0.01 (Interlab)	<0.002	<0.002	0	<0.002	<0.01	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.005 : 0.05 (Interlab)	<0.005	<0.005	0	<0.005	<0.05	0
	N-ethyl-perfluorooctanesulfonamidoacetic acid	µg/L	0.002 : 0.05 (Interlab)	<0.002	<0.002	0	<0.002	<0.05	0
	Perfluorooctanoate (PFOA)	µg/L	0.002 : 0.01 (Interlab)	0.004	0.004	0	0.004	<0.01	0
	Perfluorooctanesulfonamide (PFOSA)	µg/L	0.002 : 0.05 (Interlab)	<0.002	<0.002	0	<0.002	<0.05	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005 : 0.01 (Interlab)	<0.005	<0.005	0	<0.005	<0.01	0
	Perfluorooctanesulfonic acid (PFOS)3	µg/L	0.002 : 0.01 (Interlab)	**0.069**	**0.047**	**38**	0.069	0.06	14
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002 : 0.01 (Interlab)	<0.002	<0.002	0	<0.002	<0.01	0
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.002 : 0.01 (Interlab)	<0.002	<0.002	0	<0.002	<0.01	0

ND = Not Detected (RPDs not calculated if both primary and duplicate results are below LOR)
- = Not analysed/calculated

Acceptable RPDs: RPD <= 30%
RPD > 30%, Analysis result < 10 times LOR
RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR

GOLDER

Table C - Soil Field Duplicate and Triplicate Results

Project Number 18100235

			Lab Report Number	EB1721789	EB1721789		EB1721789	EB1721789		EB1721789	EB1721789		EB1721789	568771		EB1721789	568771		EB1721789	568771	
			Field ID	AP - SS03 0-0.1	QC104	RPD	FRTP - SS11 0-0.1	QC105	RPD	AHEQ - SS15 0-0.1	QC106	RPD	AP - SS03 0-0.1	QC204	RPD	FRTP - SS11 0-0.1	QC205	RPD	AHEQ - SS15 0-0.1	QC206	RPD
			Sampled Date/Time	18/10/2017 12:56	18/10/2017 12:56		18/10/2017 12:56	18/10/2017 12:56		19/10/2017 12:56	19/10/2017 12:56		18/10/2017 12:56	18/10/2017 12:56		18/10/2017 12:56	18/10/2017 12:56		19/10/2017 12:56	19/10/2017 12:56	
Method_Type	**ChemName**	**Units**	**EQL**																		
Per- and Polyfluoroalkyl Substances (PFAS)	10:2 Fluorotelomer sulfonic acid	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	**0.0017**	**0.0046**	92	<0.0005	<0.001	0	<0.0005	<0.001	0	0.0017	0.003	55
	4:2 Fluorotelomer sulfonic acid	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.001	0	<0.0005	<0.001	0	<0.0005	<0.001	0
	8:2 Fluorotelomer sulfonate	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	0.0028	0.0018	43	<0.0005	<0.001	0	<0.0005	<0.001	0	**0.0028**	**<0.001**	96
	N-Et-FOSA	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.005	0	<0.0005	<0.005	0
	N-Et-FOSE	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.005	0	<0.0005	<0.005	0
	N-Me-FOSA	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.005	0	<0.0005	<0.005	0
	N-Me-FOSE	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.005	0	<0.0005	<0.005	0
	Perfluorobutanoic acid (PFBA)	mg/kg	0.001 : 0.005 (Interlab)	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.005	0	<0.001	<0.005	0	<0.001	<0.005	0
	Perfluoroheptane sulfonic acid	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	0.0004	0.0006	40	0.0004	<0.0002	67	<0.0002	<0.001	0	0.0004	<0.001	0	0.0004	<0.001	0
	Perfluoro-n-pentanoic acid (PFPeA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	**0.0003**	**0.0018**	143	<0.0002	<0.001	0	<0.0002	<0.001	0	**0.0003**	**0.0022**	152
	Perfluoropentane sulfonic acid	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	0.0003	0.0004	29	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.0003	<0.001	0	<0.0002	<0.001	0
	PFDcS	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	0.0076	0.0099	26	0.0002	<0.0002	0	<0.0002	<0.001	0	**0.0076**	**<0.001**	153	0.0002	<0.001	0
	N-methyl-perfluorooctanesulfonamidoacetic acid	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.005	0	<0.0002	<0.005	0	<0.0002	<0.005	0
	Sum of WA DER PFAS (n=10)	UG/KG	0.2 : 10 (Interlab)	2.4	2.4	0	**19.8**	**27.9**	34	17.4	14.6	18	**2.4**	**14**	141	**19.8**	**35.4**	87	**17.4**	<19	54
	Sum of PFASs (n=28)	UG/KG	0.2 : 50 (Interlab)	2.4	2.4	0	**28.7**	**39.7**	32	19.7	20.5	4	2.4	<50	0	28.7	<50	0	19.7	<50	0
	Perfluorobutanesulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	0.0002	0.0003	40	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.0002	<0.001	0	<0.0002	<0.001	0
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	**<0.0002**	**0.0006**	100	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0
	Perfluorododecanoic acid (PFDoA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	0.0002	0	**<0.0002**	**0.0005**	86	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0
	Perfluorohexanesulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	**0.0032**	**0.0055**	53	**0.0021**	**0.0006**	111	<0.0002	<0.001	0	0.0032	0.0034	6	**0.0021**	**<0.001**	71
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	0.0005	0.0008	46	0.0006	0.0007	15	<0.0002	<0.001	0	0.0005	<0.001	0	0.0006	<0.001	0
	Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	0.0004	67	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0
	6:2 Fluorotelomer Sulfonate (6:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	**0.0061**	**0.0016**	117	<0.0005	<0.005	0	<0.0005	<0.005	0	0.0061	<0.005	20
	N-ethyl-perfluorooctanesulfonamidoacetic acid	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.005	0	<0.0002	<0.005	0	<0.0002	<0.005	0
	Perfluorooctanoate (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	0.0004	0.0005	22	0.0004	0.0007	55	<0.0002	<0.001	0	0.0004	<0.001	0	0.0004	<0.001	0
	Perfluorooctanesulfonamide (PFOSA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	0.0006	0.0009	40	<0.0002	<0.0002	0	<0.0002	<0.005	0	0.0006	<0.005	0	<0.0002	<0.005	0
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.001	0	<0.0005	<0.001	0	<0.0005	<0.001	0
	Perfluorooctanesulfonic acid (PFOS)3	mg/kg	0.0002 : 0.001 (Interlab)	0.0024	0.0024	0	0.0155	0.0206	28	0.0051	0.0069	30	**0.0024**	**0.014**	141	**0.0155**	**0.032**	69	0.0051	0.0069	30
	Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0
	Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	0.0003	40	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0

ND = Not Detected (RPDs not calculated if both primary and duplicate results are below LOR)
- = Not analysed/calculated

Acceptable RPDs: RPD <= 30%
RPD > 30%, Analyis result < 10 times LOR
RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR

APPENDIX H

Summary Table of PFAS Laboratory Results of Soil and Water

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Table 1 - Summary of PFAS Laboratory Results of Soil Samples

Project Number 18100235

					Per- and polyfluoroalkyl substances (PFAS)																														
					Sum of PFOS and PFHxS	Perfluorooctanoic (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorobutanesulfonic acid (PFBS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptanesulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorobutanoic acid (PFBA)	Perfluoro-n-pentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctanesulfonamide (FOSA)	N-Me-FOSA	N-Et-FOSA	N-Me-FOSE	N-Et-FOSE	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4:2 Fluorotelomer sulfonic acid	6:2 Fluorotelomer Sulfonate (4:2 FtS)	8:2 Fluorotelomer sulfonate	10:2 Fluorotelomer sulfonic acid	Sum of PFAS
EQL					0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil - Health-based guidance values – Industrial/commercial NEMP 2018 [a]					**20**		**50**																												
Interim soil – ecological indirect exposure - Industrial/commercial NEMP 2018 [a]							0.14																												

Focus Area	Location ID	Sample Depth (mbgl)	Drainage Catchment	Sampled Date	Lab Batch																															
AHEQ	AHEQ-SS12	0-0.1	Mission River Catchment	19/10/2017	EB1721789	0.0006	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0012	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0138	0.0036	0.0038	0.0232
	AHEQ-SS13	0-0.1		19/10/2017	EB1721789	0.0008	<0.0002	0.0004	0.0026	<0.0002	0.0004	<0.0002	<0.0002	<0.001	0.0062	0.0014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0021	<0.0005	<0.0005	0.0131
	AHEQ-SS14	0-0.1		19/10/2017	EB1721789	0.0059	0.0006	0.0054	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.001	0.0012	0.0007	0.0004	0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0014	0.0017	0.0048	0.0173
	AHEQ-SS15	0-0.1		19/10/2017	EB1721789	0.0072	0.0004	0.0051	<0.0002	0.0004	0.0021	0.0004	0.0002	<0.001	0.0003	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0061	0.0028	0.0017	0.0197
	AHEQ-SS15 TOPA	0-0.1		19/10/2017	S1727414	0.0030	0.0005	0.0014	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.001	0.0018	0.0014	0.0006	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0066
Lorim Point - F&R building	FR-SS07	0-0.1	Embley River Catchment	18/10/2017	EB1721789	0.0454	0.0027	0.0361	0.001	0.0008	0.0093	0.0008	0.0039	<0.001	0.0027	0.0032	0.0016	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0639
	FR-SS08	0-0.1		18/10/2017	EB1721789	0.0560	0.0009	0.0458	0.0007	0.0011	0.0102	0.0011	0.0023	<0.001	<0.0002	0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	0.0542
	FR-SS09	0-0.1		18/10/2017	EB1721789	0.0234	0.0004	0.0202	0.0002	0.0002	0.0032	0.0002	0.003	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0276
	FR-SS10	0-0.1		18/10/2017	EB1721789	0.0058	0.0022	0.0047	<0.0002	<0.0002	0.0011	<0.0002	0.0017	<0.001	0.0054	0.0064	0.0015	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0741	0.0128	<0.0005	0.1110
	FR-SS10 TOPA	0-0.1		18/10/2017	S1727414	0.1110	<0.0250	0.111	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.025	0.108	0.0838	0.0270	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0625	<0.0250	<0.0625	<0.0625	<0.0625	<0.0625	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0.3300
	FR-SS11	0-0.1		18/10/2017	EB1721789	0.0187	0.0004	0.0155	0.0002	0.0004	0.0032	0.0004	0.0076	<0.001	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0287
	FR-TP10	0.1-0.2		18/10/2017	EB1721789	0.7496	0.0028	0.742	<0.0002	0.0029	0.0076	0.0029	<0.0002	<0.001	0.0025	0.0032	0.0009	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0164	0.0005	<0.0005	0.7800
	FR-TP11	0.1-0.2		18/10/2017	EB1721789	0.0621	0.0026	0.0612	<0.0002	0.0023	0.0009	0.0023	0.0197	<0.001	0.0022	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0005	0.0024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0038	<0.0005	0.0866
	FR-TP11	0.8-1		18/10/2017	EB1721789	0.7090	0.0189	0.641	0.0003	0.0239	0.068	0.0239	0.0004	<0.001	0.0008	0.0013	0.0015	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0019	<0.0005	<0.0005	0.7620
	FR-TP12	0.1-0.2		18/10/2017	EB1721789	2.451	0.0095	2.41	0.0005	0.0028	0.021	0.0028	0.024	<0.001	0.0021	0.0065	0.0019	0.0015	0.0011	0.0003	0.0003	<0.0002	<0.0005	0.0374	0.0006	<0.0005	<0.0005	<0.0005	0.0002	0.0006	<0.0005	0.0094	0.0014	<0.0005	2.55
	FR-TP12 TOPA	0.1-0.2		18/10/2017	S1727414	2.224	0.1090	2.22	0.0306	0.0086	0.204	0.0866	<0.0025	<0.002	0.0640	0.322	0.0223	0.0075	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	<0.0062	<0.0062	<0.0062	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	2.87
	FR-TP12	0.4-0.5		18/10/2017	EB1721789	2.057	0.0657	1.88	0.0309	0.0705	0.177	0.0705	0.0011	0.002	0.0294	0.0699	0.0096	0.0049	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0268	<0.0005	<0.0005	2.38
	FR-TP13	0.1-0.2		18/10/2017	EB1721789	0.0263	0.0015	0.0245	<0.0002	0.0002	0.0018	0.0002	0.0012	<0.001	0.0008	0.0014	0.0015	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0332
	FR-TP13	0.8-1		18/10/2017	EB1721789	0.0844	0.0011	0.0835	<0.0002	0.0002	0.0009	0.0002	0.0003	<0.001	<0.0002	0.0004	0.0008	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0875
	FR-TP14	0.1-0.2		18/10/2017	EB1721789	0.0376	0.0014	0.0346	<0.0002	0.0009	0.003	0.0009	<0.0002	<0.001	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0407
	FR-TP14	0.8-1		18/10/2017	EB1721789	0.0457	0.0011	0.0451	<0.0002	0.0003	0.0006	0.0003	<0.0002	<0.001	<0.0002	0.0003	0.0003	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0479
Weipa Airport	AP-SS01	0-0.1	Embley River Catchment	18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-SS02	0-0.1		18/10/2017	EB1721789	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0003
	AP-SS02 TOPA	0-0.1		18/10/2017	S1727414	0.0013	<0.0002	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013
	AP-SS03	0-0.1		18/10/2017	EB1721789	0.0024	<0.0002	0.0024	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0024
	AP-SS04	0-0.1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-SS05	0-0.1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-SS06	0-0.1		19/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP01	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP01	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP02	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP02	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP03	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP03	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP04	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP04	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP05	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP05	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP06	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP06	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP07	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP07	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP08	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP08	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP09	0.1-0.2		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	AP-TP09	0.8-1		18/10/2017	EB1721789	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
EWHEQ	EWHEQ-SS16	0-0.1		19/10/2017	EB1721789	0.0084	0.0008	0.0072	0.0004	0.0002	0.0012	<0.0002	<0.0002	<0.001	0.0086	0.0083	0.0016	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0343	0.0131	0.0040	0.0801
	EWHEQ-SS17	0-0.1		19/10/2017	EB1721789	0.0031	<0.0002	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0044	0.0006	<0.0005	0.0061
	EWHEQ-SS18	0-0.1		19/10/2017	EB1721789	0.0016	<0.0002	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0018	0.0019	0.0017	0.0070
	EWHEQ-SS19	0-0.1		19/10/2017	EB1721789	0.0047	0.0002	0.0047	<0.0002	0.0002	<0.0002	<0.0002	0.0009	<0.001	<0.0002	0.0016	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	0.0106	0.0058	0.0105	0.0348
	EWHEQ-SS19 TOPA	0-0.1		19/10/2017	S1727414	0.0353	0.0267	0.0353	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	0.111	0.0740	0.0534	0.0232	0.0164	<0.0050	<0.0050	<0.0050	<0.0125	<0.0050	<0.0125	<0.0125	<0.0125	<0.0125	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.3400

Notes:
"<" Denotes below detection limit and is in grey font.
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the Australian Government Department of the Environment and Energy)
Soil - Health-based guidance values – Industrial/commercial NEMP 2018 [a]
Interim soil – ecological indirect exposure - Industrial/commercial NEMP 2018 [a]

GOLDER

Table 2- Summary of PFAS Laboratory Results of Soil Samples Leachate ASLP Method

Project Number 18100235

					Per- and polyfluoroalkyl substances (PFAS)																																
					N-Methyl PFO sulfonamidoethanol (MeFOSE)	Perfluorodecane sulfonic acid (PFDS)	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFAS and PFOS fish reported)	Sum of WA DER PFAS (n=10)	Sum of PFASs (n=28 - Lab Reported)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorobutane sulfonic acid (PFBS)	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	N-Ethyl PFO sulfonamide (EtFOSA)	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	N-Methyl PFO sulfonamide (MeFOSA)	Perfluorooctane sulfonamide (FOSA)	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)
EQL					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
					0.005	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.005	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.002	0.002
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)								19	0.00023																										
Health-based guidance values – Drinking Water NEMP 2018 (a)								0.56			0.07																								
Health-based guidance values – Recreational Water NEMP 2018 (a)								**5.6**			**0.7**																								
Location_Code	**Focus Area**	**Drainage Catchment**	**Sampled Date**	**Laboratory Sample ID**																															
AHEQ-SS12/0-0.1	AHEQ	Mission River Catchment	19/10/2017	ES1727434004	<0.005	<0.002	<0.002	0.008	0.093	0.003	0.096	0.593	0.699	<0.01	0.050	0.012	0.003	0.020	0.003	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	0.413	0.087	0.007	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
AP-SS03/0-0.1	Weipa Airport	Embley River Catchment	18/10/2017	ES1727434002	<0.005	<0.002	<0.002	0.003	0.173	0.008	0.181	0.011	0.184	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
FR-SS08/0-0.1	Lorim Point		18/10/2017	ES1727434006	<0.005	<0.002	<0.002	0.020	0.448	0.113	0.561	0.166	0.629	<0.01	0.016	0.007	<0.002	<0.002	0.007	<0.005	<0.002	<0.002	<0.002	0.008	0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
FR-TP12/0.1-0.2	Lorim Point		18/10/2017	ES1727434010	<0.025	0.014	<0.01	0.393	153.000	0.952	154	2.540	156.000	<0.01	0.261	0.109	0.039	0.090	0.100	<0.025	<0.01	<0.01	<0.01	0.219	0.030	0.023	<0.01	0.591	0.087	<0.01	<0.025	<0.025	<0.025	0.057	<0.01	
EWHEQ-SS16/0-0.1	EWHEQ		19/10/2017	ES1727434007	<0.005	<0.002	<0.002	0.018	0.069	0.041	0.110	2.310	2.39	<0.01	0.200	0.035	0.003	0.185	<0.002	<0.005	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.005	1.720	0.114	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002	

Notes:
"<" Denotes below detection limit and is in grey font.
NL' - Not limiting
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the Australian Government Department of the Environment and Energy)

Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 [a]
Health-based guidance values – Drinking Water NEMP 2018 [a]
Health-based guidance values – Recreational Water NEMP 2018 (a)

GOLDER

Table 3 - Summary of PFAS Laboratory Results of Potable Water

Project Number 18100235

												Per- and polyfluoroalkyl substances (PFAS)																		
								N-Methyl PFO sulfonamidoethanol (MeFOSE)	Perfluorodecane sulfonic acid (PFDS)	N-methyl PFO sulfonamidoacetic acid (MeFOSAA)	Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS (lab reported)	Sum of WA DER PFAS (n=10)	Sum of PFASs (n=28 - Lab Reported)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorobutane sulfonic acid (PFBS)	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)
								µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL								0.001	0.0005	0.0005	0.0005	0.0003	0.0005	0.0003	0.0003	0.0003	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)											19	0.00023																	
Health-based guidance values – Drinking Water NEMP 2018 (a)											0.56			0.07															
Health-based guidance values – Recreational Water NEMP 2018 (a)											**5.6**			**0.7**															
Location_Code	**Sampled Date**	**Drainage Catchment**	**Focus Area**	**Lab Sample ID**																										
SA091	17/10/2017			EB1721509001	<0.005	<0.002	<0.002	<0.002	<0.002	**0.002**	**0.002**	**0.002**	**0.002**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA091	27/11/2017			ES1730754001	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA091	25/04/2018			EB1810440001	<0.005	<0.002	<0.002	<0.002	<0.002	**0.003**	**0.003**	**0.003**	**0.003**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA091	17/07/2018			EB1817467001	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA092	17/10/2017			EB1721509002	<0.005	<0.002	<0.002	<0.002	**0.002**	**0.003**	**0.005**	**0.013**	**0.015**	**0.01**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA092	27/11/2017		Andoom Mine	ES1730754002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA093	17/10/2017			EB1721509003	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA093	27/11/2017			ES1730754003	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA093	25/04/2018			EB1810440002	<0.005	<0.002	<0.002	<0.002	<0.002	**0.002**	**0.002**	**0.002**	**0.002**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA093	17/07/2018			EB1817467002	<0.005	<0.002	<0.002	<0.002	<0.002	**0.006**	**0.006**	**0.006**	**0.006**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
APT	25/04/2018			EB1810440024	<0.005	<0.002	<0.002	<0.002	<0.002	**0.002**	**0.002**	**0.002**	**0.002**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
APT	17/07/2018			EB1817467024	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA036	17/10/2017			EB1721509013	<0.005	<0.002	<0.002	<0.002	**0.002**	<0.002	**0.002**	<0.002	**0.002**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA036	27/11/2017			ES1730754011	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA036	25/04/2018			EB1810440012	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA036	17/07/2018			EB1817467012	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA037	17/10/2017			EB1721509012	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA037	30/11/2017			ES1730754038	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA037	25/04/2018			EB1810440011	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA037	17/07/2018			EB1817467011	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA038	17/10/2017			EB1721509010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA038	27/11/2017			ES1730754009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA038	25/04/2018			EB1810440009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA038	17/07/2018			EB1817467009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA039	17/10/2017			EB1721509014	<0.005	<0.002	<0.002	<0.002	**0.019**	**0.013**	**0.032**	**0.018**	**0.037**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	**0.003**	**0.002**	<0.002	<0.005
SA039	27/11/2017		Mission River Catchment	ES1730754012	<0.005	<0.002	<0.002	<0.002	**0.018**	**0.013**	**0.031**	**0.015**	**0.033**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	**0.002**	<0.002	<0.005
SA039	25/04/2018			EB1810440013	<0.005	<0.002	<0.002	<0.002	**0.01**	**0.009**	**0.019**	**0.019**	**0.019**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA039	17/07/2018			EB1817467013	<0.005	<0.002	<0.002	<0.002	**0.007**	**0.009**	**0.016**	**0.016**	**0.016**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA041	17/10/2017			EB1721509011	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA041	27/11/2017			ES1730754010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA041	25/04/2018			EB1810440010	<0.005	<0.002	<0.002	<0.002	**0.002**	**0.002**	**0.004**	**0.004**	**0.004**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA041	17/07/2018		Weipa Penisula	EB1817467010	<0.005	<0.002	<0.002	<0.002	**0.003**	<0.002	**0.003**	**0.003**	**0.003**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA107	17/10/2017			EB1721509008	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA107	27/11/2017			ES1730754007	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA107	25/04/2018			EB1810440007	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA107	17/07/2018			EB1817467007	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA349	17/10/2017			EB1721509009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA349	27/11/2017			ES1730754008	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA349	25/04/2018			EB1810440008	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA349	17/07/2018			EB1817467008	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA350	17/10/2017			EB1721509015	<0.005	<0.002	<0.002	<0.002	**0.003**	**0.002**	**0.005**	**0.002**	**0.005**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA350	29/11/2017			ES1730754013	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA350	25/04/2018			EB1810440014	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA350	17/07/2018			EB1817467014	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA351	17/10/2017			EB1721509007	<0.005	<0.002	<0.002	<0.002	**0.003**	**0.003**	**0.006**	**0.003**	**0.006**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA351	25/04/2018			EB1810440006	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA351	17/07/2018			EB1817467006	<0.005	<0.002	<0.002	<0.002	**0.004**	**0.004**	**0.008**	**0.008**	**0.008**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
TWD	17/10/2017			EB1721509016	<0.005	<0.002	<0.002	<0.002	**0.004**	**0.003**	**0.007**	**0.003**	**0.007**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
TWD	29/11/2017			ES1730754035	<0.005	<0.002	<0.002	<0.002	**0.004**	**0.003**	**0.007**	**0.003**	**0.007**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
TWD	26/04/2018			EB1810440022	<0.005	<0.002	<0.002	<0.002	**0.004**	**0.003**	**0.007**	**0.007**	**0.007**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
TWD	18/07/2018			EB1817467022	<0.005	<0.002	<0.002	<0.002	<0.002	**0.002**	**0.002**	**0.002**	**0.002**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA110	17/10/2017			EB1721509017	<0.005	<0.002	<0.002	<0.002	**0.003**	**0.004**	**0.007**	**0.004**	**0.007**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA110	29/11/2017		Railway Workshop	ES1730754014	<0.005	<0.002	<0.002	<0.002	**0.009**	**0.006**	**0.015**	**0.006**	**0.015**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA110	25/04/2018			EB1810440015	<0.005	<0.002	<0.002	<0.002	**0.002**	**0.005**	**0.007**	**0.007**	**0.007**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA110	17/07/2018			EB1817467015	<0.005	<0.002	<0.002	<0.002	<0.002	**0.004**	**0.004**	**0.004**	**0.004**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA012	17/10/2017			EB1721509021	<0.005	<0.002	<0.002	<0.002	**0.01**	**0.009**	**0.019**	**0.013**	**0.023**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	**0.002**	**0.002**	<0.002	<0.005
SA012	29/11/2017			ES1730754018	<0.005	<0.002	<0.002	<0.002	**0.006**	**0.007**	**0.013**	**0.007**	**0.013**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA012	25/04/2018			EB1810440019	<0.005	<0.002	<0.002	<0.002	**0.004**	**0.008**	**0.012**	**0.012**	**0.012**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA012	5/07/2018			EB1816377034	<0.001	<0.0005	<0.0005	<0.0005	**0.0056**	**0.0096**	**0.0152**	**0.0217**	**0.0235**	<0.002	**0.0018**	**0.001**	<0.0005	**0.002**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**0.0005**	**0.0013**	**0.0017**	<0.001
SA012	17/07/2018			EB1817467019	<0.005	<0.002	<0.002	<0.002	**0.006**	**0.007**	**0.013**	**0.015**	**0.015**	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	**0.002**	<0.002	<0.005
SA013	17/10/2017			EB1721509020	<0.005	<0.002	<0.002	<0.002	**0.005**	**0.004**	**0.009**	**0.006**	**0.011**	<0.01	**0.002**	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005

GOLDER

Table 3 - Summary of PFAS Laboratory Results of Potable Water

Project Number 18100235

					Per- and polyfluoroalkyl substances (PFAS)																						
					N-Methyl PFO sulfonamidoethanol (MeFOSE)	Perfluorodecane sulfonic acid (PFDS)	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS (lab reported)	Sum of WA DER PFAS (n=10)	Sum of PFASs (n=28 - Lab Reported)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorobutane sulfonic acid (PFBS)	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.001	0.0005	0.0005	0.0005	0.0003	0.0005	0.0003	0.0003	0.0003	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001
Aquatic Ecoystem Freshwater/Marine 99% species protection NEMP 2018 (a)								19	0.00023																		
Health-based guidance values – Drinking Water NEMP 2018 (a)								0.56			0.07																
Health-based guidance values – Recreational Water NEMP 2018 (a)								**5.6**			**0.7**																
Location_Code	**Sampled Date**	**Drainage Catchment**	**Focus Area**	**Lab Sample ID**																							
SA013	29/11/2017	Embley River Catchment	Lorim Point	ES1730754017	<0.005	<0.002	<0.002	<0.002	0.005	0.004	0.009	0.006	0.011	<0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA013	25/04/2018			EB1810440018	<0.005	<0.002	<0.002	<0.002	0.002	0.005	0.007	0.007	0.007	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA013	3/07/2018			EB1816377006	<0.001	<0.0005	<0.0005	<0.0005	0.0036	0.0054	0.009	0.0136	0.0148	<0.002	0.0018	0.0005	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0013	<0.001
SA013	17/07/2018			EB1817467018	<0.005	<0.002	<0.002	<0.002	0.005	0.003	0.008	0.008	0.008	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA014	17/10/2017			EB1721509023	<0.005	<0.002	<0.002	<0.002	0.013	0.007	0.02	0.009	0.022	<0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA014	29/11/2017			ES1730754020	<0.005	<0.002	<0.002	<0.002	0.022	0.012	0.034	0.016	0.038	<0.01	0.004	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA014	25/04/2018			EB1810440021	<0.005	<0.002	<0.002	<0.002	0.003	0.005	0.008	0.008	0.008	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA014	2/07/2018			EB1816377003	<0.001	<0.0005	<0.0005	<0.0005	0.0049	0.0067	0.0116	0.015	0.0158	<0.002	0.0011	0.0007	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0009	<0.001
SA014	17/07/2018			EB1817467021	<0.005	<0.002	<0.002	<0.002	0.004	0.005	0.009	0.009	0.009	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA015	17/10/2017			EB1721509022	<0.005	<0.002	<0.002	<0.002	0.019	0.012	0.031	0.014	0.033	<0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA015	29/11/2017			ES1730754019	<0.005	<0.002	<0.002	<0.002	0.034	0.014	0.048	0.016	0.05	<0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA015	25/04/2018			EB1810440020	<0.005	<0.002	<0.002	<0.002	<0.002	0.003	0.003	0.003	0.003	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA015	3/07/2018			EB1816377005	<0.001	<0.0005	<0.0005	<0.0005	0.0037	0.0041	0.0078	0.0085	0.009	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0007	<0.001
SA015	18/07/2018			EB1817467020	<0.005	<0.002	<0.002	<0.002	0.004	0.003	0.007	0.007	0.007	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA017	17/10/2017			EB1721509018	<0.005	<0.002	<0.002	<0.002	0.005	0.006	0.011	0.006	0.011	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA017	29/11/2017			ES1730754015	<0.005	<0.002	<0.002	<0.002	0.004	0.006	0.01	0.006	0.01	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA017	25/04/2018			EB1810440016	<0.005	<0.002	<0.002	<0.002	<0.002	0.005	0.005	0.005	0.005	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA017	2/07/2018			EB1816377001	<0.001	<0.0005	<0.0005	<0.0005	0.0032	0.0083	0.0115	0.013	0.0141	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0015	<0.001
SA017	17/07/2018			EB1817467016	<0.005	<0.002	<0.002	<0.002	<0.002	0.005	0.005	0.005	0.005	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA020	17/10/2017			EB1721509019	<0.005	<0.002	<0.002	<0.002	0.005	0.004	0.009	0.004	0.009	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA020	29/11/2017			ES1730754016	<0.005	<0.002	<0.002	<0.002	0.006	0.005	0.011	0.005	0.011	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA020	25/04/2018			EB1810440017	<0.005	<0.002	<0.002	<0.002	0.005	0.004	0.009	0.009	0.009	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA020	2/07/2018			EB1816377002	<0.001	<0.0005	<0.0005	<0.0005	0.0033	0.0071	0.0104	0.0132	0.0141	<0.002	0.0008	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0013	<0.001
SA020	17/07/2018			EB1817467017	<0.005	<0.002	<0.002	<0.002	0.004	0.005	0.009	0.009	0.009	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
LPTA	29/11/2017			ES1730754037	<0.005	<0.002	<0.002	<0.002	0.013	0.008	0.021	0.008	0.021	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
LPTA	25/04/2018			EB1810440023	<0.005	<0.002	<0.002	<0.002	0.008	0.005	0.013	0.013	0.013	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
LPTA	2/07/2018			EB1816377004	<0.001	<0.0005	<0.0005	<0.0005	0.0031	0.0065	0.0096	0.0124	0.0134	<0.002	0.0009	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0012	<0.001
LPTA	17/07/2018			EB1817467023	<0.005	<0.002	<0.002	<0.002	0.003	0.005	0.008	0.008	0.008	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA009	17/10/2017		Weipa Airport	EB1721509005	<0.005	<0.002	<0.002	<0.002	<0.002	0.003	0.003	0.003	0.003	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA009	29/11/2017			ES1730754005	<0.005	<0.002	<0.002	<0.002	0.002	0.003	0.005	0.003	0.005	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA009	25/04/2018			EB1810440004	<0.005	<0.002	<0.002	<0.002	0.007	0.002	0.009	0.009	0.009	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA009	17/07/2018			EB1817467004	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA026	17/10/2017			EB1721509004	<0.005	<0.002	<0.002	<0.002	0.027	0.021	0.048	0.043	0.07	0.01	0.004	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.004	0.004	<0.005
SA026	29/11/2017			ES1730754004	<0.005	<0.002	<0.002	0.002	0.026	0.021	0.047	0.035	0.063	<0.01	0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	0.002	0.003	0.004	<0.005
SA026	26/04/2018			EB1810440003	<0.005	<0.002	<0.002	<0.002	0.017	0.014	0.031	0.039	0.043	<0.01	0.004	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.004	0.004	<0.005
SA026	17/07/2018			EB1817467003	<0.005	<0.002	<0.002	0.002	0.014	0.02	0.034	0.046	0.05	<0.01	0.006	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.004	0.004	<0.005
SA027	17/10/2017		EWHEQ	EB1721509006	<0.005	<0.002	<0.002	<0.002	0.005	0.01	0.015	0.01	0.015	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA027	29/11/2017			ES1730754006	<0.005	<0.002	<0.002	<0.002	0.004	0.008	0.012	0.008	0.012	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA027	25/04/2018			EB1810440005	<0.005	<0.002	<0.002	<0.002	0.003	0.008	0.011	0.011	0.011	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
SA027	17/07/2018			EB1817467005	<0.005	<0.002	<0.002	<0.002	0.003	0.009	0.012	0.012	0.012	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
East Weipa HEQ Tanks	29/11/2017			ES1730754036	<0.005	<0.002	<0.002	<0.002	0.005	0.007	0.012	0.007	0.012	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005

Notes:
"<" Denotes below detection limit and is in grey font.
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the Australian Government Department of the Environment and Energy)
Aquatic Ecoystem Freshwater/Marine 99% species protection NEMP 2018 [(a)]
Health-based guidance values – Drinking Water NEMP 2018 [(a)]
Health-based guidance values – Recreational Water NEMP 2018 (a)

GOLDER

Table 3 - Summary of PFAS Laboratory Results of Potable Water

Project Number 18100235

					6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	N-Ethyl PFO sulfonamide (EtFOSA)	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	N-Methyl PFO sulfonamide (MeFOSA)	Perfluorooctane sulfonamide (FOSA)	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.001	0.001	0.001	0.001	0.001	0.001	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)												
Health-based guidance values – Drinking Water NEMP 2018 (a)												
Health-based guidance values – Recreational Water NEMP 2018 (a)												
Location_Code	**Sampled Date**	**Drainage Catchment**	**Focus Area**	**Lab Sample ID**								
SA091	17/10/2017			EB1721509001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA091	27/11/2017			ES1730754001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA091	25/04/2018			EB1810440001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA091	17/07/2018			EB1817467001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA092	17/10/2017			EB1721509002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA092	27/11/2017		Andoom Mine	ES1730754002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA093	17/10/2017			EB1721509003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA093	27/11/2017			ES1730754003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA093	25/04/2018			EB1810440002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA093	17/07/2018			EB1817467002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
APT	25/04/2018			EB1810440024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
APT	17/07/2018			EB1817467024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA036	17/10/2017			EB1721509013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA036	27/11/2017			ES1730754011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA036	25/04/2018			EB1810440012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA036	17/07/2018			EB1817467012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA037	17/10/2017			EB1721509012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA037	30/11/2017			ES1730754038	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA037	25/04/2018			EB1810440011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA037	17/07/2018			EB1817467011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA038	17/10/2017			EB1721509010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA038	27/11/2017			ES1730754009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA038	25/04/2018			EB1810440009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA038	17/07/2018			EB1817467009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA039	17/10/2017			EB1721509014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA039	27/11/2017	Mission River Catchment		ES1730754012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA039	25/04/2018			EB1810440013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA039	17/07/2018			EB1817467013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA041	17/10/2017			EB1721509011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA041	27/11/2017			ES1730754010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA041	25/04/2018			EB1810440010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA041	17/07/2018		Weipa Penisula	EB1817467010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA107	17/10/2017			EB1721509008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA107	27/11/2017			ES1730754007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA107	25/04/2018			EB1810440007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA107	17/07/2018			EB1817467007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA349	17/10/2017			EB1721509009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA349	27/11/2017			ES1730754008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA349	25/04/2018			EB1810440008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA349	17/07/2018			EB1817467008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA350	17/10/2017			EB1721509015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA350	29/11/2017			ES1730754013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA350	25/04/2018			EB1810440014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA350	17/07/2018			EB1817467014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA351	17/10/2017			EB1721509007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA351	25/04/2018			EB1810440006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA351	17/07/2018			EB1817467006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
TWD	17/10/2017			EB1721509016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
TWD	29/11/2017			ES1730754035	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
TWD	26/04/2018			EB1810440022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
TWD	18/07/2018			EB1817467022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA110	17/10/2017			EB1721509017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA110	29/11/2017		Railway Workshop	ES1730754014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA110	25/04/2018			EB1810440015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA110	17/07/2018			EB1817467015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA012	17/10/2017			EB1721509021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA012	29/11/2017			ES1730754018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA012	25/04/2018			EB1810440019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA012	5/07/2018			EB1816377034	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
SA012	17/07/2018			EB1817467019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA013	17/10/2017			EB1721509020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002

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Table 3 - Summary of PFAS Laboratory Results of Potable Water

Project Number 18100235

					6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	N-Ethyl PFO sulfonamide (EtFOSA)	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	N-Methyl PFO sulfonamide (MeFOSA)	Perfluorooctane sulfonamide (FOSA)	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.001	0.001	0.001	0.001	0.001	0.001	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)												
Health-based guidance values – Drinking Water NEMP 2018 (a)												
Health-based guidance values – Recreational Water NEMP 2018 (a)												
Location_Code	**Sampled Date**	**Drainage Catchment**	**Focus Area**	**Lab Sample ID**								
SA013	29/11/2017	Embley River Catchment	Lorim Point	ES1730754017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA013	25/04/2018			EB1810440018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA013	3/07/2018			EB1816377006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
SA013	17/07/2018			EB1817467018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA014	17/10/2017			EB1721509023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA014	29/11/2017			ES1730754020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA014	25/04/2018			EB1810440021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA014	2/07/2018			EB1816377003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
SA014	17/07/2018			EB1817467021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA015	17/10/2017			EB1721509022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA015	29/11/2017			ES1730754019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA015	25/04/2018			EB1810440020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA015	3/07/2018			EB1816377005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
SA015	18/07/2018			EB1817467020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA017	17/10/2017			EB1721509018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA017	29/11/2017			ES1730754015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA017	25/04/2018			EB1810440016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA017	2/07/2018			EB1816377001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
SA017	17/07/2018			EB1817467016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA020	17/10/2017			EB1721509019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA020	29/11/2017			ES1730754016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA020	25/04/2018			EB1810440017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA020	2/07/2018			EB1816377002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
SA020	17/07/2018			EB1817467017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
LPTA	29/11/2017			ES1730754037	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
LPTA	25/04/2018			EB1810440023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
LPTA	2/07/2018			EB1816377004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPTA	17/07/2018			EB1817467023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA009	17/10/2017		Weipa Airport	EB1721509005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA009	29/11/2017			ES1730754005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA009	25/04/2018			EB1810440004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA009	17/07/2018			EB1817467004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA026	17/10/2017			EB1721509004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA026	29/11/2017			ES1730754004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA026	26/04/2018			EB1810440003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA026	17/07/2018			EB1817467003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA027	17/10/2017		EWHEQ	EB1721509006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA027	29/11/2017			ES1730754006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA027	25/04/2018			EB1810440005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
SA027	17/07/2018			EB1817467005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
East Weipa HEQ Tanks	29/11/2017			ES1730754036	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002

Notes:
"<" Denotes below detection limit and is in grey font.
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the Australian Government Department of the Environment and Energy)

Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 [a]
Health-based guidance values – Drinking Water NEMP 2018 [a]
Health-based guidance values – Recreational Water NEMP 2018 (a)

GOLDER

Project Sam - Summary of PFAS Laboratory Results of Groundwater

Project Number 18100235

Location Code	Sampled Date	Drainage Catchment	Focus Area	Lab Sample ID	Field_ID	Per- and polyfluoroalkyl substances (PFAS)																				
						N-Methyl PFO sulfonamidoethanol (MeFOSE)	Perfluorodecane sulfonic acid (PFDS)	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS (lab reported)	Sum of WA DER PFAS (n=10)	Sum of PFASs (n=28 - Lab Reported)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorotridecan oic acid (PFTrDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoi c acid (PFDoDA)	Perfluoroundecanoi c acid (PFUnDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoropentane sulfonic acid (PFPeS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.001	0.0005	0.0005	0.0005	0.0003	0.0005	0.0003	0.0003	0.0003	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)									19	0.0002																
Health-based guidance values – Drinking Water NEMP 2018 (a)									0.56			0.07														
Health-based guidance values – Recreational Water NEMP 2018 (a)									5.6			0.7														
ASB-MW-07	07-Jun-18	Mission River Catchment	Andoom Mine	ES1817464035	ASB-MW-07	<0.001	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0007	0.0007	0.0007	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ASB-MW-08	08-Jun-18			ES1817464036	ASB-MW-08	<0.001	<0.0005	<0.0005	<0.0005	0.0009	0.0008	0.0017	0.0017	0.0017	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ASB-MW-10	07-Jun-18			ES1817464037	ASB-MW-10	<0.001	<0.0005	<0.0005	<0.0005	0.0014	0.0012	0.0026	0.0049	0.0049	<0.002	0.0009	<0.0005	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ASB-MW-16	07-Jun-18			ES1817464038	ASB-MW-16	<0.001	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	0.0005	0.0005	0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ASB-MW-21	07-Jun-18			ES1817464039	ASB-MW-21	<0.001	<0.0005	<0.0005	<0.0005	0.0013	0.0012	0.0025	0.0025	0.0025	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ASB-MW-23	08-Jun-18			ES1817464040	ASB-MW-23	<0.001	<0.0005	<0.0005	<0.0005	0.0019	0.0011	0.003	0.003	0.003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
AHEQ-MW-01	06-Jun-18		AHEQ	ES1817464030	AHEQ-MW-01	<0.001	<0.0005	<0.0005	<0.0005	0.002	0.0028	0.0048	0.0057	0.0057	<0.002	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
AHEQ-MW-02	20-Oct-17			EB1722399007	AHEQ-MW2	<0.005	<0.002	<0.002	<0.002	0.004	0.007	0.011	0.036	0.04	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002
AHEQ-MW-02	06-Jun-18			ES1817464031	AHEQ-MW-02	<0.001	<0.0005	<0.0005	0.001	0.0078	0.0087	0.0165	0.0314	0.0314	<0.002	0.0044	0.0018	<0.0005	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
AHEQ-MW-03	20-Oct-17			EB1722399008	AHEQ-MW3	<0.005	<0.002	<0.002	0.004	0.069	0.03	0.099	0.059	0.128	<0.01	0.012	0.004	<0.002	0.006	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.003
AHEQ-MW-03	06-Jun-18			ES1817464032	AHEQ-MW-03	<0.001	<0.0005	<0.0005	0.003	0.0252	0.0257	0.0509	0.0991	0.102	0.002	0.0211	0.0068	<0.0005	0.013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0022
AHEQ-MW-04	20-Oct-17			EB1722399009	AHEQ-MW4	<0.005	<0.002	<0.002	<0.002	0.019	0.01	0.029	0.076	0.095	<0.01	0.016	0.007	<0.002	0.02	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.007
AHEQ-MW-05	06-Jun-18			ES1817464033	AHEQ-MW-05	<0.001	<0.0005	<0.0005	0.0029	0.0233	0.024	0.0473	0.2	0.203	0.01	0.0504	0.0272	<0.0005	0.061	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0015
AHEQ-MW-06	06-Jun-18			ES1817464034	AHEQ-MW-06	<0.001	<0.0005	<0.0005	0.0022	0.0312	0.0464	0.0776	0.13	0.136	0.004	0.0182	0.0086	<0.0005	0.0154	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	0.0039
HOS-SA/2	05-Jun-18		Herring Oil Slot	ES1817464007	HOS-SA/2	<0.001	<0.0005	<0.0005	0.0009	0.0149	0.009	0.0239	0.0292	0.0298	<0.002	0.0033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005
HOS-SA/249	05-Jun-18			ES1817464009	HOS-SA/249	<0.001	<0.0005	<0.0005	<0.0005	0.0058	0.0072	0.013	0.0135	0.0135	<0.002	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
HOS-SA/254	05-Jun-18			ES1817464006	HOS-SA/254	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	0.001	0.001	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
HOS-SA/4	05-Jun-18			ES1817464008	HOS-SA/4	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	0.0007	0.0007	0.0007	0.0007	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
TRL-MW1	28-Nov-17		Weipa Peninsula	ES1730754028	TRL-MW2	<0.005	<0.002	<0.002	<0.002	0.003	0.004	0.007	0.004	0.007	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
BRL-MW2	28-Nov-17			ES1730754029	BRL-MW2	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
RWW-MW-01	05-Jun-18	Embley River Catchment	Railway Workshop	ES1817464017	RMW-MW-01	<0.001	<0.0005	<0.0005	0.0157	0.152	0.126	0.278	0.739	0.754	0.016	0.143	0.0743	<0.0005	0.131	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0069	0.0084
RWW-MW-02	06-Jun-18			ES1817464018	RMW-MW-02	<0.001	<0.0005	<0.0005	0.0006	0.0014	0.0018	0.0032	0.0076	0.0076	<0.002	0.0012	0.0006	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
RWW-MW-03	05-Jun-18			ES1817464055	RWW-MW-03	<0.001	<0.0005	<0.0005	<0.0005	0.0021	0.0044	0.0065	0.0635	0.0641	0.005	0.0148	0.0034	<0.0005	0.0328	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006
RWW-MW-04	28-Nov-17			ES1730754026	RWW-MW4	<0.005	<0.002	<0.002	<0.002	0.004	0.003	0.007	0.016	0.02	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
RWW-MW-04	05-Jun-18			ES1817464019	RMW-MW-04	<0.001	<0.0005	<0.0005	<0.0005	0.0013	0.0024	0.0037	0.0049	0.0049	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
RWW-MW-05	28-Nov-17			ES1730754027	RWW-MW5	<0.005	<0.002	<0.002	<0.002	0.007	0.004	0.011	0.016	0.023	<0.01	0.006	<0.002	<0.002	0.006	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
RWW-MW-05	02-Jun-18			ES1817464020	RMW-MW-05	<0.001	<0.0005	<0.0005	<0.0005	0.0024	0.0041	0.0065	0.0073	0.0073	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ELN-MW-02	04-Jun-18		Evans Landing North	ES1817464044	ELN-MW-02	<0.001	<0.0005	<0.0005	0.0068	0.0459	0.0203	0.0662	0.121	0.125	0.006	0.0141	0.0103	<0.0005	0.017	0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.001
ELN-MW-04	04-Jun-18			ES1817464045	ELN-MW-04	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ELN-MW-06	04-Jun-18			ES1817464047	ELN-MW-06	<0.001	<0.0005	<0.0005	<0.0005	0.0004	0.0005	0.0009	0.0009	0.0009	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ELN-MW-07	04-Jun-18			ES1817464046	ELN-MW-07	<0.001	<0.0005	<0.0005	0.0045	0.0748	0.0378	0.113	0.141	0.145	<0.002	0.0079	0.0057	<0.0005	0.0088	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.002
ELN-MW-30	04-Jun-18			ES1817464048	ELN-MW-30	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EVL-1	28-Nov-17			ES1730754030	EVL-1	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
ELS-MW-18	02-Jun-18		Evans Landing South	ES1817464050	ELS-MW-18	<0.001	<0.0005	<0.0005	0.0178	0.453	0.257	0.71	0.861	0.884	0.014	0.0494	0.0201	<0.0005	0.0413	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	0.0092	0.0121
ELS-MW-19	02-Jun-18			ES1817464051	ELS-MW-19	<0.001	<0.0005	<0.0005	0.0078	0.156	0.0766	0.233	0.289	0.297	<0.002	0.0194	0.0083	<0.0005	0.0153	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0034	0.0045
ELS-MW-20	02-Jun-18			ES1817464054	ELS-MW-20	<0.001	<0.0005	<0.0005	0.0107	0.266	0.12	0.386	0.484	0.505	0.009	0.0334	0.0116	<0.0005	0.0223	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0066	0.0131
ELS-MW-23	02-Jun-18			ES1817464053	ELS-MW-23	<0.001	<0.0005	<0.0005	0.0015	0.0467	0.0284	0.0751	0.0817	0.0851	<0.002	0.0011	0.001	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023
ELS-MW-24	02-Jun-18			ES1817464052	ELS-MW-24	<0.001	<0.0005	<0.0005	0.0035	0.0712	0.0584	0.13	0.151	0.158	<0.002	0.0053	0.0032	<0.0005	0.0034	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0024	0.0047
ELS-RW-01	02-Jun-18			ES1817464049	ELS-RW-1	<0.001	<0.0005	<0.0005	0.0122	0.234	0.113	0.347	0.48	0.495	0.009	0.0458	0.0164	<0.0005	0.043	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.0049	0.0094
LPI-MW-01	05-Jul-18		Lorim Point - Industrial Precinct	EB1816377031	LPI_MW1_20180705	<0.001	<0.0005	<0.0005	0.108	2.15	0.983	3.13	3.69	3.96	0.017	0.176	0.0898	<0.0005	0.0697	0.0027	<0.0005	<0.0005	<0.0005	<0.0005	0.104	0.156
LPI-MW-04	05-Jul-18			EB1816377032	LPI_MW4_20180705	<0.001	<0.0005	<0.0005	0.0989	1.95	0.894	2.84	3.39	3.62	0.015	0.182	0.0812	<0.0005	0.0653	0.0043	<0.0005	<0.0005	<0.0005	<0.0005	0.0856	0.145
LPI-MW-05	05-Jul-18			EB1816377035	LP1_MW5_20180705	<0.001	<0.0005	<0.0005	0.0494	1.25	0.6	1.85	2.13	2.26	0.007	0.0905	0.0526	<0.0005	0.0321	0.0018	<0.0005	<0.0005	<0.0005	<0.0005	0.0429	0.0776
LPI-MW-07	05-Jul-18			EB1816377030	LPI_MW7_20180705	<0.001	<0.0005	<0.0005	0.0906	1.61	1.04	2.65	3.15	3.38	0.009	0.163	0.0861	<0.0005	0.0527	0.0029	<0.0005	<0.0005	<0.0005	<0.0005	0.0845	0.141
LPI-MW-08	09-Jun-18			ES1817464013	LPI-MW-08	<0.001	<0.0005	<0.0005	0.1560	2	1.5	3.5	4.41	4.76	0.026	0.339	0.0972	<0.0005	0.0961	0.005	<0.0005	<0.0005	<0.0005	<0.0005	0.131	0.211
LPI-MW-08	05-Jul-18			EB1816698001	LPI_MW8_20180705	<0.001	<0.0005	<0.0005	0.1370	2.25	1.88	4.13	5.06	5.39	0.027	0.356	0.112	<0.0005	0.0952	0.0046	<0.0005	<0.0005	<0.0005	<0.0005	0.186	0.147
LPI-MW-11	03-Jul-18			EB1816377009	LPI-MW11_20180703	<0.001	<0.0005	<0.0005	0.0210	1.8	0.301	2.1	2.22	2.28	<0.002	0.0617	0.013	<0.0005	0.0128	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	0.0326	0.0207
LPI-MW-12	03-Jul-18			EB1816377010	LPI-MW12_20180703	<0.001	<0.0005	<0.0005	0.0256	1.48	0.295	1.78	1.92	1.99	<0.002	0.0716	0.0159	<0.0005	0.0145	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0384	0.0284
LPI-MW-13	03-Jul-18			EB1816377007	LPI-MW13_20180703	<0.001	<0.0005	<0.0005	0.0018	0.0141	0.0088	0.0229	0.0273	0.0292	<0.002	0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0013
LPI-MW-15	04-Jul-18			EB1816377028	LPI_MW15_20180704	<0.001	<0.0005	<0.0005	0.0274	0.635	0.448	1.08	1.27	1.34	0.004	0.0655	0.0343	<0.0005	0.024	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0266	0.0451
LPI-MW-16	05-Jul-18			EB1816377033	LPI_MW16_20180705	<0.001	<0.0005	<0.0005	0.0747	1.6	0.545	2.14	2.5	2.63	0.008	0.103	0.083	<0.0005	0.0362	0.0023	<0.0005	<0.0005	<0.0005	<0.0005	0.0628	0.0639
LPI-MW-17	04-Jul-18			EB1816377029	LPI_MW17_20180704	<0.001	<0.0005	<0.0005	<0.0005	0.0135	0.0279	0.0414	0.0548	0.0582	0.011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	0.0019
LPI-MW-18	05-Jul-18			EB1816698006	LPI_MW18_20180705	<0.001	<0.0005	<0.0005	0.0007	0.0415	0.0261	0.0676	0.0703	0.074	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.002
LPI-MW-19	03-Jul-18			EB1816377008	LPI-MW19_20180703	<0.001	<0.0005	<0.0005	0.0023	0.0174	0.0165	0.0339	0.0403	0.0435	<0.002	0.0018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0023
LPI-MW-20	28-Nov-17			ES1730754033	LPI-MW20	<0.005	<0.002	<0.002	0.067	1.24	0.714	1.95	1.11	2.39	<0.01	0.108	0.059	<0.002	0.03	<0.002	<0.005	<0.002	<0.002	<0.002	0.04	0.066
LPI-MW-20	09-Jun-18			ES1817464014	LPI-MW-20	<0.001	<0.0005	<0.0005	0.0033	0.0421	0.0229	0.065	0.0788	0.0813	<0.002	0.0044	0.0033	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0014
LPI-MW-20	05-Jul-18			EB1816698002	LPI_MW20_20180705	<0.001	<0.0005	<0.0005	0.0023	0.0395	0.0166	0.0561	0.0666	0.0692	<0.002	0.0031	0.0018	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0014
LPI-MW-21	09-Jun-18			ES1817464015	LPI-MW-21	<0.001	<0.0005	<0.0005	0.0631	0.696	0.439	1.14	1.45	1.54	0.014	0.108	0.0504	<0.0005	0.0297	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	0.0315	0.0574
LPI-MW-21	05-Jul-18			EB1816698003	LPI_MW21_20180705	<0.001	<0.0005	<0.0005	0.0598	0.738	0.484	1.22	1.52	1.61	0.009	0.0873	0.0614	<0.0005	0.0317	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	0.045	0.0501
LPI-MW-22	28-Nov-17			ES1730754034	LPI-MW22	<0.005	<0.002	<0.002	<0.002	0.007	0.012	0.019	0.014	0.021	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002

GOLDER

Project Sam - Summary of PFAS Laboratory Results of Groundwater

Project Number 18100235

																															Per- and polyfluoroalkyl substances (PFAS)
								N-Methyl PFO sulfonamidoethanol (MeFOSE)	Perfluorodecane sulfonic acid (PFDS)	N-methyl-PFO sulfonamidoacetic acid (NMeFOSAA)	Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS (lab reported)	Sum of WA DER PFAS (n=10)	Sum of PFASs (n=28 - Lab Reported)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoropentane sulfonic acid (PFPeS)
								µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL								0.001	0.0005	0.0005	0.0005	0.0003	0.0005	0.0003	0.0003	0.0003	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)											19	0.0002																			
Health-based guidance values – Drinking Water NEMP 2018 (a)											0.56			0.07																	
Health-based guidance values – Recreational Water NEMP 2018 (a)											**5.6**			**0.7**																	
Location Code	**Sampled Date**	**Drainage Catchment**	**Focus Area**	**Lab Sample ID**	**Field_ID**																										
LPI-MW-22	09-Jun-18			ES1817464016	LPI-MW-22	<0.001	<0.0005	<0.0005	0.0014	0.0086	0.0091	0.0177	0.0206	0.0212	<0.002	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006
LPI-MW-22	05-Jul-18			EB1816698007	LPI_MW22_20180705	<0.001	<0.0005	<0.0005	0.0008	0.0063	0.0092	0.0155	0.0174	0.0188	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0009
LPI-MW-24	04-Jul-18			EB1816377027	LPI_MW24_20180704	<0.001	<0.0005	<0.0005	0.0011	0.0161	0.0409	0.057	0.0679	0.0753	<0.002	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0062
LDP-MW-10	03-Jun-18		Lorim Point - Fuel Depot	ES1817464010	LDP-MW-10	<0.001	<0.0005	<0.0005	<0.0005	0.0018	0.0026	0.0044	0.0044	0.0044	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
LDP-MW-13	03-Jun-18			ES1817464011	LDP-MW-13	<0.001	<0.0005	<0.0005	<0.0005	0.0056	0.0049	0.0105	0.0111	0.0111	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
LDP-MW-34	03-Jun-18			ES1817464012	LDP-MW-34	<0.001	<0.0005	<0.0005	0.002	0.0148	0.0107	0.0255	0.0311	0.0324	<0.002	0.0014	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0007
BRP-MW-01	03-Jun-18		Lorim Point - East Weipa Bioremediation	ES1817464041	BRP-MW-01	<0.001	<0.0005	<0.0005	0.0011	0.0057	0.0073	0.013	0.0182	0.0199	<0.002	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0017
BRP-MW-02	03-Jun-18			ES1817464042	BRP-MW-02	<0.001	<0.0005	<0.0005	0.0009	0.0023	0.0044	0.0067	0.0543	0.0551	<0.002	0.0143	0.0031	<0.0005	0.0276	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008
BRP-MW-03	03-Jun-18			ES1817464043	BRP-MW-03	<0.001	<0.0005	<0.0005	<0.0005	0.001	0.0018	0.0028	0.0058	0.0058	<0.002	0.0009	<0.0005	<0.0005	0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EWHEQ-MW-01	06-Jun-18		EWHEQ	ES1817464001	EWHEQ-MW-01	<0.001	<0.0005	<0.0005	<0.0005	0.0049	0.0102	0.0151	0.0159	0.0171	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0007
EWHEQ-MW-02	23-Oct-17			EB1722399001	EWHEQ-MW2	<0.005	<0.002	<0.002	<0.002	0.027	0.017	0.044	0.023	0.05	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.003
EWHEQ-MW-02	06-Jun-18			ES1817464002	EWHEQ-MW-02	<0.001	<0.0005	<0.0005	0.0019	0.0329	0.0384	0.0713	0.11	0.116	0.002	0.0111	0.0034	<0.0005	0.0107	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	0.004
EWHEQ-MW-03	23-Oct-17			EB1722399002	EWHEQ-MW3	<0.005	<0.002	<0.002	<0.002	0.013	0.009	0.022	0.016	0.029	<0.01	0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.002
EWHEQ-MW-03	06-Jun-18			ES1817464003	EWHEQ-MW-03	<0.001	<0.0005	<0.0005	0.0011	0.0171	0.0158	0.0329	0.0599	0.0628	0.002	0.0078	0.0023	<0.0005	0.0086	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0019
EWHEQ-MW-04	23-Oct-17			EB1722399003	EWHEQ-MW4	<0.005	<0.002	<0.002	0.009	0.043	0.022	0.065	1.84	1.89	0.06	0.168	0.058	<0.002	0.246	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	0.004
EWHEQ-MW-04	06-Jun-18			ES1817464004	EWHEQ-MW-04	<0.001	<0.0005	<0.0005	<0.0005	0.0041	0.0045	0.0086	0.0565	0.057	0.004	0.0048	0.0014	<0.0005	0.0089	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	
EWHEQ-MW-05	06-Jun-18			ES1817464005	EWHEQ-MW-05	<0.001	<0.0005	<0.0005	0.0112	0.156	0.0862	0.242	0.715	0.73	0.018	0.155	0.0895	<0.0005	0.172	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0085
AFD-MW21	23-Oct-17			EB1722399004	AFD-MW21	<0.005	<0.002	<0.002	<0.002	0.003	0.003	0.006	0.003	0.006	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
AFD-MW-21	06-Jun-18			ES1817464027	AFD-MW-21	<0.001	<0.0005	<0.0005	<0.0005	0.0012	0.0021	0.0033	0.0033	0.0033	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
AFD-MW-22	06-Jun-18			ES1817464028	AFD-MW-22	<0.001	<0.0005	<0.0005	<0.0005	0.0004	0.0048	0.0052	0.0064	0.0071	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007
AFD-MW36	19-Oct-17			EB1722399005	AFD-MW36	<0.005	<0.002	<0.002	0.004	0.052	0.084	0.136	0.137	0.195	<0.01	0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	0.006	0.019
AFD-MW-36	06-Jun-18			ES1817464029	AFD-MW-36	<0.001	<0.0005	<0.0005	0.0015	0.0115	0.0349	0.0464	0.0606	0.0664	<0.002	0.0046	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0051
ALF-MW1	29-Nov-17			ES1730754032	ALF-MW1	<0.005	<0.002	<0.002	<0.002	0.014	0.011	0.025	0.016	0.03	<0.01	0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
ALF-MW4	29-Nov-17			ES1730754031	ALF-MW4	<0.005	<0.002	<0.002	<0.002	0.026	0.013	0.039	0.013	0.039	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
"<" Denotes below detection limit and is in grey font.
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the

Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 [a]

Health-based guidance values – Drinking Water NEMP 2018 [a]

Health-based guidance values – Recreational Water NEMP 2018 (a)

GOLDER

Project Sam - Summary of PFAS Laboratory Results of Groundwater

Project Number 18100235

	Perfluorobutane sulfonic acid (PFBS)	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	N-Ethyl FPO sulfonamide (EtFOSA)	N-Ethyl FPO sulfonamidoethanol (EtFOSE)	N-Methyl FPO sulfonamide (MeFOSA)	Perfluorooctane sulfonamide (FOSA)	N-ethyl-FPO sulfonamidoacetic acid (EtFOSAA)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)										
Health-based guidance values – Drinking Water NEMP 2018 (a)										
Health-based guidance values – Recreational Water NEMP 2018 (a)										

Location Code	Sampled Date	Drainage Catchment	Focus Area	Lab Sample ID	Field_ID									
ASB-MW-07	07-Jun-18	Mission River Catchment	Andoom Mine	ES1817464035	ASB-MW-07	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ASB-MW-08	08-Jun-18			ES1817464036	ASB-MW-08	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ASB-MW-10	07-Jun-18			ES1817464037	ASB-MW-10	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ASB-MW-16	07-Jun-18			ES1817464038	ASB-MW-16	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ASB-MW-21	07-Jun-18			ES1817464039	ASB-MW-21	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ASB-MW-23	08-Jun-18			ES1817464040	ASB-MW-23	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AHEQ-MW-01	06-Jun-18		AHEQ	ES1817464030	AHEQ-MW-01	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AHEQ-MW-02	20-Oct-17			EB1722399007	AHEQ-MW2	<0.002	<0.005	0.029	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
AHEQ-MW-02	06-Jun-18			ES1817464031	AHEQ-MW-02	0.0005	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AHEQ-MW-03	20-Oct-17			EB1722399008	AHEQ-MW3	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
AHEQ-MW-03	06-Jun-18			ES1817464032	AHEQ-MW-03	0.0023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AHEQ-MW-04	20-Oct-17			EB1722399009	AHEQ-MW4	<0.002	<0.005	0.016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
AHEQ-MW-05	06-Jun-18			ES1817464033	AHEQ-MW-05	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AHEQ-MW-06	06-Jun-18			ES1817464034	AHEQ-MW-06	0.0042	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
HOS-SA/2	05-Jun-18		Herring Oil Slot	ES1817464007	HOS-SA/2	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
HOS-SA/249	05-Jun-18			ES1817464009	HOS-SA/249	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
HOS-SA/254	05-Jun-18			ES1817464006	HOS-SA/254	<0.0005	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
HOS-SA/4	05-Jun-18			ES1817464008	HOS-SA/4	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
TRL-MW1	28-Nov-17		Weipa Peninsula	ES1730754028	TRL-MW2	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
BRL-MW2	28-Nov-17			ES1730754029	BRL-MW2	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
RWW-MW-01	05-Jun-18	Embley River Catchment	Railway Workshop	ES1817464017	RMW-MW-01	0.0072	<0.001	0.074	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
RWW-MW-02	06-Jun-18			ES1817464018	RMW-MW-02	0.0006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
RWW-MW-03	05-Jun-18			ES1817464055	RWW-MW-03	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
RWW-MW-04	28-Nov-17			ES1730754026	RWW-MW4	<0.002	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
RWW-MW-04	05-Jun-18			ES1817464019	RMW-MW-04	0.0012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
RWW-MW-05	28-Nov-17			ES1730754027	RWW-MW5	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
RWW-MW-05	02-Jun-18			ES1817464020	RMW-MW-05	0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELN-MW-02	04-Jun-18		Evans Landing North	ES1817464044	ELN-MW-02	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELN-MW-04	04-Jun-18			ES1817464045	ELN-MW-04	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELN-MW-06	04-Jun-18			ES1817464047	ELN-MW-06	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELN-MW-07	04-Jun-18			ES1817464046	ELN-MW-07	0.0019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELN-MW-30	04-Jun-18			ES1817464048	ELN-MW-30	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
EVL-1	28-Nov-17			ES1730754030	EVL-1	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
ELS-MW-18	02-Jun-18		Evans Landing South	ES1817464050	ELS-MW-18	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELS-MW-19	02-Jun-18			ES1817464051	ELS-MW-19	0.0055	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELS-MW-20	02-Jun-18			ES1817464054	ELS-MW-20	0.011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELS-MW-23	02-Jun-18			ES1817464053	ELS-MW-23	0.0024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELS-MW-24	02-Jun-18			ES1817464052	ELS-MW-24	0.0064	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ELS-RW-01	02-Jun-18			ES1817464049	ELS-RW-1	0.0061	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-01	05-Jul-18		Lorim Point - Industrial Precinct	EB1816377031	LPI_MW1_20180705	0.099	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-04	05-Jul-18			EB1816377032	LPI_MW4_20180705	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-05	05-Jul-18			EB1816377035	LP1_MW5_20180705	0.0515	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-07	05-Jul-18			EB1816377030	LPI_MW7_20180705	0.0988	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-08	09-Jun-18			ES1817464013	LPI-MW-08	0.179	<0.001	0.017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-08	05-Jul-18			EB1816698001	LPI_MW8_20180705	0.184	<0.001	0.014	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013	<0.0005
LPI-MW-11	03-Jul-18			EB1816377009	LPI-MW11_20180703	0.0159	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-12	03-Jul-18			EB1816377010	LPI-MW12_20180703	0.0187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-13	03-Jul-18			EB1816377007	LPI-MW13_20180703	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-15	04-Jul-18			EB1816377028	LPI_MW15_20180704	0.0333	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-16	05-Jul-18			EB1816377033	LPI_MW16_20180705	0.0414	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-17	04-Jul-18			EB1816377029	LPI_MW17_20180704	0.0024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-18	05-Jul-18			EB1816698006	LPI_MW18_20180705	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-19	03-Jul-18			EB1816377008	LPI-MW19_20180703	0.0023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-20	28-Nov-17			ES1730754033	LPI-MW20	0.048	<0.005	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
LPI-MW-20	09-Jun-18			ES1817464014	LPI-MW-20	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-20	05-Jul-18			EB1816698002	LPI_MW20_20180705	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-21	09-Jun-18			ES1817464015	LPI-MW-21	0.039	<0.001	0.007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-21	05-Jul-18			EB1816698003	LPI_MW21_20180705	0.0396	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-22	28-Nov-17			ES1730754034	LPI-MW22	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002

GOLDER

Project Sam - Summary of PFAS Laboratory Results of Groundwater

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					Perfluorobutane sulfonic acid (PFBS)	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	N-Ethyl PFO sulfonamide (EtFOSA)	N-Ethyl PFO sulfonamidoethanol (EtFOSE)	N-Methyl PFO sulfonamide (MeFOSA)	Perfluorooctane sulfonamide (FOSA)	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)														
Health-based guidance values – Drinking Water NEMP 2018 (a)														
Health-based guidance values – Recreational Water NEMP 2018 (a)														
Location Code	**Sampled Date**	**Drainage Catchment**	**Focus Area**	**Lab Sample ID**	**Field_ID**									
LPI-MW-22	09-Jun-18			ES1817464016	LPI-MW-22	0.0009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-22	05-Jul-18			EB1816698007	LPI_MW22_20180705	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LPI-MW-24	04-Jul-18			EB1816377027	LPI_MW24_20180704	0.0077	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LDP-MW-10	03-Jun-18		Lorim Point - Fuel Depot	ES1817464010	LDP-MW-10	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LDP-MW-13	03-Jun-18			ES1817464011	LDP-MW-13	0.0006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
LDP-MW-34	03-Jun-18			ES1817464012	LDP-MW-34	0.0009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
BRP-MW-01	03-Jun-18		Lorim Point - East Weipa Bioremediation	ES1817464041	BRP-MW-01	0.0029	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
BRP-MW-02	03-Jun-18			ES1817464042	BRP-MW-02	0.0017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
BRP-MW-03	03-Jun-18			ES1817464043	BRP-MW-03	0.0006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
EWHEQ-MW-01	06-Jun-18		EWHEQ	ES1817464001	EWHEQ-MW-01	0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
EWHEQ-MW-02	23-Oct-17			EB1722399001	EWHEQ-MW2	0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
EWHEQ-MW-02	06-Jun-18			ES1817464002	EWHEQ-MW-02	0.0046	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
EWHEQ-MW-03	23-Oct-17			EB1722399002	EWHEQ-MW3	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
EWHEQ-MW-03	06-Jun-18			ES1817464003	EWHEQ-MW-03	0.0022	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
EWHEQ-MW-04	23-Oct-17			EB1722399003	EWHEQ-MW4	0.006	<0.005	1.27	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
EWHEQ-MW-04	06-Jun-18			ES1817464004	EWHEQ-MW-04	0.0008	<0.001	0.028	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
EWHEQ-MW-05	06-Jun-18			ES1817464005	EWHEQ-MW-05	0.0074	<0.001	0.02	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AFD-MW21	23-Oct-17		Weipa Airport	EB1722399004	AFD-MW21	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
AFD-MW-21	06-Jun-18			ES1817464027	AFD-MW-21	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AFD-MW-22	06-Jun-18			ES1817464028	AFD-MW-22	0.0012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
AFD-MW36	19-Oct-17			EB1722399005	AFD-MW36	0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
AFD-MW-36	06-Jun-18			ES1817464029	AFD-MW-36	0.0061	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
ALF-MW1	29-Nov-17			ES1730754032	ALF-MW1	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002
ALF-MW4	29-Nov-17			ES1730754031	ALF-MW4	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002

Notes:
"<" Denotes below detection limit and is in grey font.
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the

Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 [a]

Health-based guidance values – Drinking Water NEMP 2018 [a]

Health-based guidance values – Recreational Water NEMP 2018 (a)

GOLDER

Table 5 - Summary of PFAS Laboratory Results of Surface Water

Project Number 18100235

														Per- and polyfluoroalkyl substances (PFAS)																				
						N-Methyl PFO sulfonamidoethanol (MeFOSE)	Perfluorodecane sulfonic acid (PFDS)	N-methyl-PFO sulfonamidoacetic acid (MeFOSAA)	Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS (lab reported)	Sum of WA DER PFAS (n=10)	Sum of PFASs (n=28 - Lab Reported)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorobutane sulfonic acid (PFBS)	4:2 Fluorotelomer sulfonic acid (4:2 FTSA)	6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	10:2 Fluorotelomer sulfonic acid (10:2 FTSA)	N-Ethyl PFO sulfonamide (EtFOSA)	N-Ethyl PFO sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.001	0.0005	0.0005	0.0005	0.0003	0.0005	0.0003	0.0003	0.0003	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.001	0.001
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)									19	0.00023																								
Health-based guidance values – Drinking Water NEMP 2018 (a)									0.56			0.07																						
Health-based guidance values – Recreational Water NEMP 2018 (a)									5.6			0.7																						
Location Code	**Sampled Date**	**Drainage Catchment**		**Lab Sample ID**																														
SP/BOT	23-Apr-18	Pine River Catchment	Andoom Mine Area	EB1810438015	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SP/ELY/MS3	23-Apr-18			EB1810438017	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
PR/AND/DOS	24-Apr-18		Andoom Mine	EB1810438024	<0.001	<0.0005	<0.0005	0.0050	0.0217	0.0099	0.0316	0.564	0.568	<0.002	0.0349	0.006	<0.0005	0.0115	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	0.449	0.026	0.003	<0.001	<0.001
PR/AND/DOS	04-Jul-18			EB1816377017	<0.001	<0.0005	<0.0005	<0.0005	0.0003	<0.0005	0.0003	0.0003	0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
PR/AND/HEQW	23-Apr-18			EB1810438012	<0.001	<0.0005	<0.0005	<0.0005	0.0014	0.0005	0.0019	0.0108	0.0108	<0.002	0.0030	0.0009	<0.0005	0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
SP/ELY/MS1	23-Apr-18			EB1810438023	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SP/TDC/UPS	23-Apr-18			EB1810438014	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/LUT/UPS	23-Apr-18			EB1810438031	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SP/AND/SLTS	23-Apr-18			EB1810438016	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
PR/AND/WS	23-Apr-18	Mission River Catchment	AHEQ	EB1810438013	<0.005	<0.002	<0.002	0.0044	0.03	0.0094	0.0394	0.371	0.371	<0.002	0.0146	0.003	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.294	0.016	<0.002	<0.005	<0.005
PR/AND/WS/DOS	23-Apr-18			EB1810438021	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MRC/DOS	24-Apr-18		East Weipa Mine Area	EB1810438019	<0.001	<0.0005	<0.0005	<0.0005	0.001	0.0014	0.0024	0.0024	0.0024	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MRC/DOS	04-Jul-18			EB1816377025	<0.001	<0.0005	<0.0005	<0.0005	0.0009	0.0014	0.0023	0.0028	0.0028	<0.002	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MRC/UPS	24-Apr-18			EB1810438018	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/PAP/DOS	24-Apr-18			EB1810438009	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	0.0008	0.0008	<0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/PAP/UPS	24-Apr-18			EB1810438008	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/TRC/UPS	24-Apr-18			EB1810438004	<0.001	<0.0005	<0.0005	<0.0005	0.0015	0.0017	0.0032	0.0032	0.0032	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/TRC/DOS	24-Apr-18		Weipa Peninsula	EB1810438005	<0.001	<0.0005	<0.0005	<0.0005	0.0006	0.0009	0.0015	0.0015	0.0015	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
EMB/EV/NSA	04-Jul-18	Embely River Catchment	Evans Landing	EB1816377019	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
EMB/EV/NSB	04-Jul-18			EB1816377020	<0.001	<0.0005	<0.0005	<0.0005	0.0011	0.0012	0.0023	0.0029	0.0029	<0.002	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
EMB/EV/NSC	04-Jul-18			EB1816377021	<0.001	<0.0005	<0.0005	<0.0005	0.0008	0.0006	0.0014	0.0014	0.0014	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
EMB/LP/NSA	04-Jul-18		Lorim Point	EB1816377022	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
EMB/LP/NSB	04-Jul-18			EB1816377023	<0.001	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0007	0.0007	0.0014	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
EMB/LP/NSC	04-Jul-18			EB1816377024	<0.001	<0.0005	<0.0005	<0.0005	0.0004	<0.0005	0.0004	0.0004	0.0004	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/BEN/DOS	24-Apr-18		East Weipa Mine	EB1810438003	<0.001	<0.0005	<0.0005	<0.0005	0.0015	0.0015	0.0030	0.0030	0.0030	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/BEN/DOS	04-Jul-18			EB1816377018	<0.001	<0.0005	<0.0005	<0.0005	0.0011	0.0027	0.0038	0.0057	0.0057	<0.002	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/BEN/UPS	24-Apr-18			EB1810438002	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/MAR/DOS	24-Apr-18			EB1810438011	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SW/MAR/UPS	24-Apr-18			EB1810438010	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
LAKE/MCL	24-Apr-18		Weipa Peninsula	EB1810438006	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
LAKE/PAT	24-Apr-18			EB1810438007	<0.001	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0003	<0.0003	<0.0003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
PR/EWM/WP	25-Apr-18		EWHEQ	EB1810438001	<0.001	<0.0005	<0.0005	0.0038	0.0391	0.0112	0.0503	0.228	0.23	<0.002	0.0162	0.0022	<0.0005	0.0047	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0032	<0.001	0.14	0.008	<0.001	<0.001	<0.001
PR/EWM/WP/DOS	25-Apr-18			EB1810438020	<0.001	<0.0005	<0.0005	0.0127	0.0614	0.0309	0.0921	0.926	0.935	<0.002	0.0291	0.0065	0.0008	0.0114	0.0031	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0036	0.0083	<0.001	0.746	0.02	<0.001	<0.001	<0.001
PR/EWM/WP/DOS	04-Jul-18			EB1816377026	<0.005	<0.002	<0.002	0.0022	0.0272	0.0298	0.057	0.977	0.999	<0.002	0.0674	0.0114	<0.002	0.0046	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.795	0.039	0.022	<0.005	<0.005

Notes:
"<" Denotes below detection limit and is in grey font.
"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the Australian Government Department of the Environment and Energy)

Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 [a]

Health-based guidance values – Drinking Water NEMP 2018 [a]

Health-based guidance values – Recreational Water NEMP 2018 (a)

					N-Methyl PFO sulfonamide (MeFOSA)	Perfluorooctane sulfonamide (FOSA)	N-ethyl-PFO sulfonamidoacetic acid (EtFOSAA)
					µg/L	µg/L	µg/L
EQL					0.001	0.0005	0.0005
Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 (a)							
Health-based guidance values – Drinking Water NEMP 2018 (a)							
Health-based guidance values – Recreational Water NEMP 2018 (a)							
Location Code	**Sampled Date**	**Drainage Catchment**		**Lab Sample ID**			
SP/BOT	23-Apr-18	Pine River Catchment	Andoom Mine Area	EB1810438015	<0.001	<0.0005	<0.0005
SP/ELY/MS3	23-Apr-18			EB1810438017	<0.001	<0.0005	<0.0005
PR/AND/DOS	24-Apr-18	Mission River Catchment	Andoom Mine	EB1810438024	<0.001	<0.0005	<0.0005
PR/AND/DOS	04-Jul-18			EB1816377017	<0.001	<0.0005	<0.0005
PR/AND/HEQW	23-Apr-18			EB1810438012	<0.001	<0.0005	<0.0005
SP/ELY/MS1	23-Apr-18			EB1810438023	<0.001	<0.0005	<0.0005
SP/TDC/UPS	23-Apr-18			EB1810438014	<0.001	<0.0005	<0.0005
SW/LUT/UPS	23-Apr-18			EB1810438031	<0.001	<0.0005	<0.0005
SP/AND/SLTS	23-Apr-18			EB1810438016	<0.001	<0.0005	<0.0005
PR/AND/WS	23-Apr-18		AHEQ	EB1810438013	<0.005	<0.002	<0.002
PR/AND/WS/DOS	23-Apr-18			EB1810438021	<0.001	<0.0005	<0.0005
MRC/DOS	24-Apr-18		East Weipa Mine Area	EB1810438019	<0.001	<0.0005	<0.0005
MRC/DOS	04-Jul-18			EB1816377025	<0.001	<0.0005	<0.0005
MRC/UPS	24-Apr-18			EB1810438018	<0.001	<0.0005	<0.0005
SW/PAP/DOS	24-Apr-18			EB1810438009	<0.001	<0.0005	<0.0005
SW/PAP/UPS	24-Apr-18			EB1810438008	<0.001	<0.0005	<0.0005
SW/TRC/UPS	24-Apr-18			EB1810438004	<0.001	<0.0005	<0.0005
SW/TRC/DOS	24-Apr-18		Weipa Peninsula	EB1810438005	<0.001	<0.0005	<0.0005
EMB/EV/NSA	04-Jul-18	Embely River Catchment	Evans Landing	EB1816377019	<0.001	<0.0005	<0.0005
EMB/EV/NSB	04-Jul-18			EB1816377020	<0.001	<0.0005	<0.0005
EMB/EV/NSC	04-Jul-18			EB1816377021	<0.001	<0.0005	<0.0005
EMB/LP/NSA	04-Jul-18		Lorim Point	EB1816377022	<0.001	<0.0005	<0.0005
EMB/LP/NSB	04-Jul-18			EB1816377023	<0.001	<0.0005	<0.0005
EMB/LP/NSC	04-Jul-18			EB1816377024	<0.001	<0.0005	<0.0005
SW/BEN/DOS	24-Apr-18		East Weipa Mine	EB1810438003	<0.001	<0.0005	<0.0005
SW/BEN/DOS	04-Jul-18			EB1816377018	<0.001	<0.0005	<0.0005
SW/BEN/UPS	24-Apr-18			EB1810438002	<0.001	<0.0005	<0.0005
SW/MAR/DOS	24-Apr-18			EB1810438011	<0.001	<0.0005	<0.0005
SW/MAR/UPS	24-Apr-18			EB1810438010	<0.001	<0.0005	<0.0005
LAKE/MCL	24-Apr-18		Weipa Peninsula	EB1810438006	<0.001	<0.0005	<0.0005
LAKE/PAT	24-Apr-18			EB1810438007	<0.001	<0.0005	<0.0005
PR/EWM/WP	25-Apr-18		EWHEQ	EB1810438001	<0.001	<0.0005	<0.0005
PR/EWM/WP/DOS	25-Apr-18			EB1810438020	<0.001	<0.0005	<0.0005
PR/EWM/WP/DOS	04-Jul-18			EB1816377026	<0.005	<0.002	<0.002

Notes:
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"-" - Not analysed
(a) NEMP 2018. PFAS National Environmental Management Plan. HEPA (Heads of EPA's Australia and New Zealand and the Australian Government Department of the Environment and Energy)

Aquatic Ecosystem Freshwater/Marine 99% species protection NEMP 2018 [a]
Health-based guidance values – Drinking Water NEMP 2018 [a]
Health-based guidance values – Recreational Water NEMP 2018 (a)

APPENDIX I

Important Information

The document ("Report") to which this page is attached and which this page forms a part of, has been issued by Golder Associates Pty Ltd ("Golder") subject to the important limitations and other qualifications set out below.

This Report constitutes or is part of services ("Services") provided by Golder to its client ("Client") under and subject to a contract between Golder and its Client ("Contract"). The contents of this page are not intended to and do not alter Golder's obligations (including any limits on those obligations) to its Client under the Contract.

This Report is provided for use solely by Golder's Client and persons acting on the Client's behalf, such as its professional advisers. Golder is responsible only to its Client for this Report. Golder has no responsibility to any other person who relies or makes decisions based upon this Report or who makes any other use of this Report. Golder accepts no responsibility for any loss or damage suffered by any person other than its Client as a result of any reliance upon any part of this Report, decisions made based upon this Report or any other use of it.

This Report has been prepared in the context of the circumstances and purposes referred to in, or derived from, the Contract and Golder accepts no responsibility for use of the Report, in whole or in part, in any other context or circumstance or for any other purpose.

The scope of Golder's Services and the period of time they relate to are determined by the Contract and are subject to restrictions and limitations set out in the Contract. If a service or other work is not expressly referred to in this Report, do not assume that it has been provided or performed. If a matter is not addressed in this Report, do not assume that any determination has been made by Golder in regards to it.

At any location relevant to the Services conditions may exist which were not detected by Golder, in particular due to the specific scope of the investigation Golder has been engaged to undertake. Conditions can only be verified at the exact location of any tests undertaken. Variations in conditions may occur between tested locations and there may be conditions which have not been revealed by the investigation and which have not therefore been taken into account in this Report.

Golder accepts no responsibility for and makes no representation as to the accuracy or completeness of the information provided to it by or on behalf of the Client or sourced from any third party. Golder has assumed that such information is correct unless otherwise stated and no responsibility is accepted by Golder for incomplete or inaccurate data supplied by its Client or any other person for whom Golder is not responsible. Golder has not taken account of matters that may have existed when the Report was prepared but which were only later disclosed to Golder.

Having regard to the matters referred to in the previous paragraphs on this page in particular, carrying out the Services has allowed Golder to form no more than an opinion as to the actual conditions at any relevant location. That opinion is necessarily constrained by the extent of the information collected by Golder or otherwise made available to Golder. Further, the passage of time may affect the accuracy, applicability or usefulness of the opinions, assessments or other information in this Report. This Report is based upon the information and other circumstances that existed and were known to Golder when the Services were performed and this Report was prepared. Golder has not considered the effect of any possible future developments including physical changes to any relevant location or changes to any laws or regulations relevant to such location.

Where permitted by the Contract, Golder may have retained subconsultants affiliated with Golder to provide some or all of the Services. However, it is Golder which remains solely responsible for the Services and there is no legal recourse against any of Golder's affiliated companies or the employees, officers or directors of any of them.

By date, or revision, the Report supersedes any prior report or other document issued by Golder dealing with any matter that is addressed in the Report.

Any uncertainty as to the extent to which this Report can be used or relied upon in any respect should be referred to Golder for clarification