

Table A2. AFFF Bulk samples - Per- and Poly-Fluoroalkyl Substances (PFAS) Pre and Post TOPA ¹

Sample Name	DNB_BLK_003_1_0203	DNB_BLK_003_1_0203	OHA_BLK_007_1_2202	OHA_BLK_007_1_2202
Location	DPT_BLK003		OHA_BLK007	
Laboratory Report Number	598344		598344	
Sample Date	4/03/2018	5/03/2018	28/02/2018	1/03/2018
Product name	Lightwater		3 % Angus Tridol-S AFFF	
TOPA (Pre/Post)	Pre- TOPA	Post- TOPA	Pre- TOPA	Post- TOPA
Sample Results				
4:2 FTSA	< LOR	< LOR	70	< LOR
6:2 FTSA	< LOR	< LOR	< LOR	< LOR
8:2 FTSA	< LOR	< LOR	630	< LOR
10:2 FTSA	< LOR	< LOR	1,100	< LOR
NETFOSAA	< LOR	< LOR	< LOR	< LOR
NETFOSA	< LOR	< LOR	< LOR	< LOR
NETFOSE	< LOR	< LOR	< LOR	< LOR
NMeFOSAA	< LOR	< LOR	< LOR	< LOR
NMeFOSA	< LOR	< LOR	< LOR	< LOR
NMeFOSE	< LOR	< LOR	< LOR	< LOR
PFOA	70,000	240,000	2,700	37,000
PFBA	27,000	550,000	360	460,000
PFBS	140,000	130,000	< LOR	< LOR
PFDA	< LOR	920	230	10,000
PFDS	2,400	27,000	< LOR	< LOR
PFHpA	31,000	74,000	66	160,000
PFHpS	130,000	130,000	< LOR	< LOR
PFHxA	130,000	2,190,000	2,900	430,000
PFNA	< LOR	1,700	< LOR	24,000
PFOSA	< LOR	< LOR	< LOR	< LOR
PFPeA	30,000	530,000	280	1,160,000
PFPeS	120,000	150,000	< LOR	< LOR
PFTeDA	< LOR	< LOR	< LOR	< LOR
PFTyDA	< LOR	< LOR	< LOR	< LOR
PFUnDA	< LOR	230	< LOR	6,000
PFDoDA	< LOR	330	< LOR	2,800
Total PFHxS	1,010,000	910,000	< LOR	< LOR
Total PFOS	6,030,000	6,140,000	< LOR	< LOR
Sum PFHxS+PFOS2	7,040,000	7,050,000	< LOR	< LOR

Notes.
1. All values in ug/L

< LOR	Below the Limit of reporting
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Appendix B

Laboratory Results

Table B1. On-site Groundwater Sampling Results - Per- and Poly Fluoroalkyl Substances (PFAS) ¹

Sample Name	Location	Laboratory Report	Sample Date	PFAS in Groundwater																																									
				PFBA	PFPeA	PFHxA	PFHpA	PFDA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTEdA	PFPPS	PFBS	PFPeS	PFHPS	PFNS	PFDS	ΣPFAS (1) ²	monoPFAS (1) ³	ΣPFAS (1) ³	Total PFAS (1) ⁴	ΣPFOS (1) ⁵	monoPFOS (1) ⁶	ΣPFOS (1) ⁶	Total PFOS (1) ⁶	Sum PFAS+PFOS (1) ⁷	PFOS-A	NIPOSA-A	NIPOSA-A	NIPOSE-M	NIPOSE-M	NIPOSA-M	NIPOSA-M	Σ2 FTS	Σ3 FTS	Σ4 FTS						
BHC	OHA_TFM_BHC	1186580	4/07/2018	0.013	0.028	0.035	0.012	0.013	0.0014	<0.001	<0.001	-	-	-	0.0026	0.0078	0.0086	0.0062	<0.001	<0.001	<0.001	0.018	0.11	0.13	0.0028	0.044	0.083	0.13	0.26	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0073	0.0042

Notes:

1. All values are in µg/L.
2. Concentration determined using a branched isomer standard (399-B0 transition).
3. Concentration determined using a linear isomer standard (399-B0 transition).
4. Total PFOS, PFHxS are calculated by summing monoethyl-, dimethyl- and linear isomers. Where an isomer is below the detection limit it is not added to the summation. This is following the method in the reported lab results.
5. Concentration determined using a branched isomer standard (499-B0 transition).
6. Concentration determined using a linear isomer standard (499-B0 transition).
7. Summations are made by adding compounds Total PFOS (7), Total PFHxS (3) together. Where one compound is below detection, it is not included in the summation.
8. Estimated result.
9. Only samples above the Limit of Reporting (LOR) were included in the calculations. Median concentration was not calculated when there were less than three samples above LOR.

<0.001	Result is less than the limit of reporting.
-	Result unavailable.
NC	Not calculated.

Table B4. Off-site Surface Water Sampling Results - Per- and Poly-Fluoroalkyl Substances (PFAS) 1

Sample Name	Location	Lab Report Number	Sample Date	PFAS in Surface Water																																				
				PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTEdA	PFHpA	PFHxA	PFH2A	PFH3A	PFH4A	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTEdA	PFHpA	PFHxA	PFH2A	PFH3A	PFH4A	PFOSA	NEFOsAA	NMeFOsAA	NEFOsA-M	NMeFOsA-M	NEFOsA-M	NEFOsA-M	NEFOsA-M	4:2 FTS	6:2 FTS	8:2 FTS		
ANZECC 90% Species Protection - Technical Draft Default Guideline Values ⁸				0.0074	0.013	0.011	0.0039	0.0021	<0.001	<0.001	<0.001	<0.025	<0.025	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
ANZECC 95% Species Protection - Technical Draft Default Guideline Values ⁸				0.0084	0.017	0.013	0.0052	0.0014	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
FTA_SW4	OHA_MAK_SW4	1186578	3/07/2018	0.0074	0.013	0.011	0.0039	0.0021	<0.001	<0.001	<0.001	<0.025	<0.025	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
FTA_SW4	OHA_MAK_SW4	841470	4/08/2017	0.0084	0.017	0.013	0.0052	0.0014	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Table B8. Off-site Fish Sampling Results - Per- and Poly-Fluoroalkyl Substances (PFAS) ¹

Sample Name	Location	Sample Date	Laboratory Report	Scientific Name	Common Name	PFAS in Fish																																														
						- PFBA	- PFPeA	- PFHxA	- PFHpA	- PFDA	- PFNA	- PFDA	- PFUnDA	- PFDODA	- PFTrDA	- PFTeDA	- PFP'S	- PFBS	- PFPeS	- PFHpS	- PFNS	- PFDS	- di-PFAS (1)	- mono-PFAS (1)	- L-PFAS (1)	- Total PFAS (3) ²	- di-PFOS (5)	- mono-PFOS (5)	- L-PFOS (5)	- Total PFOS (7) ²	- Sum PFAS+PFOS (1) ³	- PFOSA	- NEFOSA-M	- NMeFOSA-M	- NEFOSAA	- NMeFOAAA	- NEFOSE-M	- NMeFOSE-M	- 4:2 FTS	- 6:2 FTS	- 8:2 FTS											
						<0.5	<0.25	<0.25	0.25	0.43	<0.25	<0.25	<0.25	<2.5	-	-	<0.25	<0.25	<0.25	<0.25	0.87	<0.25	<0.25	<0.25	<0.25	5.1	5.1	<0.25	9.8	2.8	13	18	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25				
OHA_ADJ_FS1.1_270618 ⁵	OHA_ADJ_FS1	27/06/2018	1177947	Anguilla sp.	Eel	<0.5	<0.25	<0.25	0.25	0.43	<0.25	<0.25	<0.25	<2.5	-	-	<0.25	<0.25	<0.25	<0.25	<0.25	5.1	5.1	<0.25	9.8	2.8	13	18	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25						
OHA_ADJ_FS1.1B_270618	OHA_ADJ_FS1	27/06/2018	1177947	Anguilla sp.	Eel	<0.5	<0.25	<0.25	<0.25	0.37	<0.25	<0.25	<0.25	<2.5	-	-	<0.25	<0.25	<0.25	<0.25	<0.25	1.1	<0.25	<0.25	<0.25	<0.25	<0.25	3.6	3.6	<0.25	8.5	6.7	15	19	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
OHA_ADJ_FS1.3_270618	OHA_ADJ_FS1	27/06/2018	1177947	Gobiomorphus cotidanus	Bully	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<12	<12	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	0.59	0.59	<0.25	1.8	22	24	25	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
OHA_ADJ_FS2.1_280618 ⁵	OHA_ADJ_FS2	28/06/2018	1177947	Anguilla sp.	Eel	<0.5	<0.25	<0.25	<0.25	0.48	0.83	0.31	0.31	<2.5	-	-	<0.25	<0.25	<0.25	<0.25	<0.25	0.59	0.59	<0.25	1.8	22	24	25	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
OHA_ADJ_FS2.2_280618	OHA_ADJ_FS2	28/06/2018	1177947	Cyprinus carpio	Carp	<0.25	<0.25	<0.25	<0.25	0.95	1.7	0.71	0.71	<2.5	<12	<12	<0.25	<0.25	<0.25	<0.25	<0.25	0.62	0.62	<0.25	9.6	70	80	81	1	<0.5	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_FS3.2_280618	OHA_ADJ_FS3	28/06/2018	1177947	Cyprinus carpio	Carp	<0.25	<0.25	<0.25	<0.25	0.31	0.46	0.3	0.3	<2.5	<12	<12	<0.25	<0.25	<0.25	<0.25	<0.25	0.62	0.62	<0.25	9.6	70	80	81	1	<0.5	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_FS4.1_290618	OHA_ADJ_FS4	29/06/2018	1177947	Anguilla sp.	Eel	0.56	<0.25	0.45	0.6	0.37	1	0.46	0.36	<2.5	-	-	<0.25	<0.25	<0.25	<0.25	<0.25	1.8	1.8	<0.25	3.3	28	31	33	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Statistical Summary																																																				
Number of Results	7	7	7	7	7	7	7	7	7	3	3	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7						
Number of Detects	1	0	1	2	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	7	7	7	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0						
Minimum Concentration	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<12	<12	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	2.8	11	13	<0.25	<0.25	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25				
Maximum Concentration	0.56	<0.25	0.45	0.6	0.48	1	1.7	0.71	<2.5	<12	<12	<0.25	<0.25	<0.25	<0.25	1.1	<0.25	<0.25	<0.25	<0.25	5.1	5.1	<0.25	9.8	70	80	81	1	<0.5	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25				
Number of Guideline Exceedances	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	7	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Median Concentration ⁶	NC	NC	NC	NC	0.4	0.89	0.46	0.36	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	1.9	1.9	NC	6.1	22	23	23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC					

Notes:
1. All values are in µg/kg.
2. Total PFOS, PFHxS are calculated by summing monoethyl, dimethyl and linear isomers. Where an isomer is below the detection limit it is not added to the summation. This is following the method in the reported lab results.
3. Summations are made by adding compounds Total PFOS (7), Total PFHxS (3) together. Where one compound is below detection, it is not included in the summation.
4. <https://www.health.gov.au/internet/main/publishing.nsf/Content/2200FE086D48033CA2580C90817CDC5F1e/Consolidated-report-perfluorinated-chemicals-food.pdf>. Accessed 12/02/19.
5. Sample was a composite of two or more eels.
6. Only samples above the Limit of Reporting (LOR) were included in the calculations. Median concentration was not calculated when there were less than three samples above LOR.

<0.25	Result is less than the limit of reporting
-	Result/guideline unavailable
41	Shaded - Exceeds Human Health Trigger Point for Investigation
NA	Not applicable
NC	Not calculated

Table B11. Off-site Meat Sampling Results - Per- and Poly-Fluoroalkyl Substances (PFAS) ¹

					PFAS in Meat																																		
					PFBA	PFPeA	PFHxA	PFHpA	PFDA	PFNA	PFDA	PFUNDA	PFDoDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	PFTrDA	
					28																																		
Human Health Trigger Points for Investigation - Meat Mammalian ⁴																																							
Sample Name	Location	Sample Date	Laboratory Report	Description																																			
OHA_ADJ_CA3_1_090318	OHA_ADJ_CA3	9/03/2018	1090733	Beef meat	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
OHA_ADJ_MT1_1_230218	OHA_ADJ_MT1	23/02/2018	1056231	Beef meat	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_MT2_1_230218	OHA_ADJ_MT2	23/02/2018	1056231	Beef meat	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_MT3_1_160518	OHA_ADJ_MT3	16/05/2018	1147311	Beef meat	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_MT6_280618	OHA_ADJ_MT6	28/06/2018	1178156	Beef meat	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_MT4_1_160518	OHA_ADJ_MT4	16/05/2018	1147312	Lamb meat	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_MT5_1_160518	OHA_ADJ_MT5	16/05/2018	1147312	Lamb meat	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
OHA_ADJ_PORK01_1_040718	OHA_ADJ_PORK01	4/07/2018	1180683	Pork meat	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Statistical Summary																																							
Number of Results		8	8	8	8	8	8	8	8	7	5	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
Number of Detects		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration		<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Maximum Concentration		<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Number of Guideline Exceedances		NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Median Concentration ⁵		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	

Notes:
 1. All values are in µg/kg.
 2. Total PFOS, PFHxS are calculated by summing monoethyl, dimethyl and linear isomers. Where an isomer is below the detection limit it is not added to the summation. This is following the method in the reported lab results.
 3. Summations are made by adding compounds Total PFOS (7), Total PFHxS (3) together. Where one compound is below detection, it is not included in the summation.
 4. [https://www.health.gov.au/internet/main/publishing.nsf/content/2200FE08D480353CA2580C900817C0C/\\$File/Consolidated-report-perfluorinated-chemicals-food.pdf](https://www.health.gov.au/internet/main/publishing.nsf/content/2200FE08D480353CA2580C900817C0C/$File/Consolidated-report-perfluorinated-chemicals-food.pdf). Accessed 12/02/19.
 5. Only samples above the Limit of Reporting (LOR) were included in the calculations. Median concentration was not calculated when there were less than three samples above LOR.

<0.001	Result is less than the limit of reporting
-	Result/ guideline unavailable
0.56	Shaded - Exceeds Human Health Trigger Point for Investigation
NA	Not applicable
NC	Not calculated

Table B12. Off-site Offal (Beef) Sampling Results - Per- and Poly-Fluoroalkyl Substances (PFAS) ¹

				PFAS in Offal Mammalian																																															
				PFBA	PFPeA	PFHxA	PFHpA	PFDA	PFNA	PFDA	PFUnDA	PFDoDA	PFTDA	PFTODA	PFHFIS	PFES	PFPS	PFHpS	PFNS	PFDS	di-PFHs (1)	mono-PFHs (1)	L-PFHs (1)	Total PFHs (3) ¹	di-PFOS (5)	mono-PFOS (5)	L-PFOS (5)	Total PFOS (7) ²	Sum PFHs+PFOS (1) ³	PFOSA	NEFOSAA	NIeFOSAA	NEFOSE-M	NIeFOSE-M	NEFOSA-M	NIeFOSA-M	4,2-FTS	6,2-FTS	8,2-FTS												
Human Health Trigger Points for Investigation - Offal Mammalian ⁴				-	-	-	-	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Sample Name	Location	Sample Date	Laboratory Report	<5	<1	<1	<1	<1	<1	<1	<1	<5	-	-	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	2.9	5	7.9	7.9	<1	<1	<1	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1					
OHA_ADJ_CA1_1_090318	OHA_ADJ_CA1	9/03/2018	1090733	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	-	-	-	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25	0.92	0.92	<0.25	1.6	3.2	4.8	5.7	<2.5	<2.5	<2.5	<12	<12	-	-	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25					
Statistical Summary				2	2	2	2	2	2	2	2	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2					
Number of Results				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Number of Detects				<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	NA	NA	NA	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<1	<1	<1	<1	<1	1.6	3.2	4.8	5.7	<2.5	<2.5	<2.5	<12	<12	NA	NA	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
Minimum Concentration				<5	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	<1	<1	<1	<1	<1	<1	<5	<1	<1	0.92	0.92	<1	2.9	5	7.9	7.9	<1	<1	<1	<5	<5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Maximum Concentration				NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Number of Guideline Exceedances				NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
 1. All values are in µg/kg.
 2. Total PFOS, PFHs are calculated by summing monoethyl, dimethyl and linear isomers. Where an isomer is below the detection limit it is not added to the summation. This is following the method in the reported lab results.
 3. Summations are made by adding compounds Total PFOS (7), Total PFHs (3) together. Where one compound is below detection, it is not included in the summation.
 4. <https://www.health.gov.au/internet/main/publishing.nsf/Content/2200FE086D480353CA2580C900817CDC5File/Consolidated-report-perfluorinated-chemicals-food.pdf>. Accessed 12/02/19.

<0.25	Result is less than the limit of reporting.
-	Result/ guideline unavailable
264	Shaded - Exceeds Human Health Trigger Point for Investigation
NA	Not applicable

Table B13. Off-site Milk Sampling Results - Per- and Poly-Fluoroalkyl Substances (PFAS) ¹

				PFAS in Goat Milk																																			
	PFBA	PFPA	PFHA	PFHpA	PFCA	PFNA	PEDA	PFLnDA	PFDoDA	PFTDA	PFTeDA	PFPS	PFBS	PFNS	PFHS	PFNS	PFDS	Hi-PFHs (1) ²	mono-PFHs (1) ²	L-PFHs (1) ³	Total PFHs (3) ⁴	mono-PFOS (5) ⁵	Hi-PFOS (5) ⁵	L-PFOS (5) ⁵	Total PFOS (7) ³	Sum PFHs+PFOS (7) ⁷	PFOSA	NEFOSAA	NMFOFAA	NEFOE-M	NMFOE-M	NEFOSA-M	NMFOFA-M	M2 FTS	M2 FTS	M2 FTS			
Human Health Trigger Points for Investigation - Milk ⁸	-	-	-	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Location	Sample Date	Laboratory report																																				
OHA_ADJ_MK1_1_121217	OHA_ADJ_MK1	12/12/2017	989045	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
OHA_ADJ_MK1_2_140218	OHA_ADJ_MK1	14/02/2018	1034053	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Statistical Summary																																							
Number of Results	2	2	2	2	2	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	1	1	1	1	1	2	2	2		
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Concentration	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Number of Guideline Exceedances	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:
 1. All values are in µg/L.
 2. Concentration determined using a branched isomer standard (399>80 transition).
 3. Concentration determined using a linear isomer standard (399>80 transition).
 4. Total PFOS, PFHs are calculated by summing monoethyl, dimethyl and linear isomers. Where an isomer is below the detection limit it is not added to the summation. This is following the method in the reported lab results.
 5. Concentration determined using a branched isomer standard (499>80 transition).
 6. Concentration determined using a linear isomer standard (499>80 transition).
 7. Summations are made by adding compounds Total PFOS (7), Total PFHs (3) together. Where one compound is below detection, it is not included in the summation.
 8. [https://www.health.gov.au/internet/main/publishing.nsf/Content/2200FE086D480353CA2580C900817CDC/\\$File/Consolidated-report-perfluorinated-chemicals-food.pdf](https://www.health.gov.au/internet/main/publishing.nsf/Content/2200FE086D480353CA2580C900817CDC/$File/Consolidated-report-perfluorinated-chemicals-food.pdf). Accessed 12/02/19.

<0.1	Result is less than the limit of reporting
-	Result/ guideline unavailable
2.8	Shaded - Exceeds Human Health Trigger Point for Investigation
NA	Not applicable

Appendix C

Molar Concentration

Table C1. Molarity of seven PFAS compounds^{1,2}

	Total PFOS (7)	Total PFHxS (3)	PFOA	6:2 FTS	PFBA	PFHxA	PFPeA
MW4	0.00300	0.00142	0.00072	0.00191	0.00094	0.00236	0.00379
GW45	0.00044	0.00042	0.00011	0.00004	0.00028	0.00057	0.00080
GW29	0.00052	0.00037	0.00009	0.00002	0.00027	0.00057	0.00083
GW2	0.00024	0.00112	0.00027	0.00006	0.00032	0.00076	0.00106
GW30	0.00024	0.00107	0.00020	0.00001	0.00023	0.00054	0.00072

Notes.

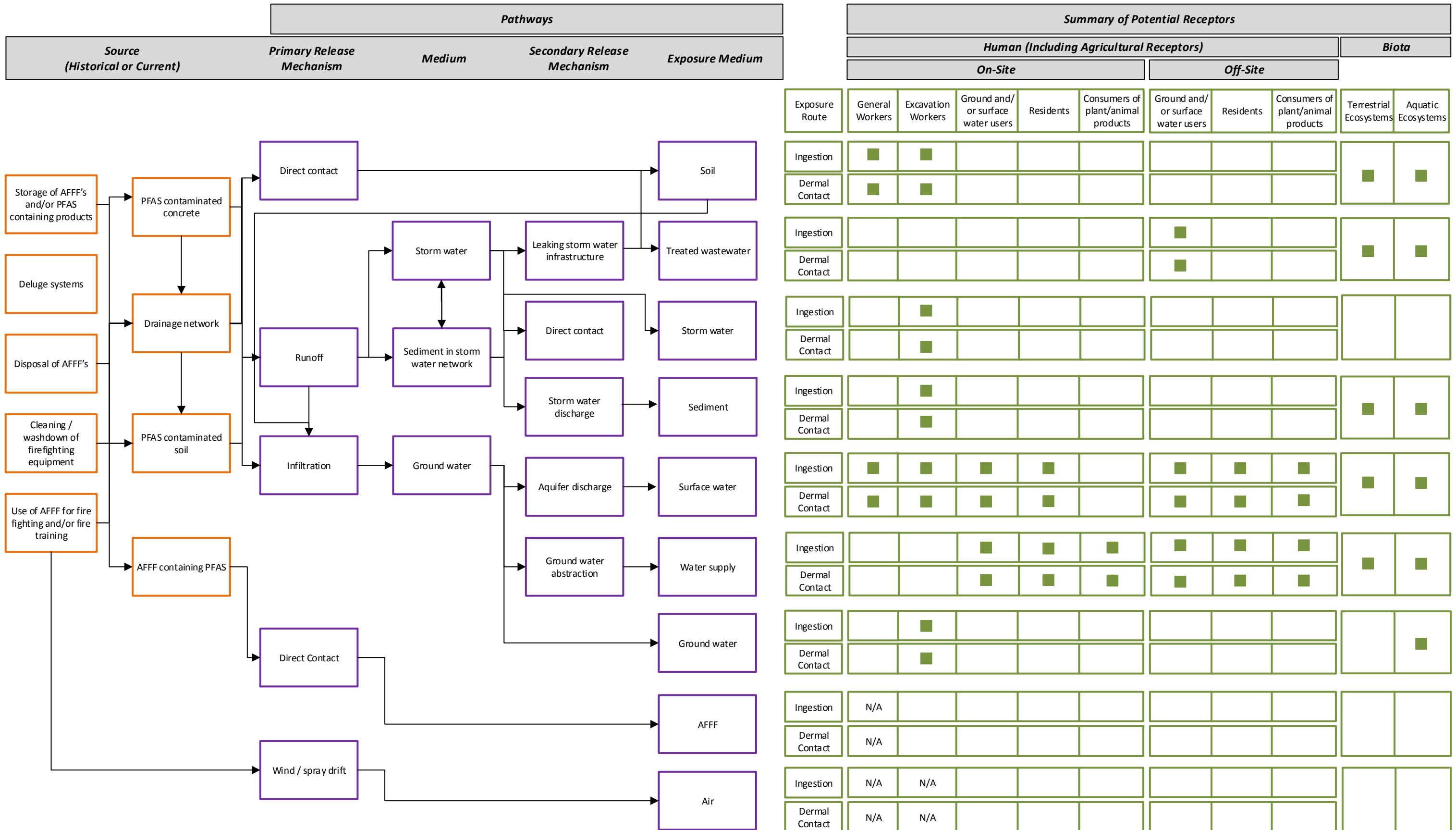
1. Results are from a single sampling round.

2. Units in $\mu\text{mol/L}$

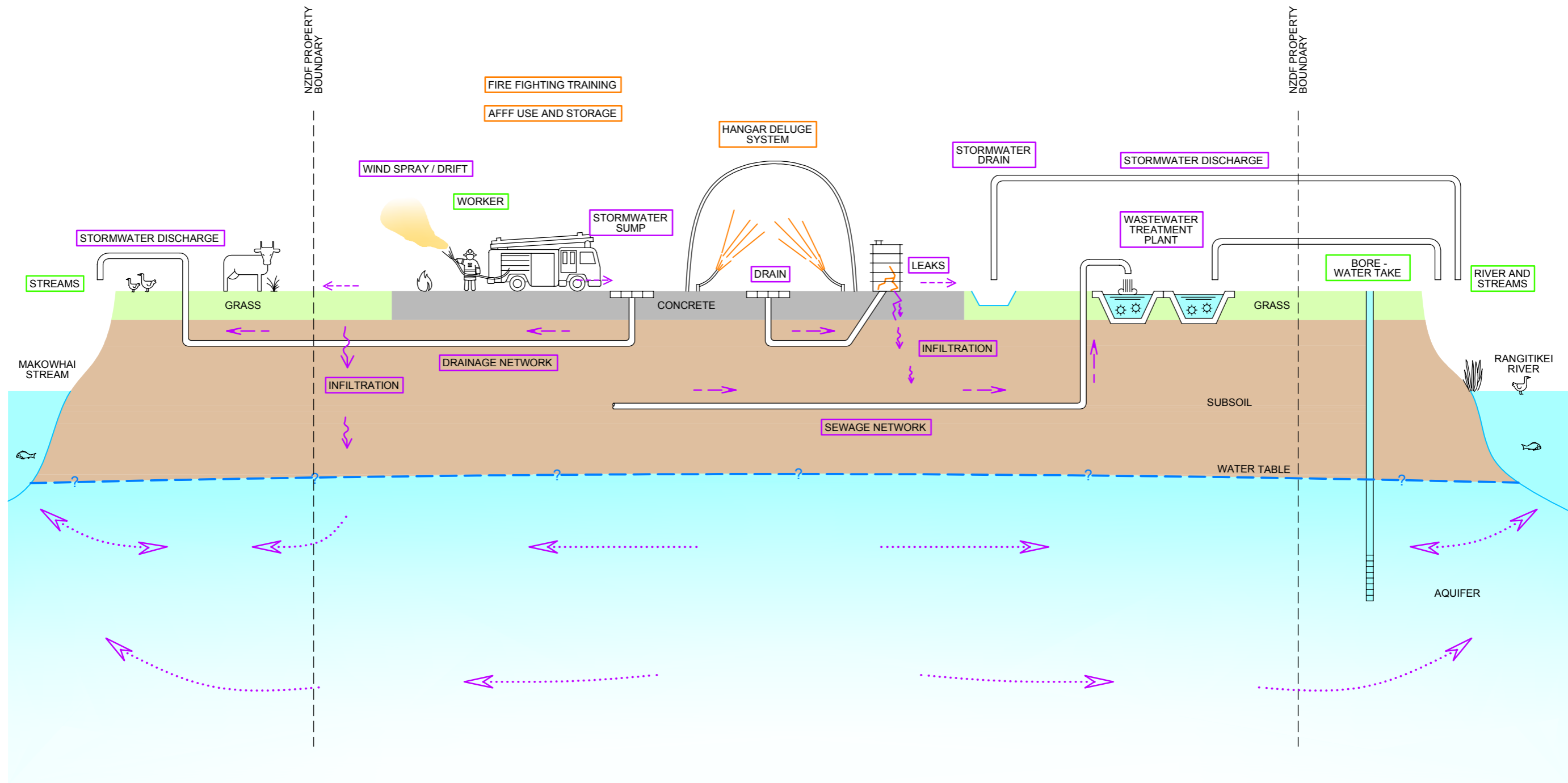
Appendix D

CSM

Conceptual Site Model – RNZAF Base Ohakea



Key:
■ Potentially Complete Pathway
 Incomplete Pathway
N/A Addressed under the Health and Safety at Work Act, 2015



NOTE:
SOURCES, PATHWAYS AND RECEPTORS ARE
SHOWN FOR EASE OF DISPLAY AND DO NOT
REPRESENT THEIR ACTUAL LOCATION.

FIGURE D-1: RNZAF BASE OHAKEA - PFAS CONCEPTUAL SITE MODEL

KEY	
	SOURCE
	PATHWAY
	RECEPTOR

Summary Conceptual Site Model

Primary Sources (Historic and Current)

Firefighting training
AFFF handling and storage
Deluge system
Cleaning/wash-down of
firefighting equipment

Secondary Sources

Groundwater
Stromwater
Soil
Sediment
Concrete
Concrete tanks and pipeworks

Pathways

Stormwater runoff
Soil entrained in stormwater
Infiltration to groundwater
Ingestion
Dermal contact

Receptors

Terrestrial environment
Aquatic environment
On-site workers
On-site residents
Off-site residents
Humans consumers of animal/
plant products