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Table 1 - Potential and Confirmed PFAS Source Areas
HHERA
Norfolk Island Airport
17776

PFAS Source Area Number	Name of Area	Surface Water Catchment	Confirmed or Potential PFAS Source Area	Source Type	Time of Use (re: Legacy AFFF)	Description of Activity	Description of Area / Infrastructure	Volumes of AFFF used/ stored/ lost	Regularity of Use / activity / testing	State of AFFF Product (Concentrate, Foam, Waste Water)	Approximate Size of Source Area	Number of Soil/Sediment Samples	Average of Concentrations of PFOS+PFHxS (mg/kg)	Photographic Reference	Additional information
GROUP 1 SOURCE AREAS															
1	Former Fire Station and Foam Shed	Mission Creek	Confirmed	Primary	Up until approximately 2009.	The former fire station was located adjacent to the airport terminal and was the main fire station for the entire Island. The station was used to house fire trucks and fire fighting gear. A small wooden shed to the west of the station was used to store AFFF concentrate.	A number of small wooden buildings are still present near council facility. A portion of the freight storage facility. Buildings are still present and contain concrete hardstand both inside and surrounding the buildings.	Unknown	Daily	Concentrate, foam, waste water					The topography of the ground surface in these areas would allow drainage of any surface water run-off towards Mission Creek.
2	Former Flushing Out Area	Mission Creek	Confirmed	Primary	Up until approximately 2009.	Large area where fire trucks were washed out after each training session. Area was unsealed and runoff into a low point where infiltration into aquifer may have occurred.	Area to the south west of the former fire station. Unsealed, small concrete drain.	Unknown	Daily	Foam, waste water					
3	Former Drill Ground	Mission Creek	Confirmed	Primary	Unknown - mid-1990s.	Practice using AFFF to put out fires, mostly on cars that were used for 4 - 5 events then sent to tip (most often off the edge).	Former Drill Ground / Current Waste Management Centre	Unknown	Weekly	Foam, waste water					
4	Current Drill Ground	Mission Creek	Confirmed	Primary	Mid-1990's to current.	Training area for fire fighting. Anecdotal evidence that PCB oils and heavy metals were present and potentially pushed into the gully.	Fire Training area that is currently being used for the resurfacing of the airport.	220 KL of foam used (Mainly on Drill Ground) from 1997 to 2015	Weekly	Foam, waste water					
5	Maintenance Sheds	Mission Creek	Confirmed	Primary	Not confirmed.	Flushing out during maintenance of fire trucks.	L Shaped Building near runway.	Unknown	Weekly	Foam, waste water					Surface water run-off could potentially drain towards Watermill Creek.
6	Current Fire Station	Town / Watermill Creek	Confirmed	Primary	Approx. 10 years	Storage and use of AFFF. Flushing out all around the station on unsealed ground.	Approximately 10 year old facility.	Unknown	Daily	Concentrate, foam, waste water					
GROUP 2 SOURCE AREAS															
7	The Common Oval	Town / Watermill Creek	Potential	Primary	Not confirmed.	Area on Quality Row that was used to create snow at Christmas time.	Oval - unsealed.	Unknown	Historically done annually.	Unknown					Anedotal information suggests that AFFF may not have been used, potential for this to have occurred during Protein Foam use.
8	St Barnabus Chapel Paddock	Mission Creek	Potential	Primary	Annual training. Specific times are unknown.	Aerodrome Emergency Plan (AEP Annual Training) - West of St Barnabus Chapel.	Unsealed cattle paddock to the west of the chapel. The area is steeply sloped from the chapel down to Mission Creek.	Unknown	Annual	Unknown					Anedotal information suggests that AFFF was used in this area to create slippery slides down the hill towards Mission Creek.
9	Works depot / Former fire truck storage	Broken Bridge / Cas	Confirmed	Secondary	Not confirmed.	Drains into Cascade Creek. New Cascade Road		Unknown	Unknown	Unknown					
10	Ball Bay Refuelling Area	Cascade / Stockyard Creek	Potential	Primary	Not confirmed.	Council managed facility adjacent to Mobil.		Unknown	Unknown	Unknown					
11	Wastewater Treatment Plant / Stormwater Drains	Mission Creek	Confirmed	Secondary	Not confirmed.	Wastewate treatment plant and stormwater drains likely to be have PFAS impacted water present.	Sewerage Treatment Plant is located on the airport land. Stormwater drains are located on and off the airport.	Unknown	NA	Waste water					Further information required.
GROUP 3 SOURCE AREAS															
12	Private residence - Webb Adams Road	Cascade / Stockyard Creek	Potential	Primary	Not confirmed.	AFFF used in backyard 3 times per year - (anacdotal report)		Unknown	Annual	Unknown					
13	Paradise hotel previous Norfolk/colonial other	Town / Watermill Creek	Potential	Primary	Not confirmed.	Burnt down, 20 - 30 years ago unsure if foam was used		Unknown	Once	Unknown					
14	Perfumery	Town / Watermill Creek	Potential	Primary	Not confirmed.	Stored duty free goods (alcohol, perfume etc.) Burnt down 15 years ago and AFFF may have been used to fight the fire due to flammable goods / explosions.		Unknown	Once	Unknown					
15	Headstone Burning area	Headstone Creek	Potential	Primary	Not confirmed.	Burning of waste products containing PFAS likely to have occurred and left residue at this location. No known use of legacy AFFF at this location.		Unknown	Once	Unknown					
GROUP 4 SOURCE AREAS															
16	Public toilets filled by airport bore	Headstone Creek & Town / Watermill Creek	Potential	Secondary		Public toilets filled with airport bore water via truck. Potential PFAS contamination entering the septic tanks and associated flow fields.									
17	Hospital tank directly filled by Airport Bore	Town / Watermill Creek	Potential	Secondary		Hospital tank was filled by the airport bore. At times the hose was connected and left to overfill causing overflow into Broken Bridge Creek.									

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

Location Code			A_SB01	A_SB01	A_SB01	A_SB02	A_SB02	A_SB02	A_SB03	A_SB03	A_SB04	A_SB04	A_SB04	A_SB05	A_SB05	A_SB05	A_SB06	A_SB06	A_SB06	A_SB07	A_SB07	A_SB07	A_SB08	A_SB08	A_SB08	A_SB08	A_SB08	A_SB09
Field ID			A_SB01_0.1	A_SB01_0.5	A_SB01_1.0	A_SB02_0.1	A_SB02_0.5	A_SB02_1.5	A_SB03_0.1	A_SB03_0.4	A_SB04_0.1	A_SB04_0.5	A_SB04_1.0	A_SB05_0.1	A_SB05_0.4	A_SB05_1.0	A_SB06_0.1	A_SB06_0.5	A_SB06_1.5	A_SB07_0.1	A_SB07_0.4	A_SB07_1.5	A_SB08_0.1	A_SB08_0.4	A_SB08_1.0	QC04	QC05	A_SB09_0.1
Date			9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021
Depth			0.1	0.5	1	0.1	0.5	1.5	0.1	0.4	0.1	0.5	1	0.1	0.4	1	0.1	0.5	1.5	0.1	0.4	1.5	0.1	0.4	1	0.1	0.1	0.1
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS01	PS01	PS01	PS01	PS01	PS01	PS01	PS01	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02
Lab Report No.			ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	265850	ES2111279
	Unit	EQL																										
(n:2) Fluorotelomer Sulfonic Acids																												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	0.0043	0.0162	0.0019	<0.0005	<0.0005	<0.0005	0.132	0.201	<0.0005	0.0011	0.0064	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0005	<0.0005	0.0022	0.001	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.011	0.0092	<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	<0.0005	0.0008	0.0006	<0.0005
Perfluoroalkane Carboxylic Acids																												
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0014	0.0011	0.0012	0.002	0.0008	0.0004	0.0016	0.001	0.0024	0.0004	0.0014	0.0013	0.0002	0.0002	0.0008	0.0002	0.0002	0.0007	<0.0002	0.0004	0.0006	0.0003	<0.0002	0.0007	0.0005	0.0004
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0055	0.0005	0.0003	0.0012	<0.0002	<0.0002	0.0133	0.012	0.0024	0.0003	<0.0002	0.001	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	0.0034	0.0004	0.0002	0.004	0.003	0.0006
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0028	0.0034	0.0014	0.0015	0.0004	<0.0002	0.0032	0.0019	0.0011	<0.0002	0.0018	0.003	0.0008	0.001	0.001	<0.0002	<0.0002	0.0012	0.0006	0.0008	0.0008	0.0006	0.0006	0.0012	0.0007	0.0005
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0017	0.0009	0.001	0.002	0.0009	0.0003	0.0015	0.0009	0.0039	0.0004	0.0013	0.0028	0.0005	0.0005	0.0009	0.0004	0.0003	0.0007	0.0003	0.0006	0.0007	0.0004	<0.0002	0.0007	0.0008	0.0003
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0029	0.0015	<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	<0.0005	0.0007	<0.005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0014	0.0016	0.0012	0.001	0.0003	0.0002	0.0024	0.0015	0.001	0.0003	0.001	0.001	0.0002	0.0002	0.0008	<0.0002	<0.0002	0.0006	<0.0002	0.0003	0.0006	0.0003	<0.0002	0.0006	0.0006	0.0003
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.002	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.002	0.003	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0004	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0047	0.0042	0.0014	0.0007	<0.0002	<0.0002	0.0416	0.026	0.0011	0.0008	0.0025	0.0023	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	0.0014	0.0002	<0.0002	0.0031	0.0026	0.0014	0.0035	0.003	0.0008
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.0018	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0023	0.0017	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	0.0007	0.0006	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0051	0.0008	0.0004	0.001	<0.0002	<0.0002	0.0217	0.0176	0.0018	<0.0002	0.0003	0.0012	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.001	<0.0002	<0.0002	0.0045	0.0004	0.0004	0.0059	0.004	0.0005
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0043	0.008	0.004	0.0023	0.0016	0.001	0.0034	0.002	0.0041	0.001	0.0031	0.0024	0.0005	0.0005	0.0014	0.0006	0.0006	0.0011	0.0004	0.0011	0.001	0.0006	0.0003	0.0015	0.0011	0.0005
Perfluoroalkane Sulfonic Acids																												
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.277	3.28	0.843	0.0827	0.506	0.611	0.789	0.846	0.348	0.506	1.58	0.14	0.139	0.227	0.0683	0.161	0.269	0.0774	0.0813	0.34	0.047	0.0622	0.122	0.0804	0.046	0.0472
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	0.0008	0.0004	0.0005	0.0004	<0.0002	<0.0002	0.0005	0.0004	0.001	<0.0002	0.0005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0007	0.0004	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0135	0.0121	0.0075	0.008	0.0055	0.0044	0.0061	0.0041	0.0158	0.0019	0.0065	0.0046	0.0006	0.0009	0.0015	0.0006	0.001	0.0027	0.0006	0.0013	0.0035	0.0013	0.001	0.0062	0.0046	0.0014
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0024	0.0056	0.0016	0.0007	0.0013	0.0014	0.0011	0.0008	0.0019	0.0008	0.0022	0.0006	<0.0002	0.0004	0.0002	0.0003	0.0009	0.0003	<0.0002	0.0006	0.0004	<0.0002	0.0003	0.0006	0.0004	0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.224	0.0493	0.0216	0.0307	0.005	0.0016	0.0833	0.0987	0.146	0.0347	0.0675	0.0323	0.014	0.0117	0.0328	0.0049	0.0081	0.0248	0.0054	0.0044	0.0332	0.0343	0.0238	0.029	0.036	0.0356
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.0005	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0004	0.0004	0.0007	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0005	0.0004	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.29	3.29	0.85	0.0907	0.512	0.615	0.795	0.85	0.364	0.508	1.59	0.145	0.14	0.228	0.0698	0.162	0.27	0.0801	0.0819	0.341	0.0505	0.0635	0.123	0.0866	0.051	0.0486
Perfluoroalkyl Sulfonamides																												
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	0.0014	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0018	0.0017	<0.0005	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.001	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0173	0.0219	0.0066	0.0018	0.0022	0.0002	0.0205	0.0389	0.061	0.0111	0.0128	0.0042	0.0012	0.0008	0.0011	0.0046	0.0027	0.0017	0.0005	0.0005	0.003	0.0086	0.0058	0.0034	0.003	0.0019
PFAS																												
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.047	-
Sum of PFAS	mg/kg	0.0001	0.573	3.41	0.894	0.138	0.524	0.62	1.14	1.27	0.598	0.559	1.69	0.201	0.157	0.243	0.111	0.173	0.283	0.114	0.0893	0.35	0.104	0.112	0.156	0.144	0.11	0.0902

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code			A_SB09	A_SB09	A_SB10	A_SB10	A_SB10	A_SB10	A_SB10	A_SB11	A_SB11	A_SB11	A_SB11	A_SB11	A_SB12	A_SB12	A_SB12	A_SB13	A_SB13	A_SB13	A_SB13	A_SB14	A_SB14	A_SB15	A_SB15	A_SB15	A_SB16	A_SB16
Field ID			A_SB09_0.5	A_SB09_1.5	A_SB10_0.1	A_SB10_0.5	A_SB10_1.5	QC08	QC09	A_SB11_0.1	A_SB11_0.5	A_SB11_1.1	QC11	QC12	A_SB12_0.1	A_SB12_0.5	A_SB12_1.0	A_SB13_0.1	A_SB13_0.5	QC15	QC16	A_SB14_0.1	A_SB14_0.5	A_SB15_0.1	A_SB15_0.5	A_SB15_1.0	A_SB16_0.1	A_SB16_0.5
Date			9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	10/03/2021	10/03/2021	10/03/2021	9/03/2021	9/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021
Depth			0.5	1.5	0.1	0.5	1.5	0.1	0.1	0.1	0.5	1.1	0.1	0.1	0.1	0.5	1	0.1	0.5	0.1	0.1	0.1	0.5	0.1	0.5	1	0.1	0.5
Sample Type			Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06
Lab Report No.			ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	265850	ES2111279	ES2111279	ES2115092	ES2111279	265850	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2111279	265850	ES2111279	ES2111279	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279
	Unit	EQL																										
(n:2) Fluorotelomer Sulfonic Acids																												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	0.0295	<0.0005	<0.0005	0.0185	0.012	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	0.0008	<0.0005	<0.0005	0.0008	0.0004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																												
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0002	0.0003	0.0032	0.0003	0.0002	0.0027	0.0021	0.0034	0.001	0.0005	0.0027	0.0017	0.0004	0.0003	0.0003	0.0002	<0.0002	0.0005	<0.0001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0037	<0.0002	<0.0002	0.0018	0.002	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0006	0.0004	0.0007	<0.0002	<0.0002	0.0009	0.0005	0.0207	0.0007	0.0005	0.0127	0.0073	0.0054	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0003	0.0005	0.0012	<0.0002	<0.0002	0.0009	0.001	0.0077	0.0023	0.001	0.0069	0.0064	0.0008	0.0005	0.0007	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	0.0007	<0.0005	<0.0005	0.0005	<0.005	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	0.0005	0.0005	0.0035	0.0017	0.0009	0.0029	0.0025	0.001	0.0003	0.0004	0.0002	<0.0002	0.0004	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0007	0.006	<0.001	<0.001	0.004	0.0035	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0005	0.0075	0.0002	<0.0002	0.0041	0.002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0007	<0.0002	<0.0002	0.0004	<0.0005	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0038	<0.0002	<0.0002	0.0018	0.001	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0005	0.0006	0.0026	0.0004	0.0003	0.003	0.002	0.0245	0.0043	0.0017	0.0189	0.011	0.0041	0.0012	0.0006	0.0005	<0.0002	0.0004	0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0004	<0.0002
Perfluoroalkane Sulfonic Acids																												
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.234	0.245	0.132	0.282	0.249	0.168	0.09	0.339	0.16	0.0807	0.347	0.19	0.0249	0.0006	0.0008	0.0037	<0.0002	0.0022	0.0034	0.0026	<0.0002	0.0021	0.0007	<0.0002	0.0032	0.0012
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0006	<0.0002	<0.0002	0.0006	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0012	0.0011	0.0073	0.0033	0.0028	0.0071	0.0073	0.0126	0.0044	0.0016	0.0115	0.01	0.0003	0.0003	0.0004	0.0003	<0.0002	0.0004	0.0002	<0.0002	<0.0002	0.0002	0.0003	<0.0002	0.0006	0.0005
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0002	0.0004	0.0008	0.0006	0.0005	0.0008	0.0006	0.0027	0.0011	0.0006	0.0025	0.0018	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0102	0.0185	0.0209	0.0003	0.0008	0.0174	0.018	0.0374	0.0036	0.0124	0.0184	0.042	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004	<0.0002	<0.0002	0.0003	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.235	0.246	0.139	0.285	0.252	0.175	0.097	0.352	0.164	0.0823	0.358	0.2	0.0252	0.0009	0.0012	0.004	<0.0002	0.0026	0.0036	0.0026	<0.0002	0.0023	0.001	<0.0002	0.0038	0.0017
Perfluoroalkyl Sulfonamides																												
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	0.0023	<0.0005	<0.0005	0.0015	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0039	0.0032	0.0028	<0.0002	<0.0002	0.0022	0.002	0.008	0.0016	0.0178	0.0052	0.004	<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
PFAS																												
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	0.092	-	-	-	-	0.2	-	-	-	-	-	-	0.0036	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.251	0.27	0.173	0.287	0.254	0.204	0.13	0.516	0.181	0.118	0.463	0.3	0.0467	0.0032	0.0032	0.0051	<0.0002	0.0042	0.0042	0.0028	<0.0002	0.0027	0.001	<0.0002	0.0044	0.0017

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

	Unit	EQL																										
Location Code			A_SB16	A_SB17	A_SB17	A_SB17	A_SB18	A_SB18	A_SB18	A_SB19	A_SB19	A_SB19	A_SB20	A_SB21	A_SB21	A_SB21	A_SB22	A_SB22	A_SB22	A_SB22	A_SB22	A_SB23	A_SB23	A_SB23	A_SB23	A_SB24	A_SB25	A_SB25
Field ID			A_SB16_1.0	A_SB17_0.1	A_SB17_0.5	A_SB17_1.5	A_SB18_0.1	A_SB18_0.5	A_SB18_1.5	A_SB19_0.1	A_SB19_0.5	A_SB19_1.0	A_SB20_0.1	A_SB21_0.1	A_SB21_0.5	A_SB21_1.0	A_SB22_0.1	A_SB22_0.5	A_SB22_1.5	QC21	QC22	A_SB23_0.1	A_SB23_0.5	A_SB23_1.0	A_SB23_1.5	A_SB24_0.1	A_SB25_0.1	A_SB25_0.5
Date			10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	9/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021
Depth			1	0.1	0.5	1.5	0.1	0.5	1.5	0.1	0.5	1	0.1	0.1	0.5	1	0.1	0.5	1.5	0.1	0.1	0.1	0.5	1	1.5	0.1	0.1	0.5
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS06	PS06	PS06	PS06	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS03	PS03	PS03	PS03	PS03	PS03	PS03
Lab Report No.			ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2111279	ES2115092	ES2111279	ES2111279	ES2115092	ES2111279	265850	ES2111280	ES2111280	ES2111280	ES2115092	ES2111280	ES2111280	ES2111280
(n:2) Fluorotelomer Sulfonic Acids																												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	0.0014	<0.0005	0.0072	0.0022	<0.0005	0.0125	<0.0005	<0.0005	0.0103	0.0601	0.0086	0.0062	<0.0005	0.0063	0.0049	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0059	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																												
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	<0.0002	0.0006	0.0008	0.0045	0.0332	0.0336	0.0035	0.0393	0.026	<0.0005	0.0017	0.003	0.0009	0.0016	0.0011	0.005	0.0014	0.0009	<0.0002	0.0004	0.0006	0.0007	<0.0002	<0.0002	0.0004
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0007	0.0002	0.0006	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0005	0.008	0.0009	0.0011	<0.0002	0.0002	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	0.0015	0.0002	0.0025	0.0004	<0.0002	0.0055	0.0017	0.0009	0.001	0.007	0.0046	0.0026	0.0005	0.002	0.0024	0.0005	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	0.0004	0.0013	0.0013	0.0012	0.0072	0.0074	0.0016	0.0072	0.0052	<0.0005	0.001	0.0011	0.0005	0.0026	0.0028	0.0081	0.0019	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	0.0038	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	0.0007	0.0009	0.0014	0.0022	0.0202	0.0003	0.0045	0.0066	<0.0005	0.0021	0.0017	0.0009	0.0012	0.0015	0.0096	0.0004	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.005	<0.001	0.004	0.003	<0.002	<0.001	<0.001	<0.001	0.002	<0.001	0.002	0.003	0.0034	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	0.001	0.0002	0.0016	0.0003	<0.0002	0.0014	<0.0002	<0.0002	<0.0005	0.022	0.0041	0.0034	0.0002	0.0008	0.0015	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0019	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0006	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	0.0096	0.0012	0.0015	<0.0002	0.0002	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	0.0002	0.0018	0.0005	0.018	0.117	0.0042	0.0035	0.0513	0.0546	<0.0005	0.0052	0.005	0.002	0.0021	0.0033	0.0121	0.0006	0.0004	<0.0002	0.0005	0.0038	0.0045	<0.0002	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids																												
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0002	0.0025	0.0104	0.0022	0.642	0.142	0.007	1.35	2.85	2.89	0.0191	0.195	0.514	0.207	0.0154	0.13	0.0411	0.0183	0.023	0.0456	0.443	0.215	0.177	0.0866	0.0384	0.0019
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	0.0073	0.0273	0.0004	0.0158	0.0099	<0.0005	0.0004	0.0017	0.0007	0.0002	<0.0002	0.0009	<0.0002	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<0.0002	<0.0002	0.0003	0.0006	0.0619	0.321	0.841	0.0067	0.195	0.152	<0.0005	0.0071	0.0275	0.0163	0.0052	0.0025	0.0151	0.0018	0.0019	0.0016	0.0019	0.0071	0.0103	0.0008	0.0007	0.0032
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0302	0.2	0.0068	0.0018	0.0213	0.0583	<0.0005	0.003	0.004	0.0019	0.0005	0.0012	0.0006	<0.0002	0.0003	<0.0002	<0.0002	0.0035	0.0011	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0024	0.0004	<0.0002	0.0122	<0.0002	<0.0002	<0.0005	0.0031	0.0159	0.0039	<0.0002	0.0007	0.0008	0.0002	0.0002	0.0076	<0.0002	<0.0002	<0.0002	0.0039	0.0006	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.001	0.0043	0.009	0.0011	0.011	0.0077	<0.0005	0.0003	0.0011	0.0006	<0.0002	0.0002	0.0006	0.0003	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0002	0.0025	0.0107	0.0028	0.704	0.463	0.848	1.36	3.04	3.04	0.0191	0.202	0.542	0.223	0.0206	0.132	0.0562	0.0201	0.025	0.0472	0.445	0.222	0.187	0.0874	0.0391	0.0051
Perfluoroalkyl Sulfonamides																												
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	0.0014	<0.0002	<0.0002	<0.0005	0.0002	0.0019	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0046	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
PFAS																												
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.023	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0002	0.0031	0.0204	0.0069	0.778	0.84	0.962	1.4	3.2	3.21	0.0304	0.337	0.596	0.252	0.0315	0.153	0.106	0.0288	0.033	0.0594	0.446	0.23	0.194	0.0918	0.0397	0.0055

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code			A_SB25	A_SB25	A_SB25	A_SB26	A_SB26	A_SB26	A_SS01
Field ID			A_SB25_1.0	QC48	QC49	A_SB26_0.1	A_SB26_0.3	A_SB26_0.5	A_SS01
Date			15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	21/01/2020
Depth			1	0.5	0.5	0.1	0.3	0.5	
Sample Type			Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS03	PS03	PS03	PS03	PS03	PS03	PS03
Lab Report No.			ES2115092	ES2111280	265849	ES2111280	ES2111280	ES2115092	ES2002806
	Unit	EQL							
(n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids									
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	0.0004	0.0004	0.0006	<0.0002	0.0003	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	0.0002	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0001	0.0004	<0.0002	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids									
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0011	0.0015	0.0016	0.0156	0.0118	0.0127	0.004
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0013	0.0037	0.0031	0.0005	0.0003	0.0012	0.0002
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	0.0001	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0024	0.0052	0.0047	0.0161	0.0121	0.0139	0.0042
Perfluoroalkyl Sulfonamides									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002
PFAS									
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	0.0016	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0024	0.0058	0.0056	0.018	0.0121	0.0142	0.0042

Location Code	A_SS02	A_SS03	A_SS03	A_SS03	A_SS04	A_SS05	A_SS06	A_SS07	A_SS08	A_SS09
Field ID	A_SS02	A_SS03	QC108	QC208	A_SS04	A_SS05	A_SS06	A_SS07	A_SS08	A_SS09
Date	21/01/2020	21/01/2020	20/01/2020	21/01/2020	21/01/2020	21/01/2020	21/01/2020	21/01/2020	21/01/2020	21/01/2020
Depth										
Sample Type	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone	PS03	PS03	PS03	PS03	PS03	PS03	PS03	PS03	PS03	PS03
Lab Report No.	ES2002806	ES2002806	ES2002803	699303	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806
(n:2) Fluorotelomer Sulfonic Acids										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	<0.0005	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids										
Perfluorohexanoic acid (PFHxA)	0.0004	<0.0002	<0.0002	<0.005	<0.0002	0.0003	0.0003	<0.0002	0.0002	0.0008
Perfluorododecanoic acid (PFDoDA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Perfluorotetradecanoic acid (PFTeDA)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
Perfluorodecanoic acid (PFDA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids										
Perfluorononanesulfonic acid (PFNS)	-	-	-	<0.005	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	0.0092	0.0068	0.0068	<0.005	0.0002	0.016	0.0295	0.0063	0.0108	0.0123
Perfluoropentane sulfonic acid (PFPeS)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	0.0028	0.0004	0.0003	<0.005	<0.0002	0.0015	0.0009	0.0003	0.0004	0.0021
Perfluoroheptane sulfonic acid (PFHpS)	<0.0002	0.0003	0.0002	<0.005	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Perfluoropropanesulfonic acid (PFPrS)	-	-	-	<0.005	-	-	-	-	-	-
Sum of PFHxS and PFOS	0.012	0.0072	0.0071	<0.005	0.0002	0.0175	0.0304	0.0066	0.0112	0.0144
Perfluoroalkyl Sulfonamides										
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PFAS										
Perfluorooctane sulfonic acid (PFOS) - Branched	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	-	-	-	<0.005	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	-	-	-	<0.005	-	-	-	-	-	-
Sum of PFAS	0.0126	0.0075	0.0073	<0.05	0.0002	0.018	0.0319	0.0066	0.0114	0.0177

Location Code	A_SS10	A_SS11	A_SS12	A_SS13	A_SS14	A_SS15	A_SS16	A_SS17	A_SS18
Field ID	A_SS10	A_SS11	A_SS12	A_SS13	A_SS14	A_SS15	A_SS16	A_SS17	A_SS18
Date	21/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020
Depth									
Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone	PS03	PS04	PS01	PS01	PS01	PS01	PS01	PS02	PS02
Lab Report No.	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806
(n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0039
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006
Perfluoroalkane Carboxylic Acids									
Perfluorohexanoic acid (PFHxA)	<0.0002	0.0016	0.0008	0.0022	<0.0002	0.0004	0.0026	0.0027	0.0033
Perfluorododecanoic acid (PFDoDA)	<0.0002	0.0011	0.0002	0.0004	<0.0002	<0.0002	0.0008	0.0036	0.0051
Perfluorononanoic acid (PFNA)	<0.0002	<0.0002	0.0007	0.0006	<0.0002	<0.0002	0.0002	0.0012	0.0019
Perfluoropentanoic acid (PFPeA)	<0.0002	0.0011	0.0008	0.0058	<0.0002	0.0004	0.0016	0.003	0.0049
Perfluorotetradecanoic acid (PFTeDA)	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0021	0.0021
Perfluoroheptanoic acid (PFHpA)	<0.0002	0.0003	0.0005	0.0008	<0.0002	<0.0002	0.0004	0.0009	0.0015
Perfluorobutanoic acid (PFBA)	<0.001	0.001	0.001	0.013	<0.001	<0.001	0.003	0.004	0.005
Perfluorodecanoic acid (PFDA)	<0.0002	0.0005	0.0003	0.0003	<0.0002	<0.0002	0.0004	0.0022	0.0045
Perfluorotridecanoic acid (PFTrDA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0008
Perfluoroundecanoic acid (PFUnDA)	<0.0002	<0.0002	0.0008	0.0005	<0.0002	<0.0002	0.0007	0.008	0.008
Perfluorooctanoic acid (PFOA)	<0.0002	0.0005	0.0009	0.0008	<0.0002	0.0002	0.0006	0.0027	0.0024
Perfluoroalkane Sulfonic Acids									
Perfluorononanesulfonic acid (PFNS)	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	0.0028	0.0274	0.0423	0.0391	0.0067	0.0228	0.0219	0.0383	0.0392
Perfluoropentane sulfonic acid (PFPeS)	<0.0002	0.0019	<0.0002	0.0012	<0.0002	<0.0002	0.0013	0.0011	0.0015
Perfluorohexane sulfonic acid (PFHxS)	<0.0002	0.0254	0.0012	0.0121	0.0002	0.001	0.0186	0.013	0.0154
Perfluoroheptane sulfonic acid (PFHpS)	<0.0002	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0007	0.001
Perfluorodecanesulfonic acid (PFDS)	<0.0002	0.0025	0.0042	0.0082	0.0004	0.0025	0.0028	0.0404	0.0405
Perfluorobutane sulfonic acid (PFBS)	<0.0002	0.0012	<0.0002	0.0011	<0.0002	<0.0002	0.0008	0.0007	0.0012
Perfluoropropanesulfonic acid (PFPrS)	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	0.0028	0.0528	0.0435	0.0512	0.0069	0.0238	0.0405	0.0513	0.0546
Perfluoroalkyl Sulfonamides									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.0002	0.0031	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	<0.0002	0.0031	0.0002	0.0006	<0.0002	0.0003	0.0018	0.0032	0.0039
PFAS									
Perfluorooctane sulfonic acid (PFOS) - Branched	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	-	-	-	-	-	-	-	-	-
Sum of PFAS	0.0028	0.0728	0.0539	0.0867	0.0073	0.0276	0.0601	0.13	0.147

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

Location Code	Unit	EQL	A_SS19	A_SS20	A_SS20	A_SS20	A_SS21	A_SS22	A_SS23	A_SS24	A_SS25	A_SS26	A_SS27	A_SS28	A_SS29
Field ID			A_SS19	A_SS20	QC111	QC211	A_SS21	A_SS22	A_SS23	A_SS24	A_SS25	A_SS26	A_SS27	A_SS28	A_SS29
Date			22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020
Depth															
Sample Type			Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS02	PS02	PS02	PS02	PS02	PS01	PS01	PS01	PS02	PS02	PS02	PS02
Lab Report No.			ES2002806	ES2002806	ES2002803	699303	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806
(n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	0.0022	<0.0005	<0.0005	<0.01	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	0.106	0.0016	0.0017	<0.005	0.0024	0.0228	0.0104	0.0191	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	0.0196	<0.0005	<0.0005	<0.005	<0.0005	0.0027	0.0008	0.0051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids															
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0068	0.0028	0.0032	<0.005	0.0032	0.0024	0.0094	0.0064	0.0006	0.0007	0.0004	0.0043	0.0008
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0364	0.0024	0.0023	<0.005	0.0014	0.0156	0.0128	0.0207	0.0015	<0.0002	<0.0002	0.001	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0058	0.0016	0.0015	<0.005	0.0023	0.0017	0.0031	0.0022	<0.0005	0.0003	<0.0002	0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0033	0.0033	0.0021	<0.005	0.0076	0.0032	0.0041	0.0033	0.0006	0.0005	0.0005	0.0047	0.0005
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	0.0067	0.0015	<0.0005	<0.005	<0.0005	0.0037	0.0015	0.0062	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0024	0.0013	0.001	<0.005	0.0014	0.0011	0.0019	0.0018	<0.0005	0.0003	<0.0002	0.0004	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.003	0.004	0.002	<0.005	0.007	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0431	0.0026	0.0023	<0.005	0.0044	0.0056	0.0074	0.0033	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.0055	0.0003	0.0004	<0.005	0.0002	0.0023	0.0023	0.0049	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0487	0.0067	0.0032	<0.005	0.0049	0.0521	0.0165	0.0243	0.0021	0.0004	<0.0002	0.0009	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0064	0.0029	0.0029	<0.005	0.0026	0.0024	0.006	0.0043	<0.0005	0.0006	<0.0002	0.0013	0.0002
Perfluoroalkane Sulfonic Acids															
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	0.0086	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.571	0.0338	0.0548	0.055	0.057	0.0985	0.986	0.246	0.0277	0.0109	0.0069	0.0453	0.0159
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	0.0019	0.0008	0.0006	<0.005	0.0007	0.001	0.0048	0.0037	<0.0005	<0.0002	<0.0002	0.0006	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0204	0.0097	0.0091	<0.005	0.0088	0.0117	0.0533	0.0296	0.0031	0.001	<0.0002	0.0136	0.0005
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0018	0.0006	0.0005	<0.005	0.0006	0.0009	0.0047	0.002	<0.0005	<0.0002	<0.0002	0.0008	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0626	0.0277	0.021	0.023	0.0313	0.0519	0.0433	0.0206	0.0008	0.0018	<0.0002	0.0301	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.0018	0.0006	0.0007	<0.005	0.0007	0.0009	0.0036	0.0035	<0.0005	<0.0002	<0.0002	0.0005	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.591	0.0435	0.0639	0.055	0.0658	0.11	1.04	0.276	0.0308	0.0119	0.0069	0.0589	0.0164
Perfluoroalkyl Sulfonamides															
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	0.0005	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	0.0008	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	0.0009	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	0.0007	<0.0005	<0.0005	<0.005	<0.0005	0.0006	<0.0012	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	0.0014	0.0013	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0318	0.0025	0.0021	<0.005	0.0016	0.0105	0.0144	0.0114	0.0007	0.0004	<0.0002	0.0045	<0.0002
PFAS															
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	0.055	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	0.055	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.989	0.107	0.111	0.0866	0.138	0.295	1.19	0.42	0.0371	0.0169	0.0078	0.114	0.0189

Location Code	Unit	EQL	A_SS30	A_SS30	A_SS30	A_SS31	A_SS32	A_SS33	A_SS34	A_SS35	A_SS36	A_SS37	A_SS38	A_SS39	A_SS40
Field ID			A_SS30	QC112	QC212	A_SS31	A_SS32	A_SS33	A_SS34	A_SS35	A_SS36	A_SS37	A_SS38	A_SS39	A_SS40
Date			22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020
Depth															
Sample Type			Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02
Lab Report No.			ES2002806	ES2002803	699303	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806
(n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	0.0117	0.013	0.012	0.0032	0.0025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0023	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	0.0006	0.0009	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids															
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0048	0.0049	<0.005	0.0022	0.0005	<0.0002	0.001	0.0003	0.0005	0.0008	0.0055	0.0006	0.0008
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0056	0.0051	<0.005	0.0063	0.0029	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0021	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0153	0.0179	0.021	0.002	0.0003	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0037	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0088	0.0058	0.0053	0.0053	0.0006	0.0002	0.001	0.0008	0.0003	0.0008	0.0123	0.0008	0.001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	0.0007	0.0006	<0.005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0029	0.003	<0.005	0.001	0.0003	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0024	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.01	0.006	<0.005	0.005	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	0.014	<0.001	0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0075	0.007	0.0099	0.0024	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0018	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.0012	0.0014	<0.005	0.0012	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0081	0.0044	0.0053	0.0078	0.0043	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.017	0.0198	0.025	0.0017	0.0007	<0.0002	0.0004	0.0002	0.0007	0.0004	0.0056	<0.0002	0.0004
Perfluoroalkane Sulfonic Acids															
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	<0.005	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.137	0.124	0.16	0.0449	0.0451	0.0024	0.0249	0.0124	0.0228	0.0177	0.205	0.004	0.0313
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	0.0014	0.001	<0.005	0.001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.019	0.0214	0.01	0.0102	0.002	<0.0002	0.0037	<0.0002	0.0023	0.0008	0.0336	0.0018	0.0007
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0015	0.0015	<0.005	0.0007	0.0004	<0.0002	0.0003	<0.0002	0.0003	<0.0002	0.0029	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0103	0.0145	0.014	0.0084	0.0077	<0.0002	0.0028	0.0003	0.001	0.0004	0.0115	0.0003	0.0015
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.0009	0.0011	<0.005	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	<0.005	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.156	0.145	0.17	0.0551	0.0471	0.0024	0.0286	0.0124	0.0251	0.0185	0.239	0.0058	0.032
Perfluoroalkyl Sulfonamides															
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	0.0012	0.0014	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.005	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0075	0.0063	0.0053	0.0075	0.0026	<0.0002	0.0012	<0.0002	0.0003	<0.0002	0.0047	<0.0002	<0.0002
PFAS															
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	0.195	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	0.185	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.273	0.261	0.2678	0.113	0.0727	0.0026	0.04	0.0144	0.0282	0.0217	0.312	0.0075	0.0367

Location Code	Unit	EQL	A_SS40	A_SS40	A_SS41	A_SS42	A_SS43	A_SS44	A_SS45	A_SS46	A_SS47	A_SS48	A_SS49	A_SS50	A_SS50	A_SS50	A_SS51	A_SS52	A_SS52	A_SS52	A_SS53	A_SS54	A_SS55	A_SS56	A_SS57	A_SS58	A_SS59	A_SS60
Field ID			QC113	QC213	A_SS41	A_SS42	A_SS43	A_SS44	A_SS45	A_SS46	A_SS47	A_SS48	A_SS49	A_SS50	QC114	QC214	A_SS51	A_SS52	QC115	QC215	A_SS53	A_SS54	A_SS55	A_SS56	A_SS57	A_SS58	A_SS59	A_SS60
Date			22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	23/01/2020	23/01/2020	23/01/2020	23/01/2020
Depth																												
Sample Type			Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS02	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS06	PS05	PS05	PS05	PS05	PS05	PS05	PS05	PS04	PS04	PS04	PS04
Lab Report No.			ES2002803	699303	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002803	699303	ES2002806	ES2002806	ES2002803	699303	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806
(n:2) Fluorotelomer Sulfonic Acids																												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.01	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.005	0.323	<0.0005	<0.0005	0.0046	0.0106	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.005	0.0098	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																												
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0006	<0.005	0.004	<0.0002	0.0004	0.0005	0.0018	<0.0002	0.0009	0.0003	0.0003	0.0004	0.0004	<0.005	0.0006	0.001	0.0011	<0.005	0.0007	0.0131	0.0007	<0.0005	0.0005	0.0008	0.0008	0.0007
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.005	0.0305	<0.0002	<0.0002	0.0006	0.003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0004	<0.005	0.0003	0.0004	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.005	0.0095	<0.0002	0.0003	0.0019	0.0037	0.0004	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0005	<0.005	0.0004	0.0002	0.0007	<0.0005	<0.0002	0.0002	0.0005	0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0006	<0.005	0.0037	<0.0002	<0.0002	0.0007	0.0027	<0.0002	0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0003	<0.005	0.0002	0.0013	<0.0005	<0.0005	0.0003	0.0004	0.0006	0.0009
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.005	0.0057	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0012	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.005	0.0049	<0.0002	0.0003	0.0004	0.0013	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0004	<0.005	0.0003	0.0016	<0.0005	<0.0005	0.0002	0.0003	0.0006	0.0004
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.001	<0.005	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.003	<0.005	0.001	0.001	<0.001	<0.001	0.001	0.002	0.002	0.002
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.005	0.0347	<0.0002	<0.0002	0.0012	0.0055	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0005	<0.005	<0.0002	<0.0002	0.0011	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.005	0.0069	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	<0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.005	0.0175	<0.0002	<0.0002	0.0007	0.0024	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0004	<0.005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0004	<0.005	0.0182	<0.0002	0.0005	0.0009	0.0048	<0.0002	0.0012	0.0002	<0.0002	0.0004	0.0004	<0.005	0.0004	<0.0005	0.0004	<0.005	0.0008	0.0037	<0.0005	<0.0005	0.0004	0.0004	0.0008	0.0005
Perfluoroalkane Sulfonic Acids																												
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0311	0.028	0.119	0.001	0.007	0.0213	0.048	0.0242	0.0086	0.0073	0.0042	0.0222	0.0102	0.018	0.0386	0.0492	0.0515	0.037	0.0285	0.0194	0.0853	0.0231	0.0146	0.0214	0.025	0.0274
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002	<0.005	0.0003	<0.0005	0.0005	<0.005	<0.0002	0.0076	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0006	<0.005	0.001	<0.0002	0.0004	0.0004	0.0033	<0.0002	0.001	0.0008	<0.0002	0.0028	0.0038	<0.005	0.0039	0.0029	0.0056	<0.005	0.001	0.0746	0.0042	0.0034	0.0004	0.0008	0.0007	0.0008
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.005	0.0004	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0004	<0.0002	<0.0002	0.0005	0.0003	<0.005	0.0006	<0.0005	0.0005	<0.005	<0.0002	0.005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0016	<0.005	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	0.0078	0.0092	<0.005	0.0096	0.0003	0.006	<0.0005	<0.0002	0.0004	0.0007	0.0004
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.005	<0.0002	<0.0005	0.0004	<0.005	<0.0002	0.0018	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0317	0.028	0.12	0.001	0.0074	0.0217	0.0513	0.0242	0.0096	0.0081	0.0042	0.025	0.014	0.018	0.0425	0.0521	0.0571	0.037	0.0295	0.094	0.0895	0.0265	0.015	0.0222	0.0257	0.0282
Perfluoroalkyl Sulfonamides																												
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0012	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0005	<0.0002	<0.01	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0005	<0.0002	<0.01	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0012	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0012	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0012	<0.0005	<0.005	<0.0005	<0.0005	<0.0012	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.005	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0005	0.0004	<0.005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
PFAS																												
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	0.028	-	-	-	-	-	-	-	-	-	-	-	0.018	-	-	-	0.037	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	0.028	-	-	-	-	-	-	-	-	-	-	-	0.018	-	-	-	0.037	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0359	<0.05	0.593	0.001	0.0089	0.0332	0.0898	0.0246	0.0193	0.0089	0.0045	0.0265	0.0156	<0.05	0.0444	0.0609	0.0751	<0.05	0.0428	0.13	0.098	0.0265	0.0174	0.0267	0.0317	0.0333

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

	Unit	EQL	A_SS60	A_SS60	A_SS61	A_SS62	A_SS63	A_SS64	A_SS65	A_SS66	A_SS67	A_SS68	A_SS69	A_SS70	A_SS71	A_SS72	A_SS73	A_SS74	A_SS75	A_SS76	A_SS77	A_SS78	A_SS79	A_SS80	A_SS81	A_SS82	A_SS83	A_SS83
Field ID			QC116	QC216	A_SS61	A_SS62	A_SS63	A_SS64	A_SS65	A_SS66	A_SS67	A_SS68	A_SS69	A_SS70	A_SS71	A_SS72	A_SS73	A_SS74	A_SS75	A_SS76	A_SS77	A_SS78	A_SS79	A_SS80	A_SS81	A_SS82	A_SS83	QC13
Date			22/01/2020	23/01/2020	23/01/2020	23/01/2020	23/01/2020	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	10/03/2021	9/03/2021
Depth																												
Sample Type			Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS04	PS04	PS04	PS04	PS04	PS01	PS01	PS01	PS01	PS02	PS02	PS02	PS05	PS05	PS05	PS05	PS05	PS05	PS05	PS04	PS04	PS04	PS04	PS02	PS02	PS02
Lab Report No.			ES2002803	699303	ES2002806	ES2002806	ES2002806	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111279
(n:2) Fluorotelomer Sulfonic Acids																												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.01	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																												
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0007	<0.005	0.0016	0.0022	0.0014	<0.0002	<0.0002	0.0005	0.0016	<0.0002	0.0004	0.0013	0.0006	0.0007	0.0004	0.0005	0.0009	0.0002	<0.0002	0.0006	0.0013	0.0016	0.0006	<0.0002	0.0003	0.0004
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<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	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0004	<0.005	0.0005	0.0004	0.0004	<0.0002	<0.0002	0.0002	0.0016	<0.0002	<0.0002	0.0005	0.0005	<0.0002	0.0006	<0.0002	0.001	<0.0002	<0.0002	0.0003	0.0003	0.0004	0.0003	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0006	<0.005	0.0013	0.0015	0.003	<0.0002	<0.0002	0.0003	0.0009	<0.0002	<0.0002	0.0006	0.0004	0.0002	0.0003	0.0004	0.0003	<0.0002	<0.0002	0.0002	0.0006	0.0006	<0.0002	<0.0002	0.0004	0.0003
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0004	<0.005	0.001	0.0008	0.0008	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	0.0006	0.0005	0.0003	0.0003	<0.0002	0.0008	0.0003	<0.0002	0.0003	0.0005	0.0006	0.0004	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.001	<0.005	0.002	0.002	0.003	<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
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	0.0003	0.0002	<0.0002	0.0007	<0.0002	0.0004	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0006	<0.005	0.0017	0.0014	0.001	<0.0002	<0.0002	0.0003	0.0015	<0.0002	0.0003	0.0011	0.0008	0.0004	0.0006	0.0004	0.0017	0.0006	0.0004	0.0006	0.0007	0.0012	0.0008	<0.0002	0.0002	0.0003
Perfluoroalkane Sulfonic Acids																												
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0299	0.031	0.0335	0.0373	0.0301	0.0027	0.0085	0.0092	0.0269	0.0012	0.0099	0.0248	0.0192	0.0138	0.0536	0.0168	0.044	0.0032	0.0132	0.0158	0.0157	0.022	0.0151	0.0042	0.0084	0.0129
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0011	<0.005	0.001	0.001	0.0015	<0.0002	0.0003	0.0005	0.0034	<0.0002	0.0003	<0.0002	<0.0002	0.0003	0.0069	0.0004	0.001	<0.0002	<0.0002	0.0005	0.0004	0.0003	<0.0002	0.0003	0.001	0.0012
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<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	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0007	<0.005	0.0006	0.0003	0.0004	<0.0002	0.0009	0.0005	0.0067	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	0.0071	<0.0002	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.031	0.031	0.0345	0.0383	0.0316	0.0027	0.0088	0.0097	0.0303	0.0012	0.0102	0.0248	0.0192	0.0141	0.0605	0.0172	0.045	0.0032	0.0132	0.0163	0.0161	0.0223	0.0151	0.0045	0.0094	0.0141
Perfluoroalkyl Sulfonamides																												
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.005	<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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PFAS																												
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	0.031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	0.031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0354	<0.05	0.0432	0.0469	0.0416	0.0031	0.0097	0.0125	0.0466	0.0012	0.0109	0.0301	0.0222	0.0157	0.0758	0.0185	0.0533	0.0051	0.0136	0.0183	0.0195	0.0269	0.0172	0.0047	0.0103	0.0151

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

	Unit	EQL												
Location Code			A_SS83	A_SS84	A_SS85	A_SS86	A_SS87	A_SS88	A_SS89	A_SS90	A_SS91	A_SS92	A_SS92	A_SS92
Field ID			QC14	A_SS84	A_SS85	A_SS86	A_SS87	A_SS88	A_SS89	A_SS90	A_SS91	A_SS92	QC02	QC03
Date			9/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021
Depth														
Sample Type			Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02	PS02
Lab Report No.			265850	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111279	265850
(n:2) Fluorotelomer Sulfonic Acids														
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0014	0.0009
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0003
Perfluoroalkane Carboxylic Acids														
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0003	0.0006	0.0006	0.0004	<0.0002	0.0002	0.0006	0.0004	0.0006	0.0005	0.0004	0.0003
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0045	0.0025	0.003
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	0.0004	<0.0002	0.0003
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0003	0.0004	0.0003	<0.0002	<0.0002	<0.0002	0.0006	0.0004	0.0002	0.0004	0.0003	0.0003
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0004	<0.0002	0.0003
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.0004	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.0002
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	0.0025	0.0016	0.001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0004	<0.0005
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0053	0.0033	0.002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0003	0.0005	0.0004	0.0005	<0.0002	<0.0002	0.0011	0.0004	0.0003	0.0006	0.0006	0.0004
Perfluoroalkane Sulfonic Acids														
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0083	0.0119	0.0231	0.0201	0.0029	0.0037	0.0427	0.0169	0.0107	0.075	0.0678	0.035
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003	0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0009	0.0007	0.0006	0.0006	<0.0002	0.0002	0.0009	0.0003	0.0006	0.005	0.0042	0.0037
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0004	0.0004
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	0.0004	0.0002	<0.0002	<0.0002	<0.0002	0.0062	0.0006	0.0004	0.0142	0.0102	0.0075
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0004	0.0003
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0092	0.0126	0.0237	0.0207	0.0029	0.0039	0.0436	0.0172	0.0113	0.08	0.072	0.039
Perfluoroalkyl Sulfonamides														
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0044	<0.005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0018	0.0012	<0.001
PFAS														
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	0.0085	-	-	-	-	-	-	-	-	-	-	0.035
Sum of PFAS	mg/kg	0.0001	0.01	0.0145	0.0252	0.0216	0.0029	0.0041	0.0557	0.02	0.0128	0.114	0.0994	0.056

	Unit	EQL														
Location Code			A_SS93	A_SS94	A_SS95	A_SS96	A_SS97	A_SS97	A_SS97	A_SS98	A_SS99	A_SS100	A_SS101	A_SS102	A_SS103	A_SS103
Field ID			A_SS93	A_SS94	A_SS95	A_SS96	A_SS97	QC17	QC18	A_SS98	A_SS99	A_SS100	A_SS101	A_SS102	A_SS103	QC19
Date			9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021
Depth																
Sample Type			Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Field_D
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS02	PS02	PS02	PS05	PS05	PS05	PS05	PS05	PS05	PS04	PS04	PS04	PS04
Lab Report No.			ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111279	265850	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278
(n:2) Fluorotelomer Sulfonic Acids																
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	0.003	0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0304	0.0444	0.0432
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0013	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0015
Perfluoroalkane Carboxylic Acids																
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0022	0.002	0.0013	<0.0002	<0.0002	<0.0002	0.0002	0.0009	0.0005	0.0004
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0086	0.0065	0.0062	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0097	0.0089
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0094	0.0122	0.0057	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	0.0166	0.014
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	0.0004	0.0003	<0.0002	0.0016	0.0013	0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.001	0.0009
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0021	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0014
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0035	0.0028	0.0026	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	0.0005	0.0004
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.0009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0121	0.014	0.0075	<0.0002	<0.0002	<0.0002	<0.0002	0.006	0.0504	0.0474
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0014	0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0017	0.0015
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0102	0.0095	0.0061	<0.0002	<0.0002	<0.0002	<0.0002	0.0031	0.0114	0.0107
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	<0.0002	0.0003	<0.0002	0.0064	0.0077	0.0042	<0.0002	<0.0002	<0.0002	<0.0002	0.0024	0.003	0.0022
Perfluoroalkane Sulfonic Acids																
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.004	0.0031	0.0276	0.0026	0.183	0.219	0.14	0.0056	0.0021	0.0004	0.0126	0.717	0.946	0.726
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0003	0.0005	0.0003	0.0005	0.0037	0.0037	0.0023	0.0002	<0.0002	<0.0002	0.0011	0.0042	0.0019	0.0016
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0005	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	0.0016	0.0014
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0162	0.0174	0.01	<0.0002	0.0047	<0.0002	0.0002	0.0095	0.0041	0.0038
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0043	0.0036	0.0279	0.0031	0.187	0.223	0.14	0.0058	0.0021	0.0004	0.0137	0.721	0.948	0.728
Perfluoroalkyl Sulfonamides																
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	0.001	0.0009
PFAS																
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	0.14	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0043	0.004	0.0288	0.0031	0.267	0.305	0.19	0.0058	0.0068	0.0004	0.0141	0.782	1.1	0.866

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

Location Code			A_SS103	A_SS104	A_SS105	A_SS106	A_SS107	A_SS108	A_SS108	A_SS108	A_SS109	A_SS110	A_SS111	A_SS112	A_SS113	A_SS114	A_SS115	A_SS121	A_SS121	A_SS125	A_SS125	A_SS125	A_SS133	A_SS133	A_SS136	A_SS137	A_SS138
Field ID			QC20	A_SS104	A_SS105	A_SS106	A_SS107	A_SS108	QC23	QC24	A_SS109	A_SS110	A_SS111	A_SS112	A_SS113	A_SS114	A_SS115	QC46	QC47	QC52	QC53	QC53	QC54	QC55	A_SS136	A_SS137	A_SS138
Date			10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	15/03/2021	15/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021
Depth																											
Sample Type			Interlab_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Field_D	Interlab_D	Interlab_D	Field_D	Interlab_D	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Headstone Creek	Headstone Creek	Headstone Creek	Mission Creek	Mission Creek	Rocky Point Creek	Headstone Creek	Mission Creek
Source Zone			PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS04	PS03	PS03	AIRPORT	AIRPORT	AIRPORT	PS06	PS06	AIRPORT	AIRPORT	PS02
Lab Report No.			265850	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111279	265850	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111280	265849	ES2111280	265849	265849	ES2111280	265849	ES2111280	ES2111280	ES2111280
	Unit	EQL																									
(n:2) Fluorotelomer Sulfonic Acids																											
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.002	<0.0001	-	<0.002	<0.0001	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0001	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.002	<0.0001	-	<0.002	<0.0001	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	0.032	0.0512	0.0209	<0.0005	<0.0005	0.0414	0.0318	0.019	0.0011	0.0346	0.0008	0.003	0.0016	0.0063	<0.0005	<0.0005	<0.0002	<0.002	<0.0002	-	<0.002	0.002	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0017	0.002	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.002	<0.0002	-	<0.002	<0.0002	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																											
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0003	0.0035	<0.0002	<0.0002	0.0009	0.0018	0.0012	0.0009	0.0416	0.0191	0.017	0.0132	0.0005	0.0005	0.0011	0.0002	0.0001	<0.001	0.0003	<0.001	<0.001	0.0007	<0.0002	<0.0002	0.0012
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0079	0.001	0.0004	<0.0002	<0.0002	0.0064	0.0026	0.004	<0.0005	0.0031	<0.0002	0.0006	0.0003	0.0002	<0.0002	<0.0002	<0.0005	<0.002	<0.0005	-	<0.002	0.003	<0.0002	<0.0002	0.0003
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.011	0.0078	0.0009	0.0008	<0.0002	0.0022	0.0022	0.0014	0.001	0.0043	0.0016	0.0065	0.0015	0.0004	<0.0002	<0.0002	<0.0001	<0.001	0.0005	<0.001	<0.001	0.0015	<0.0002	<0.0002	0.0006
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0009	0.0091	<0.0002	<0.0002	0.0005	0.001	0.0006	0.0007	0.0149	0.0145	0.0054	0.0063	0.0005	0.0003	0.0003	<0.0002	<0.0002	<0.002	0.0004	<0.002	<0.002	0.001	<0.0002	<0.0002	0.0011
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.005	0.0008	<0.0005	<0.0005	<0.0005	0.0008	0.0007	<0.005	<0.0012	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.002	<0.005	-	<0.002	<0.005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0004	0.0031	0.0002	<0.0002	<0.0002	0.0012	0.0007	0.0008	0.0022	0.0014	0.0046	0.0089	0.0004	0.0004	<0.0002	<0.0002	<0.0001	<0.001	0.0004	<0.001	<0.001	0.001	<0.0002	<0.0002	0.0004
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.0008	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	0.0005	0.008	0.008	0.003	0.004	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.005	0.0005	<0.002	<0.005	0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.03	0.0012	0.0012	<0.0002	<0.0002	0.008	0.0057	0.004	0.0006	0.0073	<0.0002	0.004	0.0012	0.0005	<0.0002	<0.0002	<0.0005	<0.001	<0.0005	-	<0.001	0.002	<0.0002	<0.0002	0.0004
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.001	0.0003	<0.0002	<0.0002	<0.0002	0.001	0.0005	0.0007	<0.0005	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.002	<0.0005	-	<0.002	0.0007	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0068	0.0006	0.0004	<0.0002	<0.0002	0.0068	0.0033	0.003	<0.0005	0.0026	<0.0002	0.0016	0.0004	0.0002	<0.0002	<0.0002	<0.0005	<0.001	<0.0005	-	<0.001	0.002	<0.0002	<0.0002	0.0004
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0021	0.0235	0.0008	0.0014	<0.0002	0.0038	0.0029	0.0022	0.0052	0.0038	0.0938	0.0302	0.0019	0.0009	0.0013	<0.0002	0.0001	<0.001	0.0006	<0.001	<0.001	0.0022	<0.0002	<0.0002	0.0008
Perfluoroalkane Sulfonic Acids																											
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.54	0.388	0.0416	0.0116	0.0024	0.354	0.259	0.2	9.09	2.14	1.84	0.572	0.032	0.0467	0.23	0.0182	0.016	<0.001	<0.001	0.014	<0.001	0.025	0.0024	0.0005	0.0303
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0001	0.0006	<0.0002	<0.0002	0.0003	0.0005	0.0004	0.0004	0.0037	0.0006	0.0156	0.0027	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.001	<0.0001	-	<0.001	<0.0001	<0.0002	<0.0002	0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0016	0.0372	0.0011	<0.0002	0.0012	0.0082	0.0063	0.0047	0.0429	0.0064	0.872	0.0439	0.0024	0.001	0.0017	0.0005	0.0004	<0.001	<0.0001	-	<0.001	0.0008	<0.0002	<0.0002	0.0034
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0012	0.0024	0.0007	<0.0002	<0.0002	0.001	0.0006	0.0005	0.0108	0.0014	0.27	0.0092	0.0007	<0.0002	0.0004	<0.0002	<0.0001	<0.001	<0.0001	-	<0.001	0.0002	<0.0002	<0.0002	0.0003
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0027	<0.0002	<0.0002	<0.0002	<0.0002	0.0108	0.0072	0.0053	0.0112	0.0245	0.0018	0.0038	<0.0002	0.0015	0.0031	<0.0002	<0.0002	<0.002	<0.0002	-	<0.002	<0.0002	<0.0002	<0.0002	0.0065
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0001	0.0005	<0.0002	<0.0002	0.0005	0.0007	0.0006	0.0005	0.0079	0.0016	0.0038	0.003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.001	<0.0001	-	<0.001	<0.0001	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.54	0.425	0.0427	0.0116	0.0036	0.362	0.265	0.21	9.13	2.15	2.71	0.616	0.0344	0.0477	0.232	0.0187	0.017	-	<0.001	-	-	0.026	0.0024	0.0005	0.0337
Perfluoroalkyl Sulfonamides																											
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.002	<0.005	-	<0.002	<0.005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	-	<0.001	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	-	<0.001	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.001	-	<0.002	<0.001	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.005	<0.001	-	<0.005	<0.001	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.001	-	<0.002	<0.001	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.001	0.0011	<0.0002	<0.0002	<0.0002	0.0025	0.0011	<0.001	0.0342	0.0062	0.0011	0.0006	<0.0002	0.0008	0.0002	<0.0002	<0.001	<0.005	<0.001	-	<0.005	<0.001	<0.0002	<0.0002	0.0004
PFAS																											
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	0.54	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	0.016	-	<0.001	-	-	0.027	-	-	-
Sum of PFAS	mg/kg	0.0001	0.64	0.54	0.0682	0.0138	0.0058	0.454	0.329	0.25	9.28	2.28	3.13	0.714	0.0434	0.0597	0.238	0.0189	0.017	<0.001	<0.001	-	<0.001	0.043	0.0024	0.0005	0.0463

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

Location Code			A_SS139	A_SS140	A_SS141	A_STP_SS01	A_STP_SS02	A_STP_SS03	A_STP_SS03	A_STP_SS03	A_STP_SS04	A_STP_SS05	A_STP_SS06
Field ID			A_SS139	A_SS140	A_SS141	A_STP_SS01	A_STP_SS02	A_STP_SS03	QC56	QC57	A_STP_SS04	A_STP_SS05	A_STP_SS06
Date			16/03/2021	17/03/2021	17/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021
Depth													
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone			PS02	PS06	PS06	PS11	PS11	PS11	PS11	PS11	PS11	PS11	PS11
Lab Report No.			ES2111280	ES2111280	ES2111280	ES2111268	ES2111268	ES2111268	ES2111280	265849	ES2111268	ES2111268	ES2111268
	Unit	EQL											
(n:2) Fluorotelomer Sulfonic Acids													
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids													
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0008	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003	0.0002	0.0003	0.0005	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0005	<0.0002	<0.0002	0.001	<0.0002	0.0004	0.0003	0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0007	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0004	<0.0002	0.0002	0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0001	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0002	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0011	<0.0002	<0.0002	0.0004	<0.0002	0.0003	0.0003	0.0003	0.0004	0.0005	0.0002
Perfluoroalkane Sulfonic Acids													
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0184	0.001	0.001	0.0084	0.0014	0.0047	0.0049	0.0045	0.0036	0.0114	0.008
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0003	<0.0002	<0.0002	0.0006	<0.0002	0.0009	0.0009	0.0006	0.0004	0.0016	0.001
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0187	0.001	0.001	0.009	0.0014	0.0056	0.0058	0.0051	0.004	0.013	0.009
Perfluoroalkyl Sulfonamides													
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002
PFAS													
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	0.0047	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0252	0.001	0.001	0.0135	0.0014	0.0068	0.0071	0.0061	0.0049	0.0144	0.0092

Location Code			A_STP_SS07	A_STP_SS08	A_STP_SS09	BALL_SS01	BALL_SS02	CHAP_SS01	CHAP_SS01	CHAP_SS01	CHAP_SS02	CHAP_SS03	CHAP_SS04	CHAP_SS05	DEPOT_SS01	DEPOT_SS02
Field ID			A_STP_SS07	A_STP_SS08	A_STP_SS09	BALL_SS01	BALL_SS02	CHAP_SS01	QC105	QC205	CHAP_SS02	CHAP_SS03	CHAP_SS04	CHAP_SS05	DEPOT_SS01	DEPOT_SS02
Date			16/03/2021	16/03/2021	16/03/2021	21/01/2020	21/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	11/03/2021	11/03/2021
Depth																
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Stockyard Creek	Stockyard Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek
Source Zone			PS11	PS11	PS11	PS10	PS10	PS08		PS08	PS08	PS08	PS08	PS08	PS09	PS09
Lab Report No.			ES2111268	ES2111268	ES2111268	ES2002808	ES2002808	ES2002810	ES2002803	699303	ES2002810	ES2002810	ES2002810	ES2002810	ES2111278	ES2111278
	Unit	EQL														
(n:2) Fluorotelomer Sulfonic Acids																
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	0.0006	<0.0002	0.0007	0.0003	0.0002	0.0002	<0.005	0.0005	<0.0002	<0.0002	<0.0002	0.0028	0.0005
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	0.0004	<0.0002	0.0014	0.0004	<0.0002	<0.0002	<0.005	0.0003	<0.0002	<0.0002	<0.0002	0.0004	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	0.0003	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.005	0.002	0.002	0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	0.0003	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	0.0004
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	0.0009	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0028	0.0006
Perfluoroalkane Sulfonic Acids																
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0017	0.0212	0.0045	0.0024	0.0021	0.0021	0.002	<0.005	0.0039	0.0021	0.0021	0.0014	0.155	0.0464
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0076	0.0006
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<0.0002	0.0007	0.0003	<0.0002	<0.0002	0.0003	0.0003	<0.005	0.0007	0.0005	0.0004	<0.0002	0.0552	0.0079
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0045	0.0012
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	0.0004
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	0.0038	0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0017	0.0219	0.0048	0.0024	0.0021	0.0024	0.0023	<0.005	0.0046	0.0026	0.0025	0.0014	0.21	0.0543
Perfluoroalkyl Sulfonamides																
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PFAS																
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0017	0.0247	0.0053	0.0076	0.0028	0.0036	0.0025	<0.05	0.0074	0.0046	0.0035	0.0014	0.237	0.0585

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code			DEPOT_SS03	DEPOT_SS04	DEPOT_SS04	DEPOT_SS05	DEPOT_SS06	DEPOT_SS07	DEPOT_SS08	DEPOT_SS09	DEPOT_SS10	DEPOT_SS11	DEPOT_SS12	DEPOT_SS12	DEPOT_SS13	DEPOT_SS14	DEPOT_SS15	DEPOT_SS16	ID008_SS01	ID008_SS02
Field ID			DEPOT_SS03	DEPOT_SS04	QC27	DEPOT_SS05	DEPOT_SS06	DEPOT_SS07	DEPOT_SS08	DEPOT_SS09	DEPOT_SS10	DEPOT_SS11	DEPOT_SS12	QC29	DEPOT_SS13	DEPOT_SS14	DEPOT_SS15	DEPOT_SS16	ID008_SS01	ID008_SS02
Date			11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	20/01/2020	20/01/2020
Depth																				
Sample Type			Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
Source Zone			PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09	PS09		
Lab Report No.			ES2111278	ES2111278	ES2111279	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	ES2111278	265850	ES2111278	ES2111278	ES2111278	ES2111278	ES2002824	ES2002824
	Unit	EQL																		
(n:2) Fluorotelomer Sulfonic Acids																				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																				
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	0.0003	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0001	<0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	0.0004	<0.0002	0.0003	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0001	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002
Perfluoroalkane Sulfonic Acids																				
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0142	0.0113	0.0137	0.004	0.0088	0.0084	0.002	0.0014	0.0123	0.0046	0.0026	0.0025	0.0044	0.0033	0.0028	0.001	0.0015	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0018	0.0009	0.0009	0.0003	0.0003	0.0009	<0.0002	0.0004	0.0004	<0.0002	0.0003	0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0002	0.0003	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.016	0.0122	0.0146	0.0043	0.0091	0.0093	0.002	0.0018	0.0127	0.0046	0.0029	0.0026	0.0048	0.0037	0.0028	0.001	0.0015	<0.0002
Perfluoroalkyl Sulfonamides																				
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<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
PFAS																				
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	0.0025	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0164	0.013	0.0152	0.0043	0.0093	0.0093	0.0022	0.0028	0.0136	0.0046	0.0029	0.0026	0.0048	0.0068	0.0031	0.0013	0.0017	<0.0002

Table 2 - Soil Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

	Unit	EQL											
Location Code			ID008_SS03	ID013_SS01	ID013_SS02	ID013_SS03	ID013_SS04	ID013_SS05	ID013_SS06	ID013_SS07	TC_SS01	TC_SS02	TC_SS03
Field ID			ID008_SS03	ID013_SS01	ID013_SS02	ID013_SS03	ID013_SS04	ID013_SS05	ID013_SS06	ID013_SS07	TC_SS01	TC_SS02	TC_SS03
Date			20/01/2020	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	15/03/2021	15/03/2021	13/03/2021
Depth													
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek
Source Zone											PS07	PS07	PS07
Lab Report No.			ES2002824	ES2111261	ES2111261	ES2111261	ES2111261	ES2111261	ES2111261	ES2111261	ES2111268	ES2111268	ES2111268
(n:2) Fluorotelomer Sulfonic Acids													
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids													
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids													
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0003	0.0014	0.0165	0.0035	0.0052	0.0059	0.0071	0.0022	0.0007	0.0096	0.001
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<0.0002	0.0006	0.0006	0.0006	0.0006	<0.0002	<0.0002	0.0005	<0.0002	0.0038	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0003	0.002	0.0171	0.0041	0.0058	0.0059	0.0071	0.0027	0.0007	0.0134	0.001
Perfluoroalkyl Sulfonamides													
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PFAS													
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0003	0.002	0.0179	0.0041	0.0058	0.0059	0.0071	0.0027	0.0007	0.0139	0.001

Table 3 - Sediment Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code			A_SD01	A_SD02	A_SD03	A_SD04	A_SD05	A_SD06	A_SD07	A_SD08	A_SD09	A_SD10	AD_SD01	AD_SD02	AD_SD03	AD_SD04	AD_SD04	AD_SD04	AD_SD05	AD_SD06
Field ID			A_SD01	A_SD02	A_SD03	A_SD04	A_SD05	A_SD06	A_SD07	A_SD08	A_SD09	A_SD10	AD_SD01	AD_SD02	AD_SD03	AD_SD04	QC107	QC207	AD_SD05	AD_SD06
Date			22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Water Mill Creek	Headstone Creek	Headstone Creek	Headstone Creek	Mission Creek	Rocky Point Creek	Rocky Point Creek	Headstone Creek	Headstone Creek	Headstone Creek	Headstone Creek	Water Mill Creek	Water Mill Creek
Source Zone			PS02	PS02	PS02	PS02	PS06	AIRPORT	AIRPORT	AIRPORT	AIRPORT	PS11	AIRPORT	AIRPORT	AIRPORT	AIRPORT	AIRPORT	AIRPORT	AIRPORT	AIRPORT
Lab Report No.			ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002806	ES2002812	ES2002812	ES2002812	ES2002812	ES2002803	699303	ES2002812	ES2002812
	Unit	EQL																		
(n:2) Fluorotelomer Sulfonic Acids																				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<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	<0.0005	<0.005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<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	<0.0005	<0.01	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	0.0005	0.0020	<0.0005	<0.0005	0.0159	<0.0005	<0.0005	<0.0005	<0.0005	0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	0.0009	<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	<0.005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																				
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0008	0.0009	<0.0002	0.0004	0.0017	<0.0002	0.0011	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0022	0.0083	<0.0002	<0.0002	0.0035	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0004	0.0004	<0.0002	<0.0002	0.0030	<0.0002	0.0004	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0003	0.0003	<0.0002	0.0002	0.0027	<0.0002	0.0033	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	0.0005	0.0042	<0.0005	<0.0005	0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0003	0.0003	<0.0002	<0.0002	0.0012	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	0.001	<0.001	0.001	0.002	0.003	<0.001	0.003	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0006	0.0006	<0.0002	<0.0002	0.0056	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.0004	0.0030	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0024	0.0025	<0.0002	<0.0002	0.0044	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0004	0.0008	<0.0002	<0.0002	0.0038	<0.0002	0.0011	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids																				
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0562	0.0340	0.0032	0.0030	0.0354	0.0008	0.0098	0.0038	0.0044	0.0031	0.0004	0.0010	0.0006	0.0010	0.0008	<0.005	0.0020	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	0.0008	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0060	0.0027	0.0002	0.0008	0.0024	<0.0002	0.0015	0.0006	0.0009	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	0.0003
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0008	0.0003	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0018	0.0250	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.0006	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0622	0.0367	0.0034	0.0038	0.0378	0.0008	0.0113	0.0044	0.0053	0.0033	0.0004	0.0010	0.0006	0.0010	0.0008	<0.005	0.0020	0.0003
Perfluoroalkyl Sulfonamides																				
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	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	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	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	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	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	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	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	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0002	0.0130	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
PFAS																				
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-
Sum of PFAS	mg/kg	0.0001	0.0762	0.100	0.0044	0.0064	0.0847	0.0008	0.0210	0.0054	0.0077	0.0069	0.0004	0.0010	0.0006	0.0010	0.0008	<0.05	0.0020	0.0003

Table 3 - Sediment Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	AD_SD07	AD_SD08	AD_SD09	AD_SD10	BBC_SD02	BBC_SD03	BBC_SD04	BBC_SD05	BBC_SD05	BBC_SD05	BBC_SD06	ID010_SD01	ID011_SD01	ID011_SD02	ID012_SD01	ID012_SD01
		Field ID	AD_SD07	AD_SD08	AD_SD09	AD_SD10	BBC_SD02	BBC_SD03	BBC_SD04	BBC_SD05	QC65	QC66	BBC_SD06	ID010_SD01	ID011_SD01	ID011_SD02	ID012_SD01	QC109
		Date	20/01/2020	20/01/2020	20/01/2020	20/01/2020	14/03/2021	17/03/2021	18/03/2021	18/03/2021	18/03/2021	18/03/2021	13/03/2021	20/01/2020	21/01/2020	21/01/2020	21/01/2020	21/01/2020
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Field_D
		Catchment Zone	Water Mill Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Rocky Point Creek	Headstone Creek	Headstone Creek	Broken Bridge Creek	Broken Bridge Creek
		Source Zone	AIRPORT	PS05	PS05	PS05												
		Lab Report No.	ES2002812	ES2002812	ES2002812	ES2002812	ES2111280	ES2111280	ES2111268	ES2111268	ES2111278	ES2111278	ES2111268	ES2002827	ES2002829	ES2002829	ES2002830	ES2002803
	Unit	EQL																
(n:2) Fluorotelomer Sulfonic Acids																		
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<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	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<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	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	0.0077	<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
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	0.0016	<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
Perfluoroalkane Carboxylic Acids																		
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	<0.0002	0.0025	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0055	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	0.0054	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	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	<0.0005	<0.0005	<0.0006	<0.0006
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	0.0027	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<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	0.002
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0055	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	0.0047	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	<0.0002	0.0058	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids																		
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0032	0.0033	0.134	0.0104	0.0009	0.0005	0.0013	<0.0002	<0.0002	<0.0002	0.0024	<0.0002	0.0008	0.0051	0.0167	0.0195
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0024
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0002	0.0002	0.0070	0.0025	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0003	0.0005	0.0041	0.0060
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0016
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	0.0014	0.0105	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0034	0.0035	0.141	0.0129	0.0009	0.0005	0.0013	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0011	0.0056	0.0208	0.0255
Perfluoroalkyl Sulfonamides																		
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	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	<0.0005	<0.0006	<0.0006
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	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	<0.0005	<0.0006	<0.0006
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	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	<0.0005	<0.0006	<0.0006
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	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	<0.0005	<0.0006	<0.0006
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PFAS																		
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0034	0.0049	0.199	0.0135	0.0009	0.0005	0.0013	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0011	0.0056	0.0208	0.0324

Table 3 - Sediment Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	ID012_SD01	ID012_SD02	ID012_SD03	ID012_SD04	ID025_SD01	MC_SD01	MC_SD02	MC_SD03	MC_SD04	MC_SD04	MC_SD05	MC_SD06	MC_SD07	MC_SD07	MC_SD08	MC_SD08	MC_SD08	MC_SD09	MC_SD10
		Field ID	QC209	ID012_SD02	ID012_SD03	ID012_SD04	ID025_SD01	MC_SD01	MC_SD02	MC_SD03	MC_SD04	MC_SD04	MC_SD05	MC_SD06	MC_SD07	MC_SD07	MC_SD08	QC106	QC206	MC_SD09	MC_SD10
		Date	21/01/2020	21/01/2020	18/03/2021	18/03/2021	18/03/2021	20/01/2020	20/01/2020	20/01/2020	20/01/2020	13/03/2021	20/01/2020	20/01/2020	20/01/2020	13/03/2021	20/01/2020	20/01/2020	20/01/2020	20/01/2020	20/01/2020
		Sample Type	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
		Catchment Zone	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Source Zone																			
		Lab Report No.	699303	ES2002830	ES2111259	ES2111259	ES2111257	ES2002810	ES2002810	ES2002810	ES2002810	ES2111268	ES2002810	ES2002810	ES2002810	ES2111268	ES2002810	ES2002803	699303	ES2002810	ES2002810
	Unit	EQL																			
(n:2) Fluorotelomer Sulfonic Acids																					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.005	<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	<0.0005	<0.005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.01	<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	<0.0005	<0.01	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.005	<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	<0.0005	<0.005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.005	<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	<0.0005	<0.005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids																					
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0026	0.0042	0.0028	0.0025	0.0055	0.0032	0.0010	0.0023	0.0010	0.0018	0.0016	<0.005	0.0021	0.0015
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	0.0004	0.0005	0.0002	0.0003	0.0005	0.0002	0.0003	0.0002	0.0005	0.0003	<0.005	0.0002	0.0003
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0060	<0.0002	<0.0002	<0.0005	<0.0002	0.0007	0.0011	0.0008	0.0006	0.0018	0.0008	0.0002	0.0004	0.0003	0.0004	0.0004	<0.005	0.0005	0.0003
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.005	<0.0006	<0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0006	0.0008	0.0006	0.0005	0.0012	0.0007	0.0002	0.0005	0.0003	0.0004	0.0004	<0.005	0.0005	0.0003
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.005	0.001	<0.001	<0.002	<0.001	0.002	0.002	0.002	0.003	<0.001	0.002	0.002	0.002	<0.001	0.001	<0.001	<0.005	<0.001	0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	0.0002	0.0004	<0.0002	0.0004	0.0003	<0.0002	<0.0002	0.0002	0.0003	0.0002	<0.005	<0.0002	0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0018	0.0028	0.0025	0.0021	0.0027	0.0030	0.0007	0.0014	0.0011	0.0011	0.0009	<0.005	0.0012	0.0010
Perfluoroalkane Sulfonic Acids																					
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0083	0.0090	0.0073	0.0019	<0.0002	0.283	0.316	0.418	0.456	0.288	0.386	0.152	0.182	0.145	0.172	0.174	0.13	0.148	0.141
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0028	0.0032	0.0041	0.0040	0.0082	0.0043	0.0012	0.0035	0.0018	0.0015	0.0011	<0.005	0.0011	0.0025
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<0.005	0.0020	0.0006	<0.0005	<0.0002	0.0466	0.0502	0.0609	0.0652	0.0924	0.0692	0.0205	0.0462	0.0249	0.0219	0.0202	0.014	0.0187	0.0310
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0050	0.0050	0.0068	0.0083	0.0075	0.0071	0.0022	0.0038	0.0030	0.0024	0.0016	<0.005	0.0022	0.0026
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0021	0.0008	0.0019	0.0015	0.0020	0.0017	0.0012	0.0010	0.0013	0.0009	0.0007	<0.005	0.0007	0.0006
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0022	0.0018	0.0032	0.0031	0.0061	0.0031	0.0010	0.0023	0.0011	0.0016	0.0013	<0.005	0.0008	0.0021
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0083	0.0110	0.0079	0.0019	<0.0002	0.330	0.366	0.479	0.521	0.380	0.455	0.172	0.228	0.170	0.194	0.194	0.144	0.167	0.172
Perfluoroalkyl Sulfonamides																					
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	0.0092	<0.0006	<0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.01	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.01	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.005	<0.0006	<0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.005	<0.0006	<0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	0.0057	<0.0006	<0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.005	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	0.0005	0.0004	0.0009	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.005	<0.0002	<0.0002
PFAS																					
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	0.0083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.144	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	0.0083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-
Sum of PFAS	mg/kg	0.0001	<0.05	0.0120	0.0079	0.0019	<0.0002	0.351	0.389	0.505	0.548	0.416	0.482	0.182	0.246	0.180	0.206	0.203	0.144	0.176	0.184

Table 3 - Sediment Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code			MC_SD11	MC_SD12	MC_SD13	MC_SD14	MC_SD15	MC_SD16	MC_SD16	MC_SD16	MC_SD17	MC_SD18	MC_SD19	MC_SD20	MC_SD21	MC_SD22	MC_SD23	MC_SD24	MC_SD25	MC_SD26	MC_SD27	MC_SD28	MC_SD29
Field ID			MC_SD11	MC_SD12	MC_SD13	MC_SD14	MC_SD15	MC_SD16	QC39	QC40	MC_SD17	MC_SD18	MC_SD19	MC_SD20	MC_SD21	MC_SD22	MC_SD23	MC_SD24	MC_SD25	MC_SD26	MC_SD27	MC_SD28	MC_SD29
Date			13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	27/03/2021	27/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	17/03/2021	17/03/2021	17/03/2021	15/03/2021
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Catchment Zone			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Source Zone																							
Lab Report No.			ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111280	265849	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268
	Unit	EQL																					
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<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
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<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
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<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
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<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
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0015	0.0016	0.0003	0.0014	0.0004	0.0008	0.0006	0.0004	0.0044	0.0043	0.0048	0.0097	0.0022	0.0007	0.0009	0.0045	0.0004	0.0020	0.0051	0.0022	0.0004
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0020	0.0002	0.0009
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0005	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0001	0.0008	0.0005	0.0005	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0002	0.0003
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0006	0.0004	<0.0002	0.0003	<0.0002	0.0004	0.0003	<0.0002	<0.0002	<0.0002	0.0026	0.0051	0.0005	0.0013	0.0010	0.0075	0.0004	0.0004	0.0017	<0.0002	0.0004
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<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
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0004	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	0.0001	0.0013	0.0011	0.0010	0.0025	0.0006	0.0003	<0.0002	0.0008	<0.0002	0.0004	0.0012	0.0007	0.0003
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	0.002	0.003	<0.001	0.001	0.002	0.005	<0.001	<0.001	0.002	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	0.0004	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0003	0.0006
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0003	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.0011
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0012	0.0013	0.0003	0.0015	0.0007	0.0007	0.0006	0.0004	0.0028	0.0024	0.0016	0.0098	0.0012	0.0004	<0.0002	0.0007	<0.0002	0.0012	0.0030	0.0024	0.0004
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0885	0.192	0.0425	0.176	0.103	0.119	0.0991	0.073	0.138	0.233	0.175	0.423	0.0620	0.0075	0.0088	0.0151	0.0080	0.170	0.471	0.383	0.0120
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	0.0008	0.0016	0.0004	0.0016	0.0008	0.0013	0.0009	0.0006	0.0032	0.0019	0.0008	0.0029	0.0013	<0.0002	0.0003	0.0013	<0.0002	0.0016	0.0038	0.0022	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0104	0.0219	0.0058	0.0253	0.0112	0.0167	0.0142	0.0076	0.0322	0.0233	0.0117	0.0387	0.0128	0.0016	0.0029	0.0146	0.0028	0.0250	0.0533	0.0399	0.0006
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0014	0.0034	0.0009	0.0033	0.0015	0.0021	0.0016	0.0012	0.0030	0.0032	0.0017	0.0043	0.0011	<0.0002	<0.0002	0.0006	<0.0002	0.0032	0.0064	0.0062	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0009	0.0018	<0.0002	0.0024	0.0015	0.0011	0.0008	0.0007	0.0013	0.0017	0.0010	0.0026	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0025	0.0054	0.0026	0.0010
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.0007	0.0012	0.0003	0.0011	0.0006	0.0010	0.0007	0.0004	0.0028	0.0019	0.0007	0.0025	0.0012	<0.0002	0.0004	0.0008	0.0002	0.0012	0.0027	0.0013	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0989	0.214	0.0483	0.201	0.114	0.136	0.113	0.081	0.170	0.256	0.187	0.462	0.0748	0.0091	0.0117	0.0297	0.0108	0.195	0.524	0.423	0.0126
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<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
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<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
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<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
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<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
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0004	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0019	0.0009	<0.0002
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	0.073	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.108	0.227	0.0505	0.214	0.120	0.143	0.119	0.085	0.190	0.273	0.204	0.506	0.0829	0.0128	0.0165	0.0509	0.0118	0.208	0.562	0.442	0.0180

Table 3 - Sediment Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	TC_SD02	TC_SD04	TC_SD05	TC_SD06	TC_SD07	TC_SD08	TC_SD09	TC_SD10	TC_SD11	TC_SD12	TC_SD13
		Field ID	TC_SD02	TC_SD04	TC_SD05	TC_SD06	TC_SD07	TC_SD08	TC_SD09	TC_SD10	TC_SD11	TC_SD12	TC_SD13
		Date	16/03/2021	12/03/2021	12/03/2021	12/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	17/03/2021
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Catchment Zone	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek
		Source Zone											
		Lab Report No.	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268
	Unit	EQL											
(n:2) Fluorotelomer Sulfonic Acids													
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids													
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.0014	0.0008	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroalkane Sulfonic Acids													
Perfluorononanesulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.0067	0.0048	0.0016	0.0050	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0043	0.0049
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	0.0004	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.0050	0.0027	0.0007	0.0025	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	0.0004	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.0004	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	mg/kg	0.0001	0.0117	0.0075	0.0023	0.0075	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0047	0.0052
Perfluoroalkyl Sulfonamides													
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PFAS													
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.0152	0.0098	0.0063	0.0083	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0047	0.0052

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	A_SB01	A_SB01	A_SB01	A_SB02	A_SB02	A_SB02	A_SB03	A_SB03	A_SB04	A_SB04	A_SB04	A_SB05	A_SB05	A_SB05	A_SB06	A_SB06	A_SB06	A_SB07	A_SB07	A_SB07	A_SB08
		Field ID	A_SB01_0.1	A_SB01_0.5	A_SB01_1.0	A_SB02_0.1	A_SB02_0.5	A_SB02_1.5	A_SB03_0.1	A_SB03_0.4	A_SB04_0.1	A_SB04_0.5	A_SB04_1.0	A_SB05_0.1	A_SB05_0.4	A_SB05_1.0	A_SB06_0.1	A_SB06_0.5	A_SB06_1.5	A_SB07_0.1	A_SB07_0.4	A_SB07_1.5	A_SB08_0.4
		Date	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	10/03/2021	9/03/2021	10/03/2021
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092
	Unit	EQL																					
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	0.10	0.28	0.08	<0.05	<0.05	<0.05	1.48	2.05	<0.05	0.08	0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.05	0.03	0.05	0.04	0.02	<0.02	0.06	0.04	0.08	0.05	0.07	0.04	<0.02	<0.02	0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	0.08	0.10	0.06	<0.02	<0.02	<0.02	0.07	0.06	0.03	<0.02	0.06	0.04	0.03	0.03	<0.02	<0.02	<0.02	0.02	0.02	<0.02	0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.07	0.02	0.03	0.05	0.03	<0.02	0.08	0.06	0.12	0.04	0.07	0.08	<0.02	0.02	0.03	<0.02	<0.02	0.02	<0.02	0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.05	0.07	0.04	0.02	<0.02	<0.02	0.10	0.08	0.04	0.04	0.04	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	0.08	0.07	0.05	<0.02	<0.02	<0.02	0.37	0.28	<0.02	0.05	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.15	0.28	0.17	0.04	0.06	0.04	0.11	0.08	0.17	0.13	0.14	0.05	0.02	0.02	0.03	0.03	0.02	0.03	0.02	0.03	0.03
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	6.45	59.2	31.2	0.70	10.2	21.5	5.29	6.36	7.82	44.8	44.5	1.10	4.85	6.65	0.72	6.29	8.58	0.73	2.45	9.10	1.92
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.33	0.38	0.30	0.17	0.19	0.16	0.11	0.07	0.41	0.23	0.28	0.11	0.02	0.03	0.04	0.02	0.02	0.07	0.03	0.04	0.05
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.03	0.13	0.07	<0.02	0.04	0.06	<0.02	<0.02	0.05	0.15	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	1.31	0.18	0.23	0.09	0.03	<0.02	0.06	0.10	0.89	1.25	0.80	0.05	0.33	0.14	0.09	0.06	0.06	0.03	0.06	<0.02	0.27
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	6.78	59.6	31.5	0.87	10.4	21.7	5.40	6.43	8.23	45.0	44.8	1.21	4.87	6.68	0.76	6.31	8.60	0.80	2.48	9.14	1.97
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	0.56	0.63	0.24	<0.02	0.06	<0.02	0.33	0.64	1.03	0.88	0.36	0.02	0.03	0.02	<0.02	0.18	0.07	0.02	<0.02	<0.02	0.22
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	9.26	61.4	32.5	1.21	10.6	21.8	8.06	9.82	10.9	47.7	46.7	1.52	5.28	6.91	0.93	6.58	8.78	0.94	2.58	9.19	2.56

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	A_SB08	A_SB08	A_SB09	A_SB09	A_SB09	A_SB10	A_SB10	A_SB10	A_SB11	A_SB11	A_SB11	A_SB12	A_SB12	A_SB12	A_SB13	A_SB14	A_SB15	A_SB15	A_SB15	A_SB16	A_SB16
		Field ID	A_SB08_1.0	QC04	A_SB09_0.1	A_SB09_0.5	A_SB09_1.5	A_SB10_0.5	A_SB10_1.5	QC08	A_SB11_0.5	A_SB11_1.1	QC11	A_SB12_0.1	A_SB12_0.5	A_SB12_1.0	A_SB13_0.1	A_SB14_0.1	A_SB15_0.1	A_SB15_0.5	A_SB15_1.0	A_SB16_0.1	A_SB16_0.5
		Date	9/03/2021	10/03/2021	10/03/2021	10/03/2021	9/03/2021	10/03/2021	9/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Type	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092
	Unit	EQL																					
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	0.04	0.03	0.08	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.19	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.10	0.07	0.22	0.04	0.03	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.06	0.04	0.09	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.06	0.14	0.08	0.41	0.17	0.04	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	3.03	0.26	0.57	4.60	7.33	7.05	6.26	0.75	2.85	2.47	1.62	0.45	0.02	0.02	0.03	0.02	0.02	<0.01	<0.01	0.04	0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.03	0.07	0.04	0.03	0.04	0.12	0.08	0.21	0.14	0.07	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.03	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	0.12	<0.02	0.07	0.07	0.13	<0.02	<0.02	<0.02	0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	3.06	0.33	0.61	4.63	7.37	7.17	6.34	0.96	2.99	2.54	1.80	0.45	0.02	0.02	0.03	0.02	0.02	<0.01	<0.01	0.04	0.02
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	0.11	0.03	0.03	0.06	0.09	<0.02	<0.02	<0.02	<0.02	0.33	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	3.32	0.38	0.73	4.78	7.61	7.21	6.35	1.17	3.38	3.19	3.14	0.85	0.11	0.08	0.03	0.02	0.02	<0.01	<0.01	0.04	0.02

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	A_SB16	A_SB17	A_SB17	A_SB17	A_SB18	A_SB18	A_SB18	A_SB19	A_SB19	A_SB19	A_SB20	A_SB21	A_SB21	A_SB21	A_SB22	A_SB22	A_SB22	A_SB23	A_SB23	A_SB23	A_SB23
		Field ID	A_SB16_1.0	A_SB17_0.1	A_SB17_0.5	A_SB17_1.5	A_SB18_0.1	A_SB18_0.5	A_SB18_1.5	A_SB19_0.1	A_SB19_0.5	A_SB19_1.0	A_SB20_0.1	A_SB21_0.1	A_SB21_0.5	A_SB21_1.0	A_SB22_0.1	A_SB22_0.5	A_SB22_1.5	A_SB23_0.1	A_SB23_0.5	A_SB23_1.0	A_SB23_1.5
		Date	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115092	ES2115099	ES2115092	ES2115099	ES2115099	ES2115099	ES2115092
	Unit	EQL																					
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	<0.05	0.54	<0.05	<0.05	<0.05	0.74	0.22	0.20	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0.03	0.02	0.27	1.90	1.46	0.22	2.21	1.26	<0.02	0.10	0.20	0.04	0.08	0.04	0.23	<0.02	0.02	0.02	0.03
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0.02	<0.02	0.04	<0.02	<0.02	0.14	0.02	0.03	<0.02	0.11	0.15	0.08	<0.02	0.04	0.09	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0.05	0.04	0.06	0.43	0.33	0.09	0.39	0.25	<0.02	0.05	0.06	0.02	0.09	0.10	0.37	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0.03	<0.02	0.11	0.21	0.59	<0.02	0.37	0.24	<0.02	0.13	0.10	0.04	0.05	0.05	0.41	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.10	0.06	0.10	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	0.04	<0.01	0.68	4.15	0.15	0.10	1.40	1.60	<0.01	0.17	0.22	0.07	0.05	0.09	0.51	0.02	0.02	0.11	0.17
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	0.02	0.12	0.02	9.24	3.01	0.19	36.0	71.7	57.5	0.13	2.39	9.84	3.95	0.17	2.52	0.87	3.04	10.4	4.59	4.20
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.10	0.26	1.23	<0.02	0.62	0.31	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	3.27	11.1	30.6	0.29	6.17	4.91	<0.02	0.19	1.03	0.27	0.23	0.08	0.66	0.12	0.07	0.22	0.37
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	1.25	4.48	0.23	0.06	0.63	1.46	<0.02	0.07	0.13	0.04	<0.02	0.03	0.02	<0.02	<0.02	0.10	0.03
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	0.09	0.05	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.03	0.14	0.29	0.03	0.30	0.30	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	0.02	0.12	0.02	12.5	14.1	30.8	36.3	77.9	62.4	0.13	2.58	10.9	4.22	0.40	2.60	1.53	3.16	10.5	4.81	4.57
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	0.14	<0.02	<0.02	<0.02
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	0.02	0.29	0.08	15.2	25.8	35.3	37.6	83.9	68.0	0.13	4.05	12.2	4.89	0.67	3.05	3.40	3.40	10.5	5.04	4.80

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	A_SB24	A_SB25	A_SB25	A_SB25	A_SB26	A_SB26	A_SB26	A_SD01	A_SS02	A_SS06	A_SS11	A_SS13	A_SS19	A_SS20	A_SS22	A_SS23	A_SS24	A_SS28	A_SS30	A_SS30	A_SS30
		Field ID	A_SB24_0.1	A_SB25_0.1	A_SB25_1.0	QC48	A_SB26_0.1	A_SB26_0.3	A_SB26_0.5	A_SD01	A_SS02	A_SS06	A_SS11	A_SS13	A_SS19	A_SS20	A_SS22	A_SS23	A_SS24	A_SS28	A_SS30	QC112	QC212
		Date	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	22/01/2020	21/01/2020	21/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020	22/01/2020
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Sediment	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Type	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2115099	ES2115099	ES2115092	ES2115099	ES2115099	ES2115099	ES2115092	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	702872
	Unit	EQL																					
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.20	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.02	0.08	0.69	0.15	1.30	<0.05	0.22	0.22	0.12
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.09	0.45	0.08	0.11	0.47	0.63	0.14	0.17	0.17	0.17
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.11	<0.02	<0.02	<0.02	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.30	0.05	0.08	0.32	0.38	<0.02	0.69	0.70	0.35
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.03	0.20	0.18	0.09	0.12	0.29	0.28	0.16	0.24	0.27	0.24
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.12	0.03	0.04	0.13	0.22	<0.02	0.12	0.13	0.13
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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	0.2	0.21
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.48	0.03	0.10	0.22	0.29	<0.02	0.12	0.17	0.06
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	0.09	0.09	0.30	<0.02	<0.02	<0.02	<0.01
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.04	0.41	0.08	0.13	0.43	0.68	0.06	0.88	0.99	0.65
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	2.15	0.48	0.04	0.06	0.07	0.36	0.45	0.11	0.28	0.80	0.14	0.26	10.6	0.68	1.90	10.1	9.12	0.71	1.52	2.10	0.81
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	0.18	0.24	<0.02	<0.02	<0.02	0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.03	<0.02	0.05	0.12	<0.02	<0.02	0.05	0.02	0.06	<0.02	0.20	0.45	0.40	0.20	0.22	2.42	2.03	0.24	0.33	0.31	0.26
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.04	<0.02	<0.02	0.14	0.14	0.02	0.03	0.02	0.01
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	0.04	0.34	0.22	0.05	<0.02	<0.02	<0.01
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	0.14	0.24	<0.02	<0.02	<0.02	0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	2.18	0.48	0.09	0.18	0.07	0.36	0.50	0.13	0.34	0.80	0.34	0.71	11.0	0.88	2.12	12.5	11.2	0.95	1.85	2.41	1.07
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.02	0.04	0.25	0.09	<0.02	<0.02	<0.02	<0.05
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.72
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.46
Sum of PFAS	µg/L	0.01	2.18	0.48	0.09	0.18	0.07	0.36	0.50	0.14	0.37	0.84	0.45	1.17	16.4	1.36	3.56	15.7	16.3	1.38	4.32	5.28	3.05

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	A_SS34	A_SS38	A_SS45	A_SS54	A_SS58	A_SS62	A_SS64	A_SS65	A_SS66	A_SS67	A_SS68	A_SS69	A_SS70	A_SS71	A_SS72	A_SS73	A_SS74	A_SS75	A_SS76	A_SS77	A_SS78
		Field ID	A_SS34	A_SS38	A_SS45	A_SS54	A_SS58	A_SS62	A_SS64	A_SS65	A_SS66	A_SS67	A_SS68	A_SS69	A_SS70	A_SS71	A_SS72	A_SS73	A_SS74	A_SS75	A_SS76	A_SS77	A_SS78
		Date	22/01/2020	22/01/2020	22/01/2020	22/01/2020	23/01/2020	23/01/2020	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2005692	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699
	Unit	EQL																					
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	0.28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.04	0.15	0.04	0.62	0.02	0.08	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	0.10	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	0.27	0.05	0.07	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	0.07	0.04	0.06	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.03	0.16	0.17	0.17	0.02	0.07	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.24	1.80	0.52	0.70	0.23	0.33	0.03	0.03	0.15	<0.01	0.02	0.05	0.01	0.02	0.06	0.07	0.02	0.14	<0.01	0.05	0.04
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	0.03	<0.02	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.13	0.60	0.12	4.84	0.03	0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	0.04	<0.02	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.37	2.40	0.64	5.54	0.26	0.35	0.03	0.03	0.21	<0.01	0.02	0.05	0.01	0.02	0.06	0.11	0.02	0.14	<0.01	0.05	0.04
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.44	3.26	1.20	7.28	0.30	0.60	0.03	0.03	0.26	<0.01	0.02	0.05	0.01	0.02	0.06	0.11	0.02	0.15	<0.01	0.05	0.04

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

	Unit	EQL	A_SS79	A_SS80	A_SS81	A_SS82	A_SS83	A_SS83	A_SS84	A_SS85	A_SS86	A_SS87	A_SS88	A_SS89	A_SS90	A_SS91	A_SS92	A_SS92	A_SS93	A_SS94	A_SS95	A_SS96	A_SS97
Field ID			A_SS79	A_SS80	A_SS81	A_SS82	A_SS83	QC13	A_SS84	A_SS85	A_SS86	A_SS87	A_SS88	A_SS89	A_SS90	A_SS91	A_SS92	QC02	A_SS93	A_SS94	A_SS95	A_SS96	A_SS97
Date			9/03/2021	9/03/2021	9/03/2021	9/03/2021	10/03/2021	9/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021
Location Type			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Type			Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal
Sampling Method			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Lab Report No.			ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																							
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.06
Perfluoroalkane Sulfonic Acids																							
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.03	0.05	0.04	0.06	0.06	0.05	0.05	0.14	0.13	0.01	0.01	0.13	0.08	0.05	0.19	0.11	0.02	0.02	0.18	0.06	0.83
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.09	<0.02	<0.02	<0.02	<0.02	0.07
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.03	0.05	0.04	0.06	0.08	0.07	0.05	0.14	0.15	0.01	0.01	0.13	0.08	0.05	0.27	0.20	0.02	0.02	0.18	0.06	0.90
Perfluoroalkyl Sulfonamides																							
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																							
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.03	0.05	0.04	0.06	0.08	0.07	0.05	0.14	0.16	0.01	0.01	0.14	0.08	0.05	0.27	0.20	0.02	0.02	0.19	0.06	1.07

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code	Unit	EQL	A_SS97	A_SS98	A_SS99	A_SS100	A_SS101	A_SS102	A_SS103	A_SS103	A_SS104
Field ID			QC17	A_SS98	A_SS99	A_SS100	A_SS101	A_SS102	A_SS103	QC19	A_SS104
Date			10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021
Location Type			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Type			Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal
Sampling Method			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Lab Report No.			ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699
(n:2) Fluorotelomer Sulfonic Acids											
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	1.16	1.27	0.59	1.20
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids											
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.03	<0.02	0.17
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	0.04	<0.02	<0.02	<0.02	<0.02	0.05	0.49	0.46	0.15
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.04	0.45
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.04	<0.02	<0.02	<0.02	<0.02	0.07	0.03	0.02	0.13
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.58	0.66	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.06	<0.01	<0.01	<0.01	<0.01	0.11	0.17	0.09	0.85
Perfluoroalkane Sulfonic Acids											
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.62	<0.01	<0.01	<0.01	0.20	19.5	19.5	9.86	7.23
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.06	<0.02	<0.02	<0.02	0.03	0.15	0.10	0.05	1.46
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	0.09	0.08
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.20	0.07	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.68	<0.01	<0.01	<0.01	0.23	19.6	19.6	9.91	8.69
Perfluoroalkyl Sulfonamides											
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02
PFAS											
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.82	<0.01	<0.01	<0.01	0.23	21.5	22.4	11.9	12.0

Location Code	A_SS105	A_SS106	A_SS107	A_SS108	A_SS108	A_SS109	A_SS110	A_SS111	A_SS112	A_SS113	A_SS114	A_SS115
Field ID	A_SS105	A_SS106	A_SS107	A_SS108	QC23	A_SS109	A_SS110	A_SS111	A_SS112	A_SS113	A_SS114	A_SS115
Date	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021	10/03/2021
Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Type	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Lab Report No.	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699	ES2115699
(n:2) Fluorotelomer Sulfonic Acids												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.48	<0.05	<0.05	0.30	0.16	<0.05	1.34	<0.05	0.12	<0.05	0.14	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids												
Perfluorohexanoic acid (PFHxA)	<0.02	<0.02	0.04	0.08	0.06	2.69	0.97	1.01	0.55	<0.02	<0.02	0.06
Perfluorododecanoic acid (PFDoDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	0.02	0.02	<0.02	0.03	0.06	0.03	0.14	0.06	0.16	0.02	0.02	<0.02
Perfluoropentanoic acid (PFPeA)	<0.02	<0.02	<0.02	0.03	0.04	0.94	0.73	0.33	0.27	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	<0.02	<0.02	<0.02	0.05	0.05	0.12	0.08	0.25	0.35	<0.02	0.02	<0.02
Perfluorobutanoic acid (PFBA)	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.3	0.1	0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	<0.02	<0.02	<0.02	0.03	0.04	0.02	0.12	<0.02	0.04	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	0.05	0.05	<0.01	0.11	0.12	0.26	0.18	5.64	1.16	0.04	0.05	0.10
Perfluoroalkane Sulfonic Acids												
Perfluorononanesulfonic acid (PFNS)	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	1.03	0.40	0.10	5.53	6.12	226	53.5	83.8	1.43	0.51	1.12	7.70
Perfluoropentane sulfonic acid (PFPeS)	<0.02	<0.02	<0.02	<0.02	<0.02	0.20	0.03	0.59	0.08	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	0.07	<0.02	0.05	0.24	0.23	1.96	0.28	37.5	1.40	0.08	0.03	0.07
Perfluoroheptane sulfonic acid (PFHpS)	0.03	<0.02	<0.02	0.03	0.05	0.54	0.06	8.61	0.34	0.02	<0.02	0.05
Perfluorodecanesulfonic acid (PFDS)	<0.02	<0.02	<0.02	0.06	0.06	0.61	0.59	<0.02	0.03	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	<0.02	<0.02	<0.02	<0.02	0.02	0.31	0.05	0.15	0.09	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	1.10	0.40	0.15	5.77	6.35	228	53.8	121	2.83	0.59	1.15	7.77
Perfluoroalkyl Sulfonamides												
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	<0.02	<0.02	<0.02	0.02	<0.02	1.15	0.16	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS												
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	1.68	0.47	0.19	6.51	7.01	235	58.5	138	6.12	0.67	1.38	7.98

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	A_SS123	A_SS124	A_SS125	A_SS126	A_SS127	A_SS128	A_SS129	A_SS130	A_SS131	A_SS132	A_SS133	A_SS134	A_SS135	A_SS136	A_SS137	A_SS138	A_SS139	A_SS140	A_SS141
		Field ID	A_SS123	A_SS124	A_SS125	A_SS126	A_SS127	A_SS128	A_SS129	A_SS130	A_SS131	A_SS132	A_SS133	A_SS134	A_SS135	A_SS136	A_SS137	A_SS138	A_SS139	A_SS140	A_SS141
		Date	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	17/03/2021	17/03/2021
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Headstone Creek	Headstone Creek	Headstone Creek	Headstone Creek	Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Water Mill Creek	Mission Creek	Mission Creek	Water Mill Creek	Rocky Point Creek	Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115699	ES2115699	ES2115699	ES2115699	ES2115099	ES2115099
	Unit	EQL																			
(n:2) Fluorotelomer Sulfonic Acids																					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																					
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																					
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.07	0.02	0.01	<0.01	<0.01	0.08	0.02	0.03	0.01	<0.01	0.12	0.09	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.07	0.02	0.01	<0.01	<0.01	0.11	0.02	0.03	0.01	<0.01	0.23	0.09	<0.01	<0.01
Perfluoroalkyl Sulfonamides																					
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																					
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.07	0.02	0.01	<0.01	<0.01	0.18	0.02	0.03	0.01	<0.01	0.23	0.10	<0.01	<0.01

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	A_STP_SS01	A_STP_SS02	A_STP_SS03	A_STP_SS04	A_STP_SS05	A_STP_SS06	A_STP_SS07	A_STP_SS08	A_STP_SS09	A_STP_SS10	AD_SD09	AD_SD10	BBC_SD02	BBC_SD03	BBC_SD04	BBC_SD06	CHAP_SS02	ID011_SD02
		Field ID	A_STP_SS01	A_STP_SS02	A_STP_SS03	A_STP_SS04	A_STP_SS05	A_STP_SS06	A_STP_SS07	A_STP_SS08	A_STP_SS09	A_STP_SS10	AD_SD09	AD_SD10	BBC_SD02	BBC_SD03	BBC_SD04	BBC_SD06	CHAP_SS02	ID011_SD02
		Date	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	20/01/2020	20/01/2020	14/03/2021	17/03/2021	18/03/2021	18/03/2021	20/01/2020	21/01/2020
		Location Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Soil	Sediment
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Mission Creek	Headstone Creek
		Lab Report No.	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2005692	ES2005692	ES2115099	ES2115099	ES2115099	ES2115099	ES2005692	ES2005692
	Unit	EQL																		
(n:2) Fluorotelomer Sulfonic Acids																				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																				
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																				
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.15	<0.01	0.02	<0.01	0.16	0.08	0.03	0.15	0.04	0.07	2.44	0.14	<0.01	<0.01	<0.01	<0.01	0.12	0.22
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.05	0.04	<0.02	<0.02	<0.02	<0.02	0.14	0.03	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.15	<0.01	0.02	<0.01	0.21	0.12	0.03	0.15	0.04	0.07	2.58	0.17	<0.01	<0.01	<0.01	<0.01	0.14	0.22
Perfluoroalkyl Sulfonamides																				
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																				
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.21	<0.01	0.02	<0.01	0.23	0.12	0.03	0.16	0.04	0.07	3.48	0.17	<0.01	<0.01	<0.01	<0.01	0.14	0.22

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

Location Code			ID012_SD01	ID013_SS01	ID013_SS02	ID013_SS03	ID013_SS04	ID013_SS05	ID013_SS06	ID013_SS07	MC_SD03	MC_SD04	MC_SD04	MC_SD07	MC_SD08	MC_SD08	MC_SD08	MC_SD11	MC_SD12	MC_SD13	MC_SD14	MC_SD15
Field ID			ID012_SD01	ID013_SS01	ID013_SS02	ID013_SS03	ID013_SS04	ID013_SS05	ID013_SS06	ID013_SS07	MC_SD03	MC_SD04	MC_SD04	MC_SD07	MC_SD08	QC106	QC206	MC_SD11	MC_SD12	MC_SD13	MC_SD14	MC_SD15
Date			21/01/2020	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	20/01/2020	20/01/2020	13/03/2021	13/03/2021	20/01/2020	20/01/2020	20/01/2020	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021
Location Type			Sediment	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
Sampling Method			Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Lab Report No.			ES2005692	ES2115102	ES2115102	ES2115102	ES2115102	ES2115102	ES2115102	ES2115102	ES2005692	ES2005692	ES2115099	ES2115099	ES2005692	ES2005692	702872	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099
	Unit	EQL																				
(n:2) Fluorotelomer Sulfonic Acids																						
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																						
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.03	0.06	0.06	0.05	0.03	0.04	<0.02	0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	0.04	0.04	0.03	0.02	0.02	<0.01	0.02	0.02
Perfluoroalkane Sulfonic Acids																						
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	0.01	0.03	0.04	0.06	0.01	0.09	<0.01	0.18	0.11	0.06	0.52	3.73	3.47	2.3	0.78	1.83	0.46	0.76	1.07
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.03	0.05	0.04	0.04	0.04	<0.02	0.04	<0.02	0.04	0.03
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.02	0.19	0.08	0.13	0.48	0.54	0.50	0.46	0.19	0.45	0.14	0.41	0.33
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	0.06	0.04	0.02	0.04	<0.02	0.04	0.03
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.04	0.03	0.06	0.05	0.04	<0.02	0.03	<0.02	0.03	0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	0.01	0.03	0.06	0.08	0.01	0.09	<0.01	0.37	0.19	0.19	1.00	4.27	3.97	2.76	0.97	2.28	0.60	1.17	1.40
Perfluoroalkyl Sulfonamides																						
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																						
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.79	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.33	-	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	0.01	0.03	0.06	0.08	0.01	0.09	<0.01	0.44	0.19	0.30	1.16	4.53	4.22	3	1.04	2.45	0.60	1.32	1.50

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	MC_SD16	MC_SD17	MC_SD18	MC_SD19	MC_SD20	MC_SD21	MC_SD22	MC_SD23	MC_SD24	MC_SD25	MC_SD26	MC_SD27	MC_SD28	MC_SD29	PWS_CAS_TOILETS	PWS_CAS_TOILETS	PWS_EB_TOILETS	PWS_EB_TOILETS
		Field ID	MC_SD16	MC_SD17	MC_SD18	MC_SD19	MC_SD20	MC_SD21	MC_SD22	MC_SD23	MC_SD24	MC_SD25	MC_SD26	MC_SD27	MC_SD28	MC_SD29	PWS_CAS_TOILETS_0.1	PWS_CAS_TOILETS_0.5	PWS_EB_TOILETS_0.1	PWS_EB_TOILETS_0.5
		Date	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	17/03/2021	17/03/2021	17/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021	15/03/2021
		Location Type	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	SW	Sediment	Water	Water	Water	Water
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Water Mill Creek	Water Mill Creek
		Lab Report No.	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115699	ES2115699	ES2115699	ES2115699
	Unit	EQL																		
(n:2) Fluorotelomer Sulfonic Acids																				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																				
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.02	<0.02	<0.02	<0.02	0.12	0.08	<0.02	<0.02	<0.02	<0.02	0.03	0.07	0.03	<0.02	<0.02	<0.02	0.28	0.22
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.04	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.27	0.23
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.23	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.01	<0.01	<0.01	0.01	0.13	0.04	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.02	<0.01	<0.01	<0.01	0.04	0.09
Perfluoroalkane Sulfonic Acids																				
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.28	0.39	0.65	0.46	5.05	1.18	0.01	0.02	0.02	0.02	1.42	2.56	1.77	0.02	<0.01	<0.01	0.02	0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.03	0.04	<0.02	<0.02	0.09	0.05	<0.02	<0.02	<0.02	<0.02	0.03	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.24	0.32	0.16	0.09	1.04	0.46	0.03	0.03	0.08	0.02	0.36	0.62	0.30	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	0.02	<0.02	<0.02	0.09	0.03	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.02	0.04	<0.02	<0.02	0.08	0.05	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.52	0.71	0.81	0.55	6.09	1.64	0.04	0.05	0.10	0.04	1.78	3.18	2.07	0.02	<0.01	<0.01	0.02	0.02
Perfluoroalkyl Sulfonamides																				
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																				
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.60	0.81	0.81	0.56	6.68	1.91	0.04	0.05	0.10	0.04	1.92	3.44	2.21	0.02	<0.01	<0.01	0.91	0.69

Table 4: Soil and Sediment Leachability Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
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Location Code			PWS_HEAD_TOILETS	PWS_HEAD_TOILETS	TC_SD02	TC_SD04	TC_SD05	TC_SD06	TC_SD12	TC_SD13	TC_SS01	TC_SS02	TC_SS03
Field ID			PWS_HEAD_TOILETS_0.1	PWS_HEAD_TOILETS_0.5	TC_SD02	TC_SD04	TC_SD05	TC_SD06	TC_SD12	TC_SD13	TC_SS01	TC_SS02	TC_SS03
Date			15/03/2021	15/03/2021	16/03/2021	12/03/2021	12/03/2021	12/03/2021	15/03/2021	17/03/2021	15/03/2021	15/03/2021	15/03/2021
Location Type			Water	Water	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Soil	Soil	Soil
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Sampling Method			Headstone Creek	Headstone Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek
Lab Report No.			ES2115699	ES2115699	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099	ES2115099
	Unit	EQL											
(n:2) Fluorotelomer Sulfonic Acids													
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids													
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids													
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.02	<0.01	0.02	0.03	<0.01	0.03	0.01	0.03	<0.01	0.03	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	0.07	0.04	<0.02	0.06	<0.02	<0.02	<0.02	0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.02	<0.01	0.09	0.07	<0.01	0.09	0.01	0.03	<0.01	0.05	<0.01
Perfluoroalkyl Sulfonamides													
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS													
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.02	<0.01	0.09	0.07	<0.01	0.09	0.01	0.03	<0.01	0.05	<0.01

Table 5: Surface Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

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		Location Code	BBC_SW01	BBC_SW05	BBC_SW05	BUMORAS_SW01	Cockpit_SW01	Cockpit_SW01	Cockpit_SW01	Cockpit_SW01	DEPOT_SW01	HC_SW01	HC_SW01	HC_SW01	ID003_SW01	ID007_SPRING	ID012_SW02
		Field ID	BBC_SW01	BBC_SW05	QC65	BUMORAS_SW01	Cockpit_SW01	COCKPIT_SW01	QC104	QC204	DEPOT_SW01	HC_SW01	QC43	QC44	ID003_SW01	ID007_SPRING	ID012_SW02
		Date	15/01/2020	18/03/2021	18/03/2021	14/01/2020	18/01/2020	17/03/2021	18/01/2020	18/01/2020	11/03/2021	14/03/2021	14/03/2021	14/03/2021	16/01/2020	18/01/2020	21/01/2020
		Location Type	SW	SW	Sediment	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
		Sample Type	Normal	Normal	Field_D	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal
		Location Description													Private	Private	Private
		Catchment	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Rocky Point Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Headstone Creek	Headstone Creek	Headstone Creek	Rocky Point Creek	Broken Bridge Creek	Broken Bridge Creek
		Lab Report No.	ES2002626	ES2111268	ES2111280	ES2002626	ES2002808	ES2111280	ES2002803	699303	ES2111278	ES2111280	ES2111280	265849	ES2002619	ES2002822	ES2002830
	Unit	EQL															
(n:2) Fluorotelomer Sulfonic Acids																	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																	
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																	
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.02	<0.01	<0.02	<0.02	<0.02	<0.01	0.03	<0.02	0.08
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	0.04	0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	0.18
Perfluoroalkyl Sulfonamides																	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
PFAS																	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	0.01	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	0.01	-	-	-	<0.01	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	0.04	<0.1	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	0.18

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#4 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table 5: Surface Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	ID012_SW03	ID012_SW03	ID012_SW03	ID012_SW04	MC_SD28	MC_SD28	MC_SW04	MC_SW11	MC_SW13	MC_SW21	MC_SW24	MC_SW25	MC_SW26	MC_SW27	MC_SW28	PWS_DUCK_DAM	PWS_DUCK_DAM	PWS_DUCK_DAM
		Field ID	ID012_SW03	QC63	QC64	ID012_SW04	QC59	QC60	MC_SW04	MC_SW11	MC_SW13	MC_SW21	MC_SW24	MC_SW25	MC_SW26	MC_SW27	MC_SW28	PWS_DUCK_DAM	PWS_DUCK_DAM	QC41
		Date	18/03/2021	18/03/2021	18/03/2021	18/03/2021	17/03/2021	17/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	17/03/2021	17/03/2021	17/03/2021	14/01/2020	14/03/2021	14/03/2021
		Location Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
		Sample Type	Normal	Field_D	Interlab_D	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D
		Location Description	Private	Private	Private	Private												Public	Public	Public
		Catchment	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek
		Lab Report No.	ES2111259	ES2111259	265845	ES2111259	ES2111280	265849	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2002626	ES2111280	ES2111280
	Unit	EQL																		
(n:2) Fluorotelomer Sulfonic Acids																				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																				
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	0.59	0.67	0.40	0.67	0.52	2.05	0.03	0.04	0.70	0.64	0.70	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	0.18	0.20	0.14	0.17	0.13	0.46	0.03	0.05	0.17	0.16	0.17	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	0.06	0.12	0.02	0.11	0.08	0.41	<0.02	<0.02	0.12	0.11	0.11	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.02	<0.1	<0.1	0.1	0.1	0.1	0.1	0.3	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	0.22	0.28	0.02	0.23	0.15	0.92	<0.01	<0.01	0.24	0.24	0.25	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																				
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.06	0.05	0.05	<0.01	5.59	7.1	0.38	4.01	3.53	24.0	0.03	0.05	4.23	5.85	5.52	0.03	0.02	0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	0.51	0.61	0.27	0.58	0.45	2.49	0.03	0.04	0.64	0.53	0.56	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.02	0.02	0.02	<0.02	3.76	4.4	0.88	4.51	3.48	15.9	0.14	0.17	4.82	4.08	4.07	0.09	0.07	0.08
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	0.23	0.28	0.02	0.24	0.17	1.42	<0.02	<0.02	0.28	0.26	0.26	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	0.51	0.56	0.52	0.52	0.48	1.69	0.04	0.04	0.74	0.60	0.50	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.08	0.07	0.07	<0.01	9.35	11	1.26	8.52	7.01	39.9	0.17	0.22	9.05	9.93	9.59	0.12	0.09	0.10
Perfluoroalkyl Sulfonamides																				
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																				
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	0.05	-	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.08	0.07	0.07	<0.01	11.6	14	2.75	11.1	9.09	49.6	0.30	0.39	12.0	12.6	12.2	0.12	0.09	0.10

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Ze
#2 PFAS National Environmental Management Plan (HEPA 2018)
#4 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and

Table 5: Surface Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

Location Code			PWS_DUCK_DAM	PWS_HEAD_DAM	PWS_HEAD_DAM	PWS_HEAD_DAM	PWS_HEAD_DAM	PWS-WWII_DAM	TC_SW01	TC_SW02	TC_SW02	TC_SW03	TC_SW04	TC_SW05	TC_SW06	TC_SW07	TC_SW12	TC_SW13	WW11_DAM
Field ID			QC42	PWS_HEAD_DAM	PWS_HEAD_DAM	QC100	QC200	PWS-WWII_DAM	TC_SW01	TC_SW02	TC_SW02	TC_SW03	TC_SW04	TC_SW05	TC_SW06	TC_SW07	TC_SW12	TC_SW13	WW11_DAM
Date			14/03/2021	14/01/2020	16/03/2021	14/01/2020	14/01/2020	13/01/2020	14/01/2020	16/01/2020	13/03/2021	12/03/2021	12/03/2021	13/03/2021	13/03/2021	15/03/2021	13/03/2021	13/03/2021	13/03/2021
Location Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Sample Type			Interlab_D	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description			Public	Public	Public	Public	Public	Public											Public
Catchment			Water Mill Creek	Headstone Creek	Headstone Creek	Headstone Creek	Headstone Creek	Mission Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Mission Creek
Lab Report No.			265849	ES2002626	ES2111280	ES2002626	699266	ES2002626	ES2002626	ES2002626	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111268	ES2111280
	Unit	EQL																	
(n:2) Fluorotelomer Sulfonic Acids																			
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.02	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.02	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																			
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.01	<0.02	<0.02	<0.02	<0.01	2.68	<0.02	<0.02	0.03	<0.02	0.05	<0.02	0.12	<0.02	<0.02	<0.02	2.21
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.05	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	0.65	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.55
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.5	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.01	0.51	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.75
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.02	<0.1	<0.1	<0.1	<0.05	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.13	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01	1.25
Perfluoroalkane Sulfonic Acids																			
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	0.02	0.02	<0.01	0.02	<0.01	44.6	<0.01	0.03	0.07	0.03	0.15	0.01	0.29	<0.01	0.04	0.10	21.0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.01	<0.02	<0.02	<0.02	<0.01	2.97	<0.02	<0.02	0.04	<0.02	0.06	<0.02	0.14	<0.02	<0.02	<0.02	3.00
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.1	<0.02	<0.02	<0.02	<0.01	22.6	<0.02	0.06	0.23	0.10	0.40	0.03	0.85	<0.02	<0.02	0.03	13.6
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.01	2.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	1.65
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.02	<0.02	<0.02	<0.02	<0.01	2.30	<0.02	<0.02	0.06	<0.02	0.07	<0.02	0.11	<0.02	<0.02	<0.02	2.42
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.12	0.02	<0.01	0.02	<0.01	67.2	<0.01	0.09	0.30	0.13	0.55	0.04	1.14	<0.01	0.04	0.13	34.6
Perfluoroalkyl Sulfonamides																			
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.1	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																			
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	0.02	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	0.16	0.02	<0.01	0.02	<0.1	79.9	<0.01	0.09	0.43	0.13	0.74	0.04	1.58	<0.01	0.04	0.13	46.7

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Ze
#2 PFAS National Environmental Management Plan (HEPA 2018)
#4 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

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		Location Code	A_BORE1	A_STP_OUT	A_TANK1	A_TANK3	A_TAP1	A_TAP2	A_TAP3	A_TAP4	A_TAP5	AIRPORT_BORE	AIRPORT_BORE	AIRPORT_BORE	PWS_AIRPORT_BORE	PWS_AIRPORT_BORE	PWS_AIRPORT_BORE
		Field ID	A_BORE1	A_STP_OUT	A_TANK1	A_TANK3	A_TAP1	A_TAP2	A_TAP3	A_TAP4	A_TAP5	AIRPORT_BORE	QC06	QC07	PWS_AIRPORT_BORE	QC101	QC201
		Date	14/01/2020	16/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	16/03/2021	16/03/2021	16/03/2021	9/03/2021	9/03/2021	9/03/2021	14/01/2020	14/01/2020	14/01/2020
		Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Field_D	Interlab_D
		Location Description	Public		Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
		Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2002626	ES2111268	ES2111278	ES2111278	ES2111278	ES2111278	ES2111280	ES2111280	ES2111280	ES2111278	ES2111279	265850	ES2002626	ES2002626	699266
	Unit	EQL															
(n:2) Fluorotelomer Sulfonic Acids																	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.01
Perfluoroalkane Carboxylic Acids																	
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.32	1.44	1.5	1.35	1.34	1.2
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.01
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.30	0.33	0.38	0.33	0.33	0.27
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.29	0.20	0.30	0.28	0.27	0.25
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.25	0.2	0.2	0.15
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.68	0.70	0.73	0.57	0.57	0.57
Perfluoroalkane Sulfonic Acids																	
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.10
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	0.16	<0.01	<0.01	0.02	0.01	<0.01	0.08	<0.01	17.2	22.5	16	33.1	20.6	22
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.35	1.55	1.4	1.62	1.47	1.2
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.07	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	7.68	12.2	8.5	11.4	8.24	10
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.69	0.92	0.75	0.92	0.89	0.62
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.13	1.14	1.4	1.27	1.23	1.1
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.50
Sum of PFHxS and PFOS	µg/L	0.01	0.07	0.24	<0.01	<0.01	0.02	0.01	<0.01	0.11	0.04	24.9	34.7	24	44.5	28.8	32
Perfluoroalkyl Sulfonamides																	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.05
PFAS																	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.57
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	17	-	-	22.57
Sum of PFAS	µg/L	0.01	0.07	0.28	<0.01	<0.01	0.02	0.01	<0.01	0.11	0.04	30.8	41.2	31	51.0	35.1	37.96

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

	Unit	EQL	CHAP_TAP1	CHAP_TAP1	CHAP_TAP1	CHAP_TAP1	CHAP_TAP2	CHAP_TAP2	COUNCIL_TAP1	COUNCIL_TAP2	DEPOT_TANK1	DEPOT_TANK1	DEPOT_TANK1	DEPOT_TANK2	DEPOT_TANK3	DEPOT_TAP	DEPOT_TAP1
Field ID			CHAP_TAP1	CHAP_TAP1	QC30	QC31	CHAP_TAP2	CHAP_TAP2	COUNCIL_TAP1	COUNCIL_TAP2	DEPOT_TANK1	QC110	QC210	DEPOT_TANK2	DEPOT_TANK3	DEPOT_TAP	DEPOT_TAP1
Date			21/01/2020	11/03/2021	11/03/2021	11/03/2021	21/01/2020	11/03/2021	9/03/2021	9/03/2021	21/01/2020	21/01/2020	21/01/2020	21/01/2020	11/03/2021	21/01/2020	11/03/2021
Location Type			Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type			Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal
Location Description			Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
Sampling Method			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
Lab Report No.			ES2002810	ES2111276	ES2111276	265847	ES2002810	ES2111276	ES2111279	ES2111279	ES2002819	ES2002803	699303	ES2002819	ES2111278	ES2002819	ES2111278
(n:2) Fluorotelomer Sulfonic Acids																	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																	
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.38	<0.02	0.37	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.09	<0.02	0.09	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.07	<0.02	0.07	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	0.16	<0.01
Perfluoroalkane Sulfonic Acids																	
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5.54	<0.01	5.46	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.45	<0.02	0.42	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	3.47	<0.02	3.33	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.24	<0.02	0.23	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	0.35	<0.02	0.34	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	9.01	<0.01	8.79	<0.01
Perfluoroalkyl Sulfonamides																	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02
PFAS																	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	10.8	<0.01	10.5	<0.01

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	FRE_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP2	FRE_TAP3	FRE_TAP5	ID001_BORE	ID002_TANK	ID003_BORE	ID003_WELL	ID004_TANK	ID004_TANK	ID004_TAP1	ID005_TANK
		Field ID	FRE_TAP1	FRE_TAP1	QC35	QC36	FRE_TAP2	FRE_TAP3	FRE_TAP5	ID001_BORE	ID002_TANK	ID003_BORE	ID003_WELL	ID004_TANK	ID004_TANK	ID004_TAP1	ID005_TANK
		Date	20/01/2020	12/03/2021	12/03/2021	12/03/2021	20/01/2020	12/03/2021	12/03/2021	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	11/03/2021	11/03/2021	16/01/2020
		Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
		Sample Type	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Location Description	Public	Public	Public	Public	Public	Public	Public	Private	Private	Private	Private	Private	Private	Private	Private
		Sampling Method	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Rocky Point Creek	Broken Bridge Creek	Rocky Point Creek	Rocky Point Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek
		Lab Report No.	ES2002817	ES2111256	ES2111256	265846	ES2002817	ES2111256	ES2111256	ES2002615	ES2002614	ES2002619	ES2002619	ES2002609	ES2111275	ES2111275	ES2002612
	Unit	EQL															
(n:2) Fluorotelomer Sulfonic Acids																	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																	
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.37	<0.02	<0.02	<0.01	1.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.09	<0.02	<0.02	<0.02	0.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.07	<0.02	<0.02	<0.01	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.1	<0.02	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.16	<0.01	<0.01	<0.01	0.44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																	
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	5.49	<0.01	<0.01	<0.01	15.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.41	<0.02	<0.02	<0.01	1.31	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	3.14	<0.02	<0.02	<0.01	7.30	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.23	<0.02	<0.02	<0.01	0.74	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.31	<0.02	<0.02	<0.01	0.94	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	8.63	<0.01	<0.01	<0.01	22.3	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides																	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	10.3	<0.01	<0.01	<0.01	27.5	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
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		Location Code	ID005_TANK	ID005_TANK	ID006_BORE1	ID006_BORE2	ID009_TAP1	ID009_Well	ID009_Well	ID010_BORE	ID013_BORE	ID013_SW01	ID013_SW01	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE
		Field ID	QC103	QC203	ID006_BORE1	ID006_BORE2	ID009_TAP1	ID009_Well	ID009_WELL	ID010_BORE	ID013_BORE	ID013_SW01	ID013_SW01	ID014_BORE	ID014_BORE	QC33	QC34	QC117
		Date	16/01/2020	16/01/2020	17/01/2020	17/01/2020	11/03/2021	20/01/2020	11/03/2021	20/01/2020	22/01/2020	22/01/2020	11/03/2021	23/01/2020	12/03/2021	12/03/2021	12/03/2021	21/01/2020
		Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
		Sample Type	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Field_D
		Location Description	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
		Sampling Method	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Rocky Point Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
		Lab Report No.	ES2002626	ES2002626	ES2002821	ES2002821	ES2111277	ES2002826	ES2111277	ES2002827	ES2002831	ES2002831	ES2111261	ES2002813	ES2111243	ES2111243	265848	ES2002803
	Unit	EQL																
(n:2) Fluorotelomer Sulfonic Acids																		
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
Perfluoroalkane Carboxylic Acids																		
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	0.14	0.15	0.12	0.11	0.13	0.14
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	0.04	0.02	0.02	0.04	0.04
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	0.02	0.02	0.02	0.03	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<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	0.02	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.05	0.05	0.04	0.04	0.04	0.04
Perfluoroalkane Sulfonic Acids																		
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.78	1.38	1.93	0.89	0.84	1.0	1.73
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.17	0.18	0.17	0.14	0.13	0.17	0.14
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.72	1.46	1.20	1.04	0.98	1.2	1.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	0.07	0.08	0.05	0.04	0.06	0.07
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	0.17	0.16	0.15	0.15	0.17	0.14
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	4.50	2.84	3.13	1.93	1.82	2.2	2.75
Perfluoroalkyl Sulfonamides																		
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02
PFAS																		
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5.22	3.51	3.80	2.47	2.33	2.8	3.32

Table 6: Bore, Tap and Tank Water Analytical Results
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Location Code			ID014_BORE	ID015_BORE	ID015_BORE	ID016_BORE	ID016_TAP1	ID016_TAP2	ID017_TAP1	ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1	ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A
Field ID			QC217	ID015_BORE	ID015_BORE	ID016_BORE	ID016_TAP1	ID016_TAP2	ID017_TAP1	ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1	ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A
Date			23/01/2020	23/01/2020	16/03/2021	12/03/2021	12/03/2021	12/03/2021	16/03/2021	12/03/2021	16/03/2021	16/03/2021	16/03/2021	17/03/2021	17/03/2021	17/03/2021	17/03/2021	17/03/2021	14/01/2020
Location Type			Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type			Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description			Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Public
Sampling Method			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Water Mill Creek
Lab Report No.			699303	ES2002814	ES2111245	ES2111244	ES2111244	ES2111244	ES2111249	ES2111250	ES2111252	ES2111252	ES2111253	ES2111248	ES2111254	ES2111247	ES2111247	ES2111246	ES2002626
	Unit	EQL																	
(n:2) Fluorotelomer Sulfonic Acids																			
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																			
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.11	0.09	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.05	<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
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.03	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01
Perfluoroalkane Sulfonic Acids																			
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	1.5	0.46	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.71	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.10	0.10	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.74	0.63	0.30	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.96	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.11	0.11	0.06	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	2.24	1.09	0.45	0.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.67	<0.01
Perfluoroalkyl Sulfonamides																			
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																			
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	2.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	1.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	2.73	1.46	0.61	0.20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.17	<0.01

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

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	Unit	EQL												
Location Code			PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS	PWS_HESSIES_RESV	PWS_HOSP_BORE	PWS_HOSP_TANK 1	PWS_HOSP_TANK 2	PWS_HOSP_TANK 3	PWS_HOSP_TANK 4	PWS_HOSP_TANK 5	PWS_HOSP_TAP1	PWS_HOSP_TAP1
Field ID			PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS	PWS_HESSIES_RESERVOIR	PWS_HOSP_BORE	PWS_HOSP_TANK 1	PWS_HOSP_TANK 2	PWS_HOSP_TANK 3	PWS_HOSP_TANK 4	PWS_HOSP_TANK 5	PWS_HOSP_TAP1	PWS_HOSP_TAP1
Date			15/03/2021	16/03/2021	16/03/2021	14/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	13/02/2020
Location Type			Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description			Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
Sampling Method			Water Mill Creek	Broken Bridge Creek	Headstone Creek	Water Mill Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
Lab Report No.			ES2111280	ES2111280	ES2111280	ES2002626	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	EM2002483
(n:2) Fluorotelomer Sulfonic Acids														
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids														
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	1.17	1.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	0.30	0.32	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	0.16	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	0.55	0.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids														
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	20.8	21.2	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.45	0.46
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	1.41	1.43	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	11.5	10.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.04
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	0.85	0.86	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	1.26	1.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	32.3	31.5	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.50	0.50
Perfluoroalkyl Sulfonamides														
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS														
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	38.2	37.7	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.50	0.50

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

senversa

		Location Code	PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP2	PWS_HOSP_TAP3	PWS_HOSP_TAP3	PWS_HOSP_TAP4	PWS_HOSP_TAP4	PWS_HOSP_TAP4A	PWS_HOSP_TAP6	PWS_HOSP_TAP10	PWS_KINGFISH_BORE B
		Field ID	PWS_HOSP_TAP1	QC118	QC218	PWS_HOSP_TAP2	PWS_HOSP_TAP3	PWS_HOSP_TAP3	PWS_HOSP_TAP4	PWS_HOSP_TAP4	PWS_HOSP_TAP4A	PWS_HOSP_TAP6	PWS_HOSP_TAP10	PWS_KINGFISH_BORE B
		Date	10/03/2021	13/02/2020	13/02/2020	13/02/2020	13/02/2020	10/03/2021	13/02/2020	10/03/2021	14/03/2021	14/03/2021	14/03/2021	14/01/2020
		Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
		Sample Type	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Location Description	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
		Sampling Method	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
		Lab Report No.	ES2111281	EM2002483	702421	EM2002483	EM2002483	ES2111281	EM2002483	ES2111281	ES2111264	ES2111264	ES2111264	ES2002626
	Unit	EQL												
(n:2) Fluorotelomer Sulfonic Acids														
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids														
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids														
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	0.48	0.54	<0.01	0.30	<0.01	0.43	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	0.04	0.04	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	0.52	0.58	<0.01	0.34	<0.01	0.47	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides														
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS														
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	0.58	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	0.54	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	0.52	0.58	<0.01	0.34	<0.01	0.47	<0.01	<0.01	<0.01	<0.01	<0.01

Table 6: Bore, Tap and Tank Water Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

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		Location Code	PWS_SCH_BORE	PWS_SCH_BORE	PWS_SCH_BORE	PWS_SCH_TANK 1	PWS_SCH_TAP	WC-01	WC-02	WC-03_BORE
		Field ID	PWS_SCH_BORE	QC102	QC202	PWS_SCH_TANK 1	PWS_SCH_TAP	WC-01	WC-02	WC-03_BORE
		Date	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	15/01/2020	16/01/2020	17/01/2020
		Location Type	Water	Water	Water	Water	Water	Water	Water	Water
		Sample Type	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
		Location Description	Public	Public	Public	Public	Public	Private	Private	Private
		Sampling Method	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Water Mill Creek	Water Mill Creek	Broken Bridge Creek
		Lab Report No.	ES2002620	ES2002620	699263	ES2002620	ES2002620	ES2002617	ES2002616	ES2002618
	Unit	EQL								
(n:2) Fluorotelomer Sulfonic Acids										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids										
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids										
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01	-	-	<0.01	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	<0.01	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides										
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS										
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01	-	-	<0.01	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01	-	-	<0.01	-	-	-	-	-
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01

Table 7 - Grass Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

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		Location Code	MC_BIOTA7	MC_BIOTA12	MC_BIOTA13			MC_BIOTA18	A_BIOTA123	A_BIOTA124	A_BIOTA125			A_BIOTA126	A_BIOTA127
		Field ID	MC_BIOTA7	MC_BIOTA12	MC_BIOTA13	QC37	QC38	MC_BIOTA18	A_BIOTA123	A_BIOTA124	A_BIOTA125	QC52	QC53	A_BIOTA126	A_BIOTA127
		Date	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	13/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021
		Sample Type	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
		Sample Description	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass
		Lab Report Number	ES2118258	ES2118258	ES2118258	ES2111280	265849	ES2118258	ES2111280	ES2111280	ES2111280	ES2111280	265849	ES2111280	ES2111280
	Unit	EQL													
NA															
Sample Description	--		1	1	1	1	-	1	1	1	1	1	-	1	1
Physical Parameters															
Moisture Content	%	0.1	-	-	-	-	-	-	-	-	-	-	19	-	-
Weight of Sample Prepared	g	0.1	170	234	288	286	-	233	17.3	20.5	23.8	75.2	-	31.7	30.6
(n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001	<0.002	<0.002
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001	<0.002	<0.002
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0002	<0.002	<0.002
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0002	<0.002	<0.002
Perfluoroalkane Carboxylic Acids															
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0003	<0.001	<0.001
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0005	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0004	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0004	<0.001	<0.001
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	0.0005	<0.005	<0.005
Perfluorodecanoic acid (PFDA)	mg/kg	0.0005	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0005	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001
Perfluorooctanoic acid (PFOA)	µg/kg		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.6	<1	<1
Perfluoroalkane Sulfonic Acids															
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.002	0.034	0.011	0.013	0.013	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.002	0.007	0.003	0.003	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0002	<0.002	<0.002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001
Sum of PFHxS and PFOS	mg/kg		0.004[#1]	0.041[#1]	0.0014[#1]	0.016	0.016[#1]	<0.002[#1]	<0.002[#1]	<0.002[#1]	<0.002[#1]	<0.002[#1]	<0.002[#1]	<0.002[#1]	<0.002[#1]
Perfluoroalkyl Sulfonamides															
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.001	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.001	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005
PFAS															
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	0.001	0.009	0.004	0.004	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	0.001	0.025	0.007	0.009	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	0.013	-	-	-	-	-	<0.001	-	-
Sum of PFAS	mg/kg	0.0001	0.006	0.043	0.014	0.016	0.016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

#1 Sum of PFHxS and PFOS calculated using 0.5x LOR for non-detects (calculated by Senversa as not reported by laboratory)

Table 7 - Grass Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

		Location Code	A_BIOTA128	A_BIOTA129	A_BIOTA130	A_BIOTA131	A_BIOTA132		A_BIOTA133	A_BIOTA134	A_BIOTA135	A_BIOTA136	A_BIOTA137	A_BIOTA138	A_BIOTA139
		Field ID	A_BIOTA128	A_BIOTA129	A_BIOTA130	A_BIOTA131	A_BIOTA132	QC54	A_BIOTA133	A_BIOTA134	A_BIOTA135	A_BIOTA136	A_BIOTA137	A_BIOTA138	A_BIOTA139
		Date	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021	16/03/2021
		Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Sample Description	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass
		Lab Report Number	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280	ES2111280
	Unit	EQL													
NA															
Sample Description	--		1	1	1	1	1	1	1	1	1	1	1	1	1
Physical Parameters															
Moisture Content	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Weight of Sample Prepared	g	0.1	29.5	21.9	23.1	23.3	17.1	92.8	25.9	30.8	6.4	10.1	10.3	11.8	11.0
(n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroalkane Carboxylic Acids															
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<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
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<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
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<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
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorodecanoic acid (PFDA)	mg/kg	0.0005	<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
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0005	<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
Perfluorooctanoic acid (PFOA)	µg/kg		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Perfluoroalkane Sulfonic Acids															
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	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
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<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
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<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
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<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
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<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
Sum of PFHxS and PFOS	mg/kg		0.0015#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	<0.002#1	0.0015#1	<0.002#1
Perfluoroalkyl Sulfonamides															
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<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
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<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
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PFAS															
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	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
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	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
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001

#1 Sum of PFHxS and PFOS calculated using 0.5x LOR for non-detects (calculated by Senversa as not reported by laboratory)

Table 8 - Egg Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

	Unit	EQL	
		Location Code	**ID013_BIOTA2**
		Field ID	ID013_BIOTA2
		Date	11/03/2021
		Sample Type	Normal
		Sample Description	Egg
		Lab Report No.	ES2111261
Physical Parameters			
Moisture Content	%	0.1	-
Weight of Sample Prepared	g	0.1	46.4
(n:2) Fluorotelomer Sulfonic Acids			
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.002
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	0.003
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.002
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.002
Perfluoroalkane Carboxylic Acids			
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.001
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0005	<0.002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.001
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.005
Perfluorodecanoic acid (PFDA)	mg/kg	0.0005	<0.001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0005	<0.002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0005	<0.001
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.001
Perfluoroalkane Sulfonic Acids			
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	0.004
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.001
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	0.005
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.001
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.001
Sum of PFHxS and PFOS	mg/kg	0.0001	0.009
Perfluoroalkyl Sulfonamides			
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.002	<0.002
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.001
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.001
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.001	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.001	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.001	<0.002
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.001	<0.005
PFAS			
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	0.002
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	0.002
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-
Sum of PFAS	mg/kg	0.0001	0.012

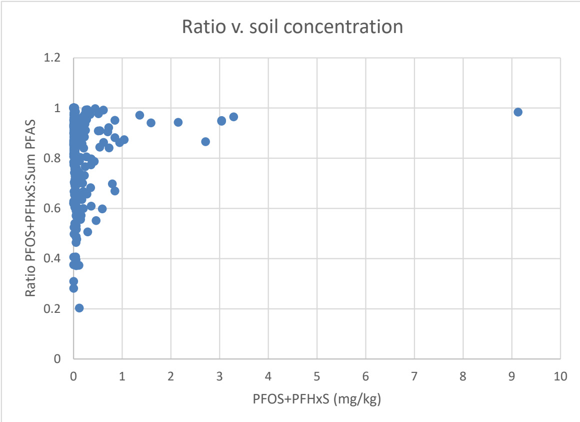
Table 9 - Biota (Fruit and Vegetables) Analytical Results
HHERA
Norfolk Island Airport
Department for Infrastructure, Transport, Regional Development and Communications
C17776

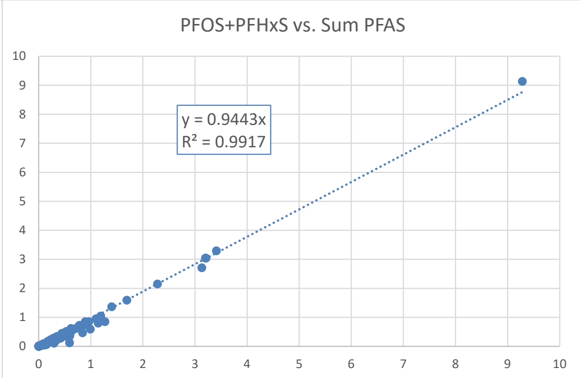
		Location Code	**ID013_BIOTA1**	**ID013_BIOTA3**	**ID013_BIOTA4**	**ID013_BIOTA5**	**ID013_BIOTA7**	**ID013_BIOTA8**
		Field ID	ID013_BIOTA1	ID013_BIOTA3	ID013_BIOTA4	ID013_BIOTA5	ID013_BIOTA7	ID013_BIOTA8
		Date	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
		Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
		Sample Description	Pawpaw	Mango	Capsicum	Basil	Chives	Parsley
		Lab Report No.	ES2111261	ES2111261	ES2111261	ES2111261	ES2111261	ES2111261
	Unit	EQL						
Physical Parameters								
Moisture Content	%	0.1	-	-	-	-	-	-
Weight of Sample Prepared	g	0.1	140	365	42.9	33.8	48.0	24.6
(n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroalkane Carboxylic Acids								
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorodecanoic acid (PFDA)	mg/kg	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroalkane Sulfonic Acids								
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sum of PFHxS and PFOS	mg/kg	0.0001	<0.002[#3]	<0.002[#3]	<0.002[#3]	<0.002[#3]	<0.002[#3]	<0.002[#3]
Perfluoroalkyl Sulfonamides								
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	mg/kg	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PFAS								
Perfluorooctane sulfonic acid (PFOS) - Branched	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctane sulfonic acid (PFOS) - Linear	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.0001	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Appendix A: PFAS composition

A1: PFAS composition in airport soil

Location Code	Field ID	Date	PFOS+PFHxS (mg/kg)	Sum PFAS (mg/kg)	Ratio PFOS+PFHxS :Sum PFAS
A_SB01	A_SB01_0.1	9/03/2021	0.29	0.573	0.506108202
A_SB01	A_SB01_0.5	9/03/2021	*3.29*	3.41	0.964809384
A_SB01	A_SB01_1.0	9/03/2021	0.85	0.894	0.950782998
A_SB02	A_SB02_0.1	9/03/2021	0.0907	0.138	0.657246377
A_SB02	A_SB02_0.5	9/03/2021	0.512	0.524	0.977099237
A_SB02	A_SB02_1.5	9/03/2021	0.615	0.62	0.991935484
A_SB03	A_SB03_0.1	9/03/2021	0.795	1.14	0.697368421
A_SB03	A_SB03_0.4	9/03/2021	0.85	1.27	0.669291339
A_SB04	A_SB04_0.1	9/03/2021	0.364	0.598	0.608695652
A_SB04	A_SB04_0.5	9/03/2021	0.508	0.559	0.908765653
A_SB04	A_SB04_1.0	9/03/2021	*1.59*	1.69	0.940828402
A_SB05	A_SB05_0.1	9/03/2021	0.145	0.201	0.721393035
A_SB05	A_SB05_0.4	9/03/2021	0.14	0.157	0.891719745
A_SB05	A_SB05_1.0	9/03/2021	0.228	0.243	0.938271605
A_SB06	A_SB06_0.1	9/03/2021	0.0698	0.111	0.628828829
A_SB06	A_SB06_0.5	9/03/2021	0.162	0.173	0.936416185
A_SB06	A_SB06_1.5	9/03/2021	0.27	0.283	0.954063604
A_SB07	A_SB07_0.1	9/03/2021	0.0801	0.114	0.702631579
A_SB07	A_SB07_0.4	9/03/2021	0.0819	0.0893	0.917133259
A_SB07	A_SB07_1.5	9/03/2021	0.341	0.35	0.974285714
A_SB08	A_SB08_0.1	9/03/2021	0.0505	0.104	0.485576923
A_SB08	A_SB08_0.4	9/03/2021	0.0635	0.112	0.566964286
A_SB08	A_SB08_1.0	9/03/2021	0.123	0.156	0.788461538
A_SB08	QC04	9/03/2021	0.0866	0.144	0.601388889
A_SB08	QC05	9/03/2021	0.051	0.11	0.463636364
A_SB09	A_SB09_0.1	9/03/2021	0.0486	0.0902	0.538802661
A_SB09	A_SB09_0.5	9/03/2021	0.235	0.251	0.93625498
A_SB09	A_SB09_1.5	9/03/2021	0.246	0.27	0.911111111
A_SB10	A_SB10_0.1	9/03/2021	0.139	0.173	0.803468208
A_SB10	A_SB10_0.5	9/03/2021	0.285	0.287	0.993031359
A_SB10	A_SB10_1.5	9/03/2021	0.252	0.254	0.992125984
A_SB10	QC08	9/03/2021	0.175	0.204	0.857843137
A_SB10	QC09	9/03/2021	0.097	0.13	0.746153846
A_SB11	A_SB11_0.1	10/03/2021	0.352	0.516	0.682170543
A_SB11	A_SB11_0.5	10/03/2021	0.164	0.181	0.906077348
A_SB11	A_SB11_1.1	10/03/2021	0.0823	0.118	0.697457627
A_SB11	QC11	9/03/2021	0.358	0.463	0.773218143
A_SB11	QC12	9/03/2021	0.2	0.3	0.666666667
A_SB12	A_SB12_0.1	10/03/2021	0.0252	0.0467	0.539614561
A_SB12	A_SB12_0.5	10/03/2021	0.0009	0.0032	0.28125
A_SB12	A_SB12_1.0	10/03/2021	0.0012	0.0032	0.375
A_SB13	A_SB13_0.1	10/03/2021	0.004	0.0051	0.784313725
A_SB13	QC15	10/03/2021	0.0026	0.0042	0.619047619
A_SB13	QC16	10/03/2021	0.0036	0.0042	0.857142857
A_SB14	A_SB14_0.1	10/03/2021	0.0026	0.0028	0.928571429
A_SB15	A_SB15_0.1	10/03/2021	0.0023	0.0027	0.851851852
A_SB15	A_SB15_0.5	10/03/2021	0.001	0.001	1
A_SB16	A_SB16_0.1	10/03/2021	0.0038	0.0044	0.863636364
A_SB16	A_SB16_0.5	10/03/2021	0.0017	0.0017	1
A_SB16	A_SB16_1.0	10/03/2021	0.0002	0.0002	1
A_SB17	A_SB17_0.1	10/03/2021	0.0025	0.0031	0.806451613
A_SB17	A_SB17_0.5	10/03/2021	0.0107	0.0204	0.524509804
A_SB17	A_SB17_1.5	10/03/2021	0.0028	0.0069	0.405797101
A_SB18	A_SB18_0.1	10/03/2021	0.704	0.778	0.904884319
A_SB18	A_SB18_0.5	10/03/2021	0.463	0.84	0.551190476
A_SB18	A_SB18_1.5	10/03/2021	0.848	0.962	0.881496881
A_SB19	A_SB19_0.1	10/03/2021	*1.36*	1.4	0.971428571
A_SB19	A_SB19_0.5	10/03/2021	*3.04*	3.2	0.95
A_SB19	A_SB19_1.0	10/03/2021	*3.04*	3.21	0.947040498
A_SB20	A_SB20_0.1	10/03/2021	0.0191	0.0304	0.628289474
A_SB21	A_SB21_0.1	9/03/2021	0.202	0.337	0.599406528
A_SB21	A_SB21_0.5	10/03/2021	0.542	0.596	0.909395973
A_SB21	A_SB21_1.0	10/03/2021	0.223	0.252	0.884920635
A_SB22	A_SB22_0.1	10/03/2021	0.0206	0.0315	0.653968254
A_SB22	A_SB22_0.5	10/03/2021	0.132	0.153	0.862745098
A_SB22	A_SB22_1.5	10/03/2021	0.0562	0.106	0.530188679
A_SB22	QC21	10/03/2021	0.0201	0.0288	0.697916667
A_SB22	QC22	10/03/2021	0.025	0.033	0.757575758
A_SB23	A_SB23_0.1	15/03/2021	0.0472	0.0594	0.794612795
A_SB23	A_SB23_0.5	15/03/2021	0.445	0.446	0.997757848
A_SB23	A_SB23_1.0	15/03/2021	0.222	0.23	0.965217391
A_SB23	A_SB23_1.5	15/03/2021	0.187	0.194	0.963917526
A_SB24	A_SB24_0.1	15/03/2021	0.0874	0.0918	0.952069717
A_SB25	A_SB25_0.1	15/03/2021	0.0391	0.0397	0.98488665
A_SB25	A_SB25_0.5	15/03/2021	0.0051	0.0055	0.927272727
A_SB25	A_SB25_1.0	15/03/2021	0.0024	0.0024	1
A_SB25	QC48	15/03/2021	0.0052	0.0058	0.896551724
A_SB25	QC49	15/03/2021	0.0047	0.0056	0.839285714
A_SB26	A_SB26_0.1	15/03/2021	0.0161	0.018	0.894444444
A_SB26	A_SB26_0.3	15/03/2021	0.0121	0.0121	1
A_SB26	A_SB26_0.5	15/03/2021	0.0139	0.0142	0.978873239
A_SS01	A_SS01	21/01/2020	0.0042	0.0042	1
A_SS02	A_SS02	21/01/2020	0.012	0.0126	0.952380952
A_SS03	A_SS03	21/01/2020	0.0072	0.0075	0.96
A_SS03	QC108	20/01/2020	0.0071	0.0073	0.97260274





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A_SS04	A_SS04	21/01/2020	0.0002	0.0002	1
A_SS05	A_SS05	21/01/2020	0.0175	0.018	0.972222222
A_SS06	A_SS06	21/01/2020	0.0304	0.0319	0.952978056
A_SS07	A_SS07	21/01/2020	0.0066	0.0066	1
A_SS08	A_SS08	21/01/2020	0.0112	0.0114	0.98245614
A_SS09	A_SS09	21/01/2020	0.0144	0.0177	0.813559322
A_SS10	A_SS10	21/01/2020	0.0028	0.0028	1
A_SS11	A_SS11	22/01/2020	0.0528	0.0728	0.725274725
A_SS12	A_SS12	22/01/2020	0.0435	0.0539	0.807050093
A_SS13	A_SS13	22/01/2020	0.0512	0.0867	0.590542099
A_SS14	A_SS14	22/01/2020	0.0069	0.0073	0.945205479
A_SS15	A_SS15	22/01/2020	0.0238	0.0276	0.862318841
A_SS16	A_SS16	22/01/2020	0.0405	0.0601	0.673876872
A_SS17	A_SS17	22/01/2020	0.0513	0.13	0.394615385
A_SS18	A_SS18	22/01/2020	0.0546	0.147	0.371428571
A_SS19	A_SS19	22/01/2020	0.591	0.989	0.597573306
A_SS20	A_SS20	22/01/2020	0.0435	0.107	0.406542056
A_SS20	QC111	22/01/2020	0.0639	0.111	0.575675676
A_SS20	QC211	22/01/2020	0.055	0.0866	0.635103926
A_SS21	A_SS21	22/01/2020	0.0658	0.138	0.476811594
A_SS22	A_SS22	22/01/2020	0.11	0.295	0.372881356
A_SS23	A_SS23	22/01/2020	*1.04*	1.19	0.87394958
A_SS24	A_SS24	22/01/2020	0.276	0.42	0.657142857
A_SS25	A_SS25	22/01/2020	0.0308	0.0371	0.830188679
A_SS26	A_SS26	22/01/2020	0.0119	0.0169	0.704142012
A_SS27	A_SS27	22/01/2020	0.0069	0.0078	0.884615385
A_SS28	A_SS28	22/01/2020	0.0589	0.114	0.516666667
A_SS29	A_SS29	22/01/2020	0.0164	0.0189	0.867724868
A_SS30	A_SS30	22/01/2020	0.156	0.273	0.571428571
A_SS30	QC112	22/01/2020	0.145	0.261	0.555555556
A_SS30	QC212	22/01/2020	0.17	0.2678	0.634802091
A_SS31	A_SS31	22/01/2020	0.0551	0.113	0.487610619
A_SS32	A_SS32	22/01/2020	0.0471	0.0727	0.64786795
A_SS33	A_SS33	22/01/2020	0.0024	0.0026	0.923076923
A_SS34	A_SS34	22/01/2020	0.0286	0.04	0.715
A_SS35	A_SS35	22/01/2020	0.0124	0.0144	0.861111111
A_SS36	A_SS36	22/01/2020	0.0251	0.0282	0.890070922
A_SS37	A_SS37	22/01/2020	0.0185	0.0217	0.852534562
A_SS38	A_SS38	22/01/2020	0.239	0.312	0.766025641
A_SS39	A_SS39	22/01/2020	0.0058	0.0075	0.773333333
A_SS40	A_SS40	22/01/2020	0.032	0.0367	0.871934605
A_SS40	QC113	22/01/2020	0.0317	0.0359	0.883008357
A_SS41	A_SS41	22/01/2020	0.12	0.593	0.202360877
A_SS42	A_SS42	22/01/2020	0.001	0.001	1
A_SS43	A_SS43	22/01/2020	0.0074	0.0089	0.831460674
A_SS44	A_SS44	22/01/2020	0.0217	0.0332	0.653614458
A_SS45	A_SS45	22/01/2020	0.0513	0.0898	0.571269488
A_SS46	A_SS46	22/01/2020	0.0242	0.0246	0.983739837
A_SS47	A_SS47	22/01/2020	0.0096	0.0193	0.497409326
A_SS48	A_SS48	22/01/2020	0.0081	0.0089	0.91011236
A_SS49	A_SS49	22/01/2020	0.0042	0.0045	0.933333333
A_SS50	A_SS50	22/01/2020	0.025	0.0265	0.943396226
A_SS50	QC114	22/01/2020	0.014	0.0156	0.897435897
A_SS51	A_SS51	22/01/2020	0.0425	0.0444	0.957207207
A_SS52	A_SS52	22/01/2020	0.0521	0.0609	0.855500821
A_SS52	QC115	22/01/2020	0.0571	0.0751	0.760319574
A_SS53	A_SS53	22/01/2020	0.0295	0.0428	0.689252336
A_SS54	A_SS54	22/01/2020	0.094	0.13	0.723076923
A_SS55	A_SS55	22/01/2020	0.0895	0.098	0.913265306
A_SS56	A_SS56	22/01/2020	0.0265	0.0265	1
A_SS57	A_SS57	23/01/2020	0.015	0.0174	0.862068966
A_SS58	A_SS58	23/01/2020	0.0222	0.0267	0.831460674
A_SS59	A_SS59	23/01/2020	0.0257	0.0317	0.810725552
A_SS60	A_SS60	23/01/2020	0.0282	0.0333	0.846846847
A_SS60	QC116	22/01/2020	0.031	0.0354	0.875706215
A_SS61	A_SS61	23/01/2020	0.0345	0.0432	0.798611111
A_SS62	A_SS62	23/01/2020	0.0383	0.0469	0.81663113
A_SS63	A_SS63	23/01/2020	0.0316	0.0416	0.759615385
A_SS64	A_SS64	9/03/2021	0.0027	0.0031	0.870967742
A_SS65	A_SS65	9/03/2021	0.0088	0.0097	0.907216495
A_SS66	A_SS66	9/03/2021	0.0097	0.0125	0.776
A_SS67	A_SS67	9/03/2021	0.0303	0.0466	0.650214592
A_SS68	A_SS68	9/03/2021	0.0012	0.0012	1
A_SS69	A_SS69	9/03/2021	0.0102	0.0109	0.935779817
A_SS70	A_SS70	9/03/2021	0.0248	0.0301	0.823920266
A_SS71	A_SS71	9/03/2021	0.0192	0.0222	0.864864865
A_SS72	A_SS72	9/03/2021	0.0141	0.0157	0.898089172
A_SS73	A_SS73	9/03/2021	0.0605	0.0758	0.798153034
A_SS74	A_SS74	9/03/2021	0.0172	0.0185	0.92972973
A_SS75	A_SS75	9/03/2021	0.045	0.0533	0.844277674
A_SS76	A_SS76	9/03/2021	0.0032	0.0051	0.62745098
A_SS77	A_SS77	9/03/2021	0.0132	0.0136	0.970588235
A_SS78	A_SS78	9/03/2021	0.0163	0.0183	0.890710383
A_SS79	A_SS79	9/03/2021	0.0161	0.0195	0.825641026
A_SS80	A_SS80	9/03/2021	0.0223	0.0269	0.828996283
A_SS81	A_SS81	9/03/2021	0.0151	0.0172	0.877906977
A_SS82	A_SS82	9/03/2021	0.0045	0.0047	0.957446809
A_SS83	A_SS83	10/03/2021	0.0094	0.0103	0.912621359

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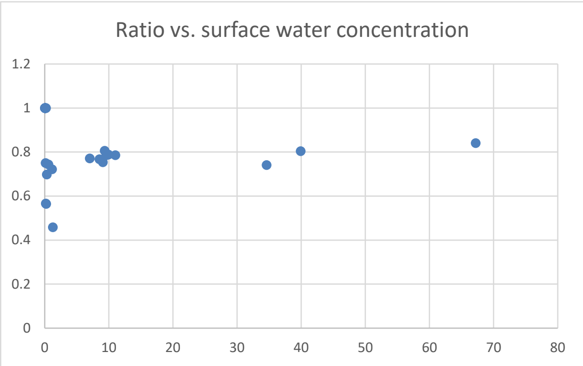
A_SS83	QC13	9/03/2021	0.0141	0.0151	0.933774834
A_SS83	QC14	9/03/2021	0.0092	0.01	0.92
A_SS84	A_SS84	10/03/2021	0.0126	0.0145	0.868965517
A_SS85	A_SS85	10/03/2021	0.0237	0.0252	0.94047619
A_SS86	A_SS86	10/03/2021	0.0207	0.0216	0.958333333
A_SS87	A_SS87	10/03/2021	0.0029	0.0029	1
A_SS88	A_SS88	10/03/2021	0.0039	0.0041	0.951219512
A_SS89	A_SS89	9/03/2021	0.0436	0.0557	0.782764811
A_SS90	A_SS90	9/03/2021	0.0172	0.02	0.86
A_SS91	A_SS91	9/03/2021	0.0113	0.0128	0.8828125
A_SS92	A_SS92	9/03/2021	0.08	0.114	0.701754386
A_SS92	QC02	9/03/2021	0.072	0.0994	0.724346076
A_SS92	QC03	9/03/2021	0.039	0.056	0.696428571
A_SS93	A_SS93	9/03/2021	0.0043	0.0043	1
A_SS94	A_SS94	9/03/2021	0.0036	0.004	0.9
A_SS95	A_SS95	9/03/2021	0.0279	0.0288	0.96875
A_SS96	A_SS96	9/03/2021	0.0031	0.0031	1
A_SS97	A_SS97	9/03/2021	0.187	0.267	0.700374532
A_SS97	QC17	10/03/2021	0.223	0.305	0.731147541
A_SS97	QC18	10/03/2021	0.14	0.19	0.736842105
A_SS98	A_SS98	10/03/2021	0.0058	0.0058	1
A_SS99	A_SS99	10/03/2021	0.0021	0.0068	0.308823529
A_SS100	A_SS100	10/03/2021	0.0004	0.0004	1
A_SS101	A_SS101	10/03/2021	0.0137	0.0141	0.971631206
A_SS102	A_SS102	10/03/2021	0.721	0.782	0.921994885
A_SS103	A_SS103	10/03/2021	0.948	1.1	0.861818182
A_SS103	QC19	10/03/2021	0.728	0.866	0.840646651
A_SS103	QC20	10/03/2021	0.54	0.64	0.84375
A_SS104	A_SS104	10/03/2021	0.425	0.54	0.787037037
A_SS105	A_SS105	10/03/2021	0.0427	0.0682	0.626099707
A_SS106	A_SS106	10/03/2021	0.0116	0.0138	0.84057971
A_SS107	A_SS107	10/03/2021	0.0036	0.0058	0.620689655
A_SS108	A_SS108	10/03/2021	0.362	0.454	0.797356828
A_SS108	QC23	10/03/2021	0.265	0.329	0.805471125
A_SS108	QC24	10/03/2021	0.21	0.25	0.84
A_SS109	A_SS109	10/03/2021	*9.13*	9.28	0.983836207
A_SS110	A_SS110	10/03/2021	*2.15*	2.28	0.942982456
A_SS111	A_SS111	10/03/2021	*2.71*	3.13	0.865814696
A_SS112	A_SS112	10/03/2021	0.616	0.714	0.862745098
A_SS113	A_SS113	10/03/2021	0.0344	0.0434	0.792626728
A_SS114	A_SS114	10/03/2021	0.0477	0.0597	0.798994975
A_SS115	A_SS115	10/03/2021	0.232	0.238	0.974789916
A_SS121	QC46	15/03/2021	0.0187	0.0189	0.989417989
A_SS121	QC47	15/03/2021	0.017	0.017	1
A_SS133	QC55	16/03/2021	0.026	0.043	0.604651163
A_SS136	A_SS136	16/03/2021	0.0024	0.0024	1
A_SS137	A_SS137	16/03/2021	0.0005	0.0005	1
A_SS138	A_SS138	16/03/2021	0.0337	0.0463	0.727861771
A_SS139	A_SS139	16/03/2021	0.0187	0.0252	0.742063492
A_SS140	A_SS140	17/03/2021	0.001	0.001	1
A_SS141	A_SS141	17/03/2021	0.001	0.001	1
A_STP_SS01	A_STP_SS01	16/03/2021	0.009	0.0135	0.666666667
A_STP_SS02	A_STP_SS02	16/03/2021	0.0014	0.0014	1
A_STP_SS03	A_STP_SS03	16/03/2021	0.0056	0.0068	0.823529412
A_STP_SS03	QC56	16/03/2021	0.0058	0.0071	0.816901408
A_STP_SS03	QC57	16/03/2021	0.0051	0.0061	0.836065574
A_STP_SS04	A_STP_SS04	16/03/2021	0.004	0.0049	0.816326531
A_STP_SS05	A_STP_SS05	16/03/2021	0.013	0.0144	0.902777778
A_STP_SS06	A_STP_SS06	16/03/2021	0.009	0.0092	0.97826087
A_STP_SS07	A_STP_SS07	16/03/2021	0.0017	0.0017	1
A_STP_SS08	A_STP_SS08	16/03/2021	0.0219	0.0247	0.886639676
A_STP_SS09	A_STP_SS09	16/03/2021	0.0048	0.0053	0.905660377

Mean	0.81
Median	0.86

A2: PFAS composition in surface water

Location Code	Date	b Report No.	Sum of PFHxS and PFOS	Sum of PFAS	Ratio PFOS+PFHxS: Sum PFAS
Cockpit_SW01	18/01/2020	ES2002808	0.04	0.04	1
Cockpit_SW01	17/03/2021	ES2111280	0.03	0.03	1
Cockpit_SW01	18/01/2020	ES2002803	0.04	0.04	1
ID003_SW01	16/01/2020	ES2002619	0.03	0.03	1
ID012_SW02	21/01/2020	ES2002830	0.18	0.18	1
ID012_SW03	18/03/2021	ES2111259	0.08	0.08	1
ID012_SW03	18/03/2021	ES2111259	0.07	0.07	1
ID012_SW03	18/03/2021	265845	0.07	0.07	1
MC_SD28	17/03/2021	ES2111280	*9.35*	11.6	0.806034483
MC_SD28	17/03/2021	265849	*11*	14	0.785714286
MC_SW04	13/03/2021	ES2111268	1.26	2.75	0.458181818
MC_SW11	13/03/2021	ES2111268	*8.52*	11.1	0.767567568
MC_SW13	13/03/2021	ES2111268	*7.01*	9.09	0.771177118
MC_SW21	13/03/2021	ES2111268	*39.9*	49.6	0.804435484
MC_SW24	13/03/2021	ES2111268	0.17	0.3	0.566666667
MC_SW25	13/03/2021	ES2111268	0.22	0.39	0.564102564
MC_SW26	17/03/2021	ES2111268	*9.05*	12	0.754166667
MC_SW27	17/03/2021	ES2111268	*9.93*	12.6	0.788095238
MC_SW28	17/03/2021	ES2111268	*9.59*	12.2	0.786065574
PWS_DUCK_DAM	14/01/2020	ES2002626	0.12	0.12	1
PWS_DUCK_DAM	14/03/2021	ES2111280	0.09	0.09	1
PWS_DUCK_DAM	14/03/2021	ES2111280	0.1	0.1	1
PWS_DUCK_DAM	14/03/2021	265849	0.12	0.16	0.75
PWS_HEAD_DAM	14/01/2020	ES2002626	0.02	0.02	1
PWS_HEAD_DAM	14/01/2020	ES2002626	0.02	0.02	1
PWS-WWII_DAM	13/01/2020	ES2002626	*67.2*	79.9	0.841051314
TC_SW02	16/01/2020	ES2002626	0.09	0.09	1
TC_SW02	13/03/2021	ES2111268	0.3	0.43	0.697674419
TC_SW03	12/03/2021	ES2111268	0.13	0.13	1
TC_SW04	12/03/2021	ES2111268	0.55	0.74	0.743243243
TC_SW05	13/03/2021	ES2111268	0.04	0.04	1
TC_SW06	13/03/2021	ES2111268	1.14	1.58	0.721518987
TC_SW12	13/03/2021	ES2111268	0.04	0.04	1
TC_SW13	13/03/2021	ES2111268	0.13	0.13	1
WW11_DAM	13/03/2021	ES2111280	*34.6*	46.7	0.740899358

Mean	0.867045565
Median	1



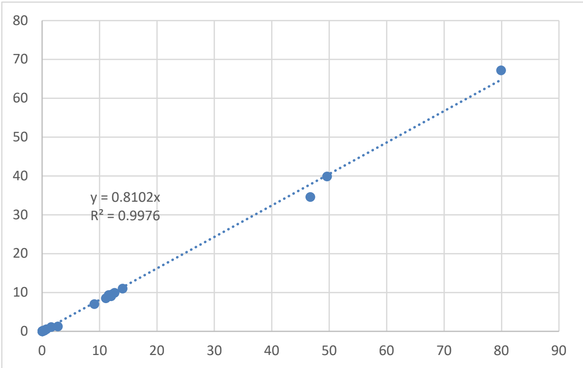


Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

senversa

								Location Code	A_BORE1	A_STP_OUT	A_TANK1	A_TANK3	A_TAP1	A_TAP2	A_TAP3	A_TAP4	A_TAP5	AIRPORT_BORE	AIRPORT_BORE	AIRPORT_BORE	PWS_AIRPORT_BORE	PWS_AIRPORT_BORE
								Field ID	A_BORE1	A_STP_OUT	A_TANK1	A_TANK3	A_TAP1	A_TAP2	A_TAP3	A_TAP4	A_TAP5	AIRPORT_BORE	QC06	QC07	PWS_AIRPORT_BORE	QC101
								Date	14/01/2020	16/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	16/03/2021	16/03/2021	16/03/2021	9/03/2021	9/03/2021	9/03/2021	14/01/2020	14/01/2020
								Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Field_D
								Location Description	Public		Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
								Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
								Lab Report No.	ES2002626	ES2111268	ES2111278	ES2111278	ES2111278	ES2111278	ES2111280	ES2111280	ES2111280	ES2111278	ES2111279	265850	ES2002626	ES2002626
	Unit	EQL	**PFAS NEPM 2.0: Ecological, 90% species protection**	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	*Primary Contact Recreation*	Stock Watering														
(n:2) Fluorotelomer Sulfonic Acids																						
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																						
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.32	1.44	1.5	1.35	1.34
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.30	0.33	0.38	0.33	0.33
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.29	0.20	0.30	0.28	0.27
Perfluorobutanoic acid (PFBA)	µg/L	0.02							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.25	0.2	0.2
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	632[#1]	220[#1]	19[#1]	0.56[#2]	10[#3]	0.56[#2]	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.68	0.70	0.73	0.57	0.57
Perfluoroalkane Sulfonic Acids																						
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	2[#1]	0.13[#1]	0.00023[#1]				<0.01	0.16	<0.01	<0.01	0.02	0.01	<0.01	0.08	<0.01	17.2	22.5	16	33.1	20.6
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.35	1.55	1.4	1.62	1.47
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							0.07	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	7.68	12.2	8.5	11.4	8.24
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.69	0.92	0.75	0.92	0.89
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.13	1.14	1.4	1.27	1.23
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	2[#3]	0.07[#2]	0.07	0.24	<0.01	<0.01	0.02	0.01	<0.01	0.11	0.04	24.9	34.7	24	44.5	28.8
Perfluoroalkyl Sulfonamides																						
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02
PFAS																						
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	17	-	-
Sum of PFAS	µg/L	0.01							0.07	0.28	<0.01	<0.01	0.02	0.01	<0.01	0.11	0.04	30.8	41.2	31	51.0	35.1

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	*Primary Contact Recreation*	Stock Watering													
Location Code									PWS_AIRPORT_BORE	CHAP_TAP1	CHAP_TAP1	CHAP_TAP1	CHAP_TAP1	CHAP_TAP2	CHAP_TAP2	COUNCIL_TAP1	COUNCIL_TAP2	DEPOT_TANK1	DEPOT_TANK1	DEPOT_TANK1	DEPOT_TANK2
Field ID									QC201	CHAP_TAP1	CHAP_TAP1	QC30	QC31	CHAP_TAP2	CHAP_TAP2	COUNCIL_TAP1	COUNCIL_TAP2	DEPOT_TANK1	QC110	QC210	DEPOT_TANK2
Date									14/01/2020	21/01/2020	11/03/2021	11/03/2021	11/03/2021	21/01/2020	11/03/2021	9/03/2021	9/03/2021	21/01/2020	21/01/2020	21/01/2020	21/01/2020
Location Type									Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type									Interlab_D	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal
Location Description									Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
Sampling Method									Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
Lab Report No.									699266	ES2002810	ES2111276	ES2111276	265847	ES2002810	ES2111276	ES2111279	ES2111279	ES2002819	ES2002803	699303	ES2002819
(n:2) Fluorotelomer Sulfonic Acids																					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.01	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.01	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05
Perfluoroalkane Carboxylic Acids																					
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							1.2	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.38
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.01	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							0.27	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.09
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.01	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							0.25	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.07
Perfluorobutanoic acid (PFBA)	µg/L	0.02							0.15	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	**632**[#1]	220[#1]	19[#1]	0.56[#2]	*10*[#3]	0.56[#2]	0.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17
Perfluoroalkane Sulfonic Acids																					
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							0.10	-	-	-	-	-	-	-	-	-	-	<0.01	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	**2**[#1]	0.13[#1]	0.00023[#1]				**22**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**5.54**
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							1.2	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.45
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	3.47
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							0.62	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.24
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							1.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	0.35
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							0.50	-	-	-	-	-	-	-	-	-	-	<0.01	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	*2*[#3]	0.07[#2]	*32*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	*9.01*
Perfluoroalkyl Sulfonamides																					
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.05	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02
PFAS																					
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							32.57	-	-	-	-	-	-	-	-	-	-	<0.01	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							22.57	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-
Sum of PFAS	µg/L	0.01							37.96	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	10.8

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	Primary Contact Recreation	Stock Watering													
Location Code									DEPOT_TANK3	DEPOT_TAP	DEPOT_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP2	FRE_TAP3	FRE_TAP5	ID001_BORE	ID002_TANK	ID003_BORE
Field ID									DEPOT_TANK3	DEPOT_TAP	DEPOT_TAP1	FRE_TAP1	FRE_TAP1	QC35	QC36	FRE_TAP2	FRE_TAP3	FRE_TAP5	ID001_BORE	ID002_TANK	ID003_BORE
Date									11/03/2021	21/01/2020	11/03/2021	20/01/2020	12/03/2021	12/03/2021	12/03/2021	20/01/2020	12/03/2021	12/03/2021	16/01/2020	16/01/2020	16/01/2020
Location Type									Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type									Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Location Description									Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Private	Private	Private
Sampling Method									Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Rocky Point Creek	Broken Bridge Creek	Rocky Point Creek
Lab Report No.									ES2111278	ES2002819	ES2111278	ES2002817	ES2111256	ES2111256	265846	ES2002817	ES2111256	ES2111256	ES2002615	ES2002614	ES2002619
(n:2) Fluorotelomer Sulfonic Acids																					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																					
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							<0.02	0.37	<0.02	0.37	<0.02	<0.02	<0.01	1.07	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							<0.02	0.09	<0.02	0.09	<0.02	<0.02	<0.02	0.26	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							<0.02	0.07	<0.02	0.07	<0.02	<0.02	<0.01	0.21	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	632[#1]	220[#1]	19[#1]	0.56[#2]	10[#3]	0.56[#2]	<0.01	0.16	<0.01	0.16	<0.01	<0.01	<0.01	0.44	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																					
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	2[#1]	0.13[#1]	0.00023[#1]				<0.01	**5.46**	<0.01	**5.49**	<0.01	<0.01	<0.01	**15.0**	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							<0.02	0.42	<0.02	0.41	<0.02	<0.02	<0.01	1.31	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							<0.02	3.33	<0.02	3.14	<0.02	<0.02	<0.01	7.30	<0.02	<0.02	<0.02	<0.02	0.04
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							<0.02	0.23	<0.02	0.23	<0.02	<0.02	<0.01	0.74	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							<0.02	0.34	<0.02	0.31	<0.02	<0.02	<0.01	0.94	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	2[#3]	0.07[#2]	<0.01	*8.79*	<0.01	*8.63*	<0.01	<0.01	<0.01	*22.3*	<0.01	<0.01	<0.01	<0.01	0.04
Perfluoroalkyl Sulfonamides																					
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																					
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	<0.01	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01							<0.01	10.5	<0.01	10.3	<0.01	<0.01	<0.01	27.5	<0.01	<0.01	<0.01	<0.01	0.04

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

senversa

	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	Primary Contact Recreation	Stock Watering
(n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01						
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01						
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01						
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01						
Perfluoroalkane Carboxylic Acids								
Perfluorohexanoic acid (PFHxA)	µg/L	0.01						
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01						
Perfluorononanoic acid (PFNA)	µg/L	0.01						
Perfluoropentanoic acid (PFPeA)	µg/L	0.01						
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01						
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01						
Perfluorobutanoic acid (PFBA)	µg/L	0.02						
Perfluorodecanoic acid (PFDA)	µg/L	0.01						
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01						
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01						
Perfluorooctanoic acid (PFOA)	µg/L	0.01	**632**[#1]	220[#1]	19[#1]	0.56[#2]	*10*[#3]	0.56[#2]
Perfluoroalkane Sulfonic Acids								
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01						
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	**2**[#1]	0.13[#1]	0.00023[#1]			
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01						
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01						
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01						
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01						
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01						
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01						
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	*2*[#3]	0.07[#2]
Perfluoroalkyl Sulfonamides								
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05						
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02						
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02						
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05						
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05						
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05						
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02						
PFAS								
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01						
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01						
Sum of PFAS	µg/L	0.01						

Location Code	ID003_WELL	ID004_TANK	ID004_TANK	ID004_TAP1	ID005_TANK	ID005_TANK	ID005_TANK	ID006_BORE1	ID006_BORE2	ID009_TAP1	ID009_Well	ID009_Well	ID010_BORE
Field ID	ID003_WELL	ID004_TANK	ID004_TANK	ID004_TAP1	ID005_TANK	QC103	QC203	ID006_BORE1	ID006_BORE2	ID009_TAP1	ID009_Well	ID009_WELL	ID010_BORE
Date	16/01/2020	16/01/2020	11/03/2021	11/03/2021	16/01/2020	16/01/2020	16/01/2020	17/01/2020	17/01/2020	11/03/2021	20/01/2020	11/03/2021	20/01/2020
Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Location Description	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
Sampling Method	Rocky Point Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Rocky Point Creek
Lab Report No.	ES2002619	ES2002609	ES2111275	ES2111275	ES2002612	ES2002626	ES2002626	ES2002821	ES2002821	ES2111277	ES2002826	ES2111277	ES2002827
(n:2) Fluorotelomer Sulfonic Acids													
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids													
Perfluorohexanoic acid (PFHxA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	<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
Perfluorodecanoic acid (PFDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids													
Perfluorononanesulfonic acid (PFNS)	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides													
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS													
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

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	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	*Primary Contact Recreation*	Stock Watering
(n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01						
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01						
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01						
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01						
Perfluoroalkane Carboxylic Acids								
Perfluorohexanoic acid (PFHxA)	µg/L	0.01						
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01						
Perfluorononanoic acid (PFNA)	µg/L	0.01						
Perfluoropentanoic acid (PFPeA)	µg/L	0.01						
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01						
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01						
Perfluorobutanoic acid (PFBA)	µg/L	0.02						
Perfluorodecanoic acid (PFDA)	µg/L	0.01						
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01						
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01						
Perfluorooctanoic acid (PFOA)	µg/L	0.01	**632**[#1]	220[#1]	19[#1]	0.56[#2]	*10*[#3]	0.56[#2]
Perfluoroalkane Sulfonic Acids								
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01						
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	**2**[#1]	0.13[#1]	0.00023[#1]			
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01						
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01						
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01						
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01						
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01						
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01						
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	*2*[#3]	0.07[#2]
Perfluoroalkyl Sulfonamides								
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05						
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02						
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02						
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05						
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05						
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05						
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02						
PFAS								
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01						
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01						
Sum of PFAS	µg/L	0.01						

Location Code	ID013_BORE	ID013_SW01	ID013_SW01	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID015_BORE	ID015_BORE	ID016_BORE	ID016_TAP1	ID016_TAP2	ID017_TAP1
Field ID	ID013_BORE	ID013_SW01	ID013_SW01	ID014_BORE	ID014_BORE	QC33	QC34	QC117	QC217	ID015_BORE	ID015_BORE	ID016_BORE	ID016_TAP1	ID016_TAP2	ID017_TAP1
Date	22/01/2020	22/01/2020	11/03/2021	23/01/2020	12/03/2021	12/03/2021	12/03/2021	21/01/2020	23/01/2020	23/01/2020	16/03/2021	12/03/2021	12/03/2021	12/03/2021	16/03/2021
Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Location Description	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Lab Report No.	ES2002831	ES2002831	ES2111261	ES2002813	ES2111243	ES2111243	265848	ES2002803	699303	ES2002814	ES2111245	ES2111244	ES2111244	ES2111244	ES2111249
(n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids															
Perfluorohexanoic acid (PFHxA)	<0.02	0.14	0.14	0.15	0.12	0.11	0.13	0.14	0.11	0.09	0.04	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	<0.02	0.03	0.03	0.04	0.02	0.02	0.04	0.04	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	<0.02	0.03	0.03	0.02	0.02	0.02	0.03	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.02	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	<0.01	0.07	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.02	0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids															
Perfluorononanesulfonic acid (PFNS)	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	<0.01	**2.78**	1.38	1.93	0.89	0.84	1.0	1.73	1.5	0.46	0.15	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	<0.02	0.17	0.18	0.17	0.14	0.13	0.17	0.14	0.10	0.10	0.05	0.03	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	<0.02	1.72	1.46	1.20	1.04	0.98	1.2	1.02	0.74	0.63	0.30	0.14	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	<0.02	0.14	0.07	0.08	0.05	0.04	0.06	0.07	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	<0.02	0.14	0.17	0.16	0.15	0.15	0.17	0.14	0.11	0.11	0.06	0.03	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-
Sum of PFHxS and PFOS	<0.01	*4.50*	*2.84*	*3.13*	1.93	1.82	*2.2*	*2.75*	*2.24*	1.09	0.45	0.14	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides															
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS															
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	-	-	-	-	-	-	-	-	2.27	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	-	-	-	-	-	-	1.0	-	1.53	-	-	-	-	-	-
Sum of PFAS	<0.01	5.22	3.51	3.80	2.47	2.33	2.8	3.32	2.73	1.46	0.61	0.20	<0.01	<0.01	<0.01

Comments

#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

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	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	*Primary Contact Recreation*	Stock Watering	ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1	ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A	PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS
Location Code									ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1	ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A	PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS
Field ID									ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1	ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A	PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS
Date									12/03/2021	16/03/2021	16/03/2021	16/03/2021	17/03/2021	17/03/2021	17/03/2021	17/03/2021	17/03/2021	14/01/2020	15/03/2021	16/03/2021	16/03/2021
Location Type									Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description									Private	Private	Private	Private	Private	Private	Private	Private	Private	Public	Public	Public	Public
Sampling Method									Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Water Mill Creek	Water Mill Creek	Broken Bridge Creek	Headstone Creek
Lab Report No.									ES2111250	ES2111252	ES2111252	ES2111253	ES2111248	ES2111254	ES2111247	ES2111247	ES2111246	ES2002626	ES2111280	ES2111280	ES2111280
(n:2) Fluorotelomer Sulfonic Acids																					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																					
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	1.17	1.25
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.30	0.32
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.16	0.16
Perfluorobutanoic acid (PFBA)	µg/L	0.02							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	**632**[#1]	220[#1]	19[#1]	0.56[#2]	*10*[#3]	0.56[#2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.55	0.57
Perfluoroalkane Sulfonic Acids																					
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	**2**[#1]	0.13[#1]	0.00023[#1]				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.71	<0.01	<0.01	**20.8**	**21.2**
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	1.41	1.43
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.96	<0.02	<0.02	11.5	10.3
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	0.85	0.86
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.02	<0.02	1.26	1.38
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	*2*[#3]	0.07[#2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.67	<0.01	<0.01	*32.3*	*31.5*
Perfluoroalkyl Sulfonamides																					
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																					
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.17	<0.01	<0.01	38.2	37.7

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	Primary Contact Recreation	Stock Watering										
Location Code									PWS_HESSIES_RESV	PWS_HOSP_BORE	PWS_HOSP_TANK 1	PWS_HOSP_TANK 2	PWS_HOSP_TANK 3	PWS_HOSP_TANK 4	PWS_HOSP_TANK 5	PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP1
Field ID									PWS_HESSIES_RESERVOIR	PWS_HOSP_BORE	PWS_HOSP_TANK 1	PWS_HOSP_TANK 2	PWS_HOSP_TANK 3	PWS_HOSP_TANK 4	PWS_HOSP_TANK 5	PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP1
Date									14/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	13/02/2020	10/03/2021
Location Type									Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description									Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
Sampling Method									Water Mill Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
Lab Report No.									ES2002626	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	EM2002483	ES2111281
(n:2) Fluorotelomer Sulfonic Acids																		
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																		
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	632[#1]	220[#1]	19[#1]	0.56[#2]	10[#3]	0.56[#2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																		
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	2[#1]	0.13[#1]	0.00023[#1]				0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.45	0.46	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.04	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							-	-	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	2[#3]	0.07[#2]	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.50	0.50	<0.01
Perfluoroalkyl Sulfonamides																		
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																		
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01							0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.50	0.50	<0.01

Comments
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#2 PFAS National Environmental Management Plan (HEPA 2018)
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Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

senversa

	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	*Primary Contact Recreation*	Stock Watering										
Location Code									PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP2	PWS_HOSP_TAP3	PWS_HOSP_TAP3	PWS_HOSP_TAP4	PWS_HOSP_TAP4	PWS_HOSP_TAP4A	PWS_HOSP_TAP6	PWS_HOSP_TAP10
Field ID									QC118	QC218	PWS_HOSP_TAP2	PWS_HOSP_TAP3	PWS_HOSP_TAP3	PWS_HOSP_TAP4	PWS_HOSP_TAP4	PWS_HOSP_TAP4A	PWS_HOSP_TAP6	PWS_HOSP_TAP10
Date									13/02/2020	13/02/2020	13/02/2020	13/02/2020	10/03/2021	13/02/2020	10/03/2021	14/03/2021	14/03/2021	14/03/2021
Location Type									Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type									Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description									Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
Sampling Method									Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
Lab Report No.									EM2002483	702421	EM2002483	EM2002483	ES2111281	EM2002483	ES2111281	ES2111264	ES2111264	ES2111264
(n:2) Fluorotelomer Sulfonic Acids																		
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																		
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02							<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	**632**[#1]	220[#1]	19[#1]	0.56[#2]	*10*[#3]	0.56[#2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																		
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							-	<0.01	-	-	-	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	**2**[#1]	0.13[#1]	0.00023[#1]				0.48	0.54	<0.01	0.30	<0.01	0.43	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							0.04	0.04	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							-	<0.01	-	-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07[#2]	*2*[#3]	0.07[#2]	0.52	0.58	<0.01	0.34	<0.01	0.47	<0.01	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides																		
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																		
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	0.58	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	0.54	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.01							0.52	0.58	<0.01	0.34	<0.01	0.47	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
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#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

senversa

	Unit	EQL	PFAS NEPM 2.0: Ecological, 90% species protection	PFAS NEPM 2.0: Ecological, 95% species protection	PFAS NEPM 2.0: Ecological, 99% species protection	Potable Water Supply	*Primary Contact Recreation*	Stock Watering									
Location Code									PWS_KINGFISH_BORE B	PWS_SCH_BORE	PWS_SCH_BORE	PWS_SCH_BORE	PWS_SCH_TANK 1	PWS_SCH_TAP	WC-01	WC-02	WC-03_BORE
Field ID									PWS_KINGFISH_BORE B	PWS_SCH_BORE	QC102	QC202	PWS_SCH_TANK 1	PWS_SCH_TAP	WC-01	WC-02	WC-03_BORE
Date									14/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	15/01/2020	16/01/2020	17/01/2020
Location Type									Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type									Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
Location Description									Public	Public	Public	Public	Public	Public	Private	Private	Private
Sampling Method									Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Water Mill Creek	Water Mill Creek	Broken Bridge Creek
Lab Report No.									ES2002626	ES2002620	ES2002620	699263	ES2002620	ES2002620	ES2002617	ES2002616	ES2002618
(n:2) Fluorotelomer Sulfonic Acids																	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01							<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroalkane Carboxylic Acids																	
Perfluorohexanoic acid (PFHxA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01							<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.02							<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01	632#1	220#1	19#1	0.56#2	10#3	0.56#2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkane Sulfonic Acids																	
Perfluorononanesulfonic acid (PFNS)	µg/L	0.01							-	-	-	<0.01	-	-	-	-	-
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.01	2#1	0.13#1	0.00023#1				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01							<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01							-	-	-	<0.01	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.01				0.07#2	2#3	0.07#2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroalkyl Sulfonamides																	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02							<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
PFAS																	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	<0.01	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	<0.01	-	-	-	-	-
Sum of PFAS	µg/L	0.01							<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

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	Unit	EQL																				
			Location Code	A_BORE1	A_STP_OUT	A_TANK1	A_TANK3	A_TAP1	A_TAP2	A_TAP3	A_TAP4	A_TAP5	AIRPORT_BORE	AIRPORT_BORE	AIRPORT_BORE	PWS_AIRPORT_BORE	PWS_AIRPORT_BORE	PWS_AIRPORT_BORE	CHAP_TAP1	CHAP_TAP1	CHAP_TAP1	CHAP_TAP1
			Field ID	A_BORE1	A_STP_OUT	A_TANK1	A_TANK3	A_TAP1	A_TAP2	A_TAP3	A_TAP4	A_TAP5	AIRPORT_BORE	QC06	QC07	PWS_AIRPORT_BORE	QC101	QC201	CHAP_TAP1	CHAP_TAP1	QC30	QC31
			Date	14/01/2020	16/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021	16/03/2021	16/03/2021	16/03/2021	9/03/2021	9/03/2021	9/03/2021	14/01/2020	14/01/2020	14/01/2020	21/01/2020	11/03/2021	11/03/2021	11/03/2021
			Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Field_D	Interlab_D	Normal	Normal	Field_D	Interlab_D
			Location Description	Public		Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
			Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
			Lab Report No.	ES2002626	ES2111268	ES2111278	ES2111278	ES2111278	ES2111278	ES2111280	ES2111280	ES2111280	ES2111278	ES2111279	265850	ES2002626	ES2002626	699266	ES2002810	ES2111276	ES2111276	265847
Sum of PFHxS and PFOS	µg/L	0.01		0.07	0.24	<0.01	<0.01	0.02	0.01	<0.01	0.11	0.04	*24.9*	*34.7*	*24*	*44.5*	*28.8*	*32*	<0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01		0.07	0.28	<0.01	<0.01	0.02	0.01	<0.01	0.11	0.04	30.8	41.2	31	51.0	35.1	37.96	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medical Research Council (2019)

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	Unit	EQL																		
			Location Code	CHAP_TAP2	CHAP_TAP2	COUNCIL_TAP1	COUNCIL_TAP2	DEPOT_TANK1	DEPOT_TANK1	DEPOT_TANK1	DEPOT_TANK2	DEPOT_TANK3	DEPOT_TAP	DEPOT_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP1	FRE_TAP2	FRE_TAP3
			Field ID	CHAP_TAP2	CHAP_TAP2	COUNCIL_TAP1	COUNCIL_TAP2	DEPOT_TANK1	QC110	QC210	DEPOT_TANK2	DEPOT_TANK3	DEPOT_TAP	DEPOT_TAP1	FRE_TAP1	FRE_TAP1	QC35	QC36	FRE_TAP2	FRE_TAP3
			Date	21/01/2020	11/03/2021	9/03/2021	9/03/2021	21/01/2020	21/01/2020	21/01/2020	21/01/2020	11/03/2021	21/01/2020	11/03/2021	20/01/2020	12/03/2021	12/03/2021	12/03/2021	20/01/2020	12/03/2021
			Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
			Location Description	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public	Public
			Sampling Method	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek	Water Mill Creek
			Lab Report No.	ES2002810	ES2111276	ES2111279	ES2111279	ES2002819	ES2002803	699303	ES2002819	ES2111278	ES2002819	ES2111278	ES2002817	ES2111256	ES2111256	265846	ES2002817	ES2111256
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	*9.01*	<0.01	*8.79*	<0.01	*8.63*	<0.01	<0.01	<0.01	*22.3*	<0.01
Sum of PFAS	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	10.8	<0.01	10.5	<0.01	10.3	<0.01	<0.01	<0.01	27.5	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2(
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medica

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

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			Location Code	FRE_TAP5	ID001_BORE	ID002_TANK	ID003_BORE	ID003_WELL	ID004_TANK	ID004_TANK	ID004_TAP1	ID005_TANK	ID005_TANK	ID005_TANK	ID006_BORE1	ID006_BORE2	ID009_TAP1	ID009_Well	ID009_Well	ID010_BORE	ID013_BORE
			Field ID	FRE_TAP5	ID001_BORE	ID002_TANK	ID003_BORE	ID003_WELL	ID004_TANK	ID004_TANK	ID004_TAP1	ID005_TANK	QC103	QC203	ID006_BORE1	ID006_BORE2	ID009_TAP1	ID009_Well	ID009_WELL	ID010_BORE	ID013_BORE
			Date	12/03/2021	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	11/03/2021	11/03/2021	16/01/2020	16/01/2020	16/01/2020	17/01/2020	17/01/2020	11/03/2021	20/01/2020	11/03/2021	20/01/2020	22/01/2020
			Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
			Location Description	Public	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
			Sampling Method	Water Mill Creek	Rocky Point Creek	Broken Bridge Creek	Rocky Point Creek	Rocky Point Creek	Mission Creek	Mission Creek	Mission Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Mission Creek	Mission Creek	Mission Creek	Rocky Point Creek	Mission Creek
			Lab Report No.	ES2111256	ES2002615	ES2002614	ES2002619	ES2002619	ES2002609	ES2111275	ES2111275	ES2002612	ES2002626	ES2002626	ES2002821	ES2002821	ES2111277	ES2002826	ES2111277	ES2002827	ES2002831
	Unit	EQL																			
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01		<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2(
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medica

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

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	Unit	EQL											
Location Code			ID013_SW01	ID013_SW01	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID014_BORE	ID015_BORE	ID015_BORE	ID016_BORE
Field ID			ID013_SW01	ID013_SW01	ID014_BORE	ID014_BORE	QC33	QC34	QC117	QC217	ID015_BORE	ID015_BORE	ID016_BORE
Date			22/01/2020	11/03/2021	23/01/2020	12/03/2021	12/03/2021	12/03/2021	21/01/2020	23/01/2020	23/01/2020	16/03/2021	12/03/2021
Location Type			Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type			Normal	Normal	Normal	Normal	Field_D	Interlab_D	Field_D	Interlab_D	Normal	Normal	Normal
Location Description			Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
Sampling Method			Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek
Lab Report No.			ES2002831	ES2111261	ES2002813	ES2111243	ES2111243	265848	ES2002803	699303	ES2002814	ES2111245	ES2111244
Sum of PFHxS and PFOS	µg/L	0.01	*4.50*	*2.84*	*3.13*	1.93	1.82	*2.2*	*2.75*	*2.24*	1.09	0.45	0.14
Sum of PFAS	µg/L	0.01	5.22	3.51	3.80	2.47	2.33	2.8	3.32	2.73	1.46	0.61	0.20

	Unit	EQL										
Location Code			ID016_TAP1	ID016_TAP2	ID017_TAP1	ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1
Field ID			ID016_TAP1	ID016_TAP2	ID017_TAP1	ID018_TAP1	ID019_TAP1	ID019_TAP2	ID020_TAP1	ID021_TAP1	ID022_TAP1	ID023_TAP1
Date			12/03/2021	12/03/2021	16/03/2021	12/03/2021	16/03/2021	16/03/2021	16/03/2021	17/03/2021	17/03/2021	17/03/2021
Location Type			Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Location Description			Private	Private	Private	Private	Private	Private	Private	Private	Private	Private
Sampling Method			Mission Creek	Mission Creek	Mission Creek	Headstone Creek	Mission Creek	Mission Creek	Mission Creek	Mission Creek	Headstone Creek	Mission Creek
Lab Report No.			ES2111244	ES2111244	ES2111249	ES2111250	ES2111252	ES2111252	ES2111253	ES2111248	ES2111254	ES2111247
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2(
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medica

Table B6: Bore, Tap and Tank Water Analytical Results
DITCRD, Norfolk, DSI
Norfolk Island
DITCRD

	Unit	EQL		ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A	PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS	PWS_HESSIES_RESV
			Field ID	ID023_TAP2	ID024_TAP1	PSW_POUND_BORE A	PWS_EB_TOILETS	PWS_HCAS_TOILETS	PWS_HEAD_TOILETS	PWS_HESSIES_RESERVOIR
			Date	17/03/2021	17/03/2021	14/01/2020	15/03/2021	16/03/2021	16/03/2021	14/01/2020
			Location Type	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
			Location Description	Private	Private	Public	Public	Public	Public	Public
			Sampling Method	Mission Creek	Mission Creek	Water Mill Creek	Water Mill Creek	Broken Bridge Creek	Headstone Creek	Water Mill Creek
			Lab Report No.	ES2111247	ES2111246	ES2002626	ES2111280	ES2111280	ES2111280	ES2002626
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	1.67	<0.01	<0.01	*32.3*	*31.5*	0.01
Sum of PFAS	µg/L	0.01		<0.01	2.17	<0.01	<0.01	38.2	37.7	0.01

	Unit	EQL	**Location Code**	PWS_HOSP_BORE	PWS_HOSP_TANK 1	PWS_HOSP_TANK 2	PWS_HOSP_TANK 3	PWS_HOSP_TANK 4	PWS_HOSP_TANK 5	PWS_HOSP_TAP1	PWS_HOSP_TAP1
			Field ID	PWS_HOSP_BORE	PWS_HOSP_TANK 1	PWS_HOSP_TANK 2	PWS_HOSP_TANK 3	PWS_HOSP_TANK 4	PWS_HOSP_TANK 5	PWS_HOSP_TAP1	PWS_HOSP_TAP1
			Date	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	15/01/2020	13/02/2020
			Location Type	Water	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
			Location Description	Public	Public	Public	Public	Public	Public	Public	Public
			Sampling Method	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
			Lab Report No.	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	ES2002622	EM2002483
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.50	0.50
Sum of PFAS	µg/L	0.01		<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.50	0.50

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2(
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medica

	Unit	EQL									
			Location Code	PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP1	PWS_HOSP_TAP2	PWS_HOSP_TAP3	PWS_HOSP_TAP3	PWS_HOSP_TAP4	PWS_HOSP_TAP4
			Field ID	PWS_HOSP_TAP1	QC118	QC218	PWS_HOSP_TAP2	PWS_HOSP_TAP3	PWS_HOSP_TAP3	PWS_HOSP_TAP4	PWS_HOSP_TAP4
			Date	10/03/2021	13/02/2020	13/02/2020	13/02/2020	13/02/2020	10/03/2021	13/02/2020	10/03/2021
			Location Type	Water	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
			Location Description	Public	Public	Public	Public	Public	Public	Public	Public
			Sampling Method	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek
			Lab Report No.	ES2111281	EM2002483	702421	EM2002483	EM2002483	ES2111281	EM2002483	ES2111281
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	0.52	0.58	<0.01	0.34	<0.01	0.47	<0.01
Sum of PFAS	µg/L	0.01		<0.01	0.52	0.58	<0.01	0.34	<0.01	0.47	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2(
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medica

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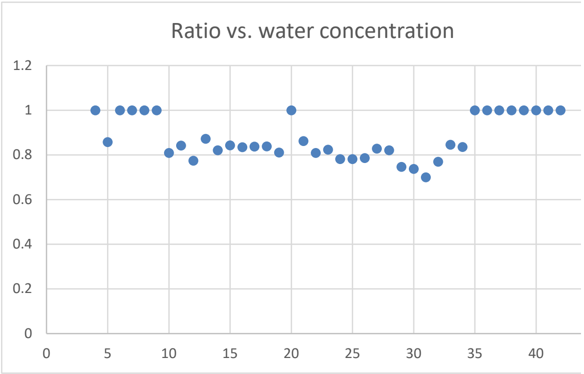
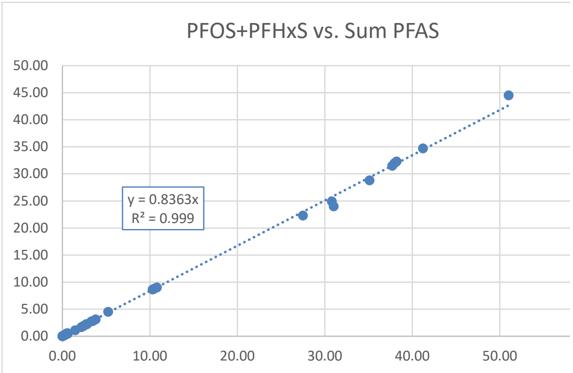
	Unit	EQL													
			Location Code	PWS_HOSP_TAP4A	PWS_HOSP_TAP6	PWS_HOSP_TAP10	PWS_KINGFISH_BORE B	PWS_SCH_BORE	PWS_SCH_BORE	PWS_SCH_BORE	PWS_SCH_TANK 1	PWS_SCH_TAP	WC-01	WC-02	WC-03_BORE
			Field ID	PWS_HOSP_TAP4A	PWS_HOSP_TAP6	PWS_HOSP_TAP10	PWS_KINGFISH_BORE B	PWS_SCH_BORE	QC102	QC202	PWS_SCH_TANK 1	PWS_SCH_TAP	WC-01	WC-02	WC-03_BORE
			Date	14/03/2021	14/03/2021	14/03/2021	14/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	15/01/2020	16/01/2020	17/01/2020
			Location Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
			Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
			Location Description	Public	Public	Public	Public	Public	Public	Public	Public	Public	Private	Private	Private
			Sampling Method	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Broken Bridge Creek	Water Mill Creek	Water Mill Creek	Broken Bridge Creek
			Lab Report No.	ES2111264	ES2111264	ES2111264	ES2002626	ES2002620	ES2002620	699263	ES2002620	ES2002620	ES2002617	ES2002616	ES2002618
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01

Comments
#1 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2
#2 PFAS National Environmental Management Plan (HEPA 2018)
#3 Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water, Canberra: National Health and Medica

Location Code	Date	Sum of PFHxS and PFOS	Sum of PFAS	Ratio PFOS+PFHxS:Sum PFAS
		µg/L	µg/L	
		0.01	0.01	
A_BORE1	14/01/2020	0.07	0.07	1
A_STP_OUT	16/03/2021	0.24	0.28	0.857142857
A_TAP1	9/03/2021	0.02	0.02	1
A_TAP2	9/03/2021	0.01	0.01	1
A_TAP4	16/03/2021	0.11	0.11	1
A_TAP5	16/03/2021	0.04	0.04	1
AIRPORT_BORE	9/03/2021	*24.9*	30.8	0.808441558
AIRPORT_BORE	9/03/2021	*34.7*	41.2	0.84223301
AIRPORT_BORE	9/03/2021	*24*	31	0.774193548
PWS_AIRPORT_BORE	14/01/2020	*44.5*	51	0.87254902
PWS_AIRPORT_BORE	14/01/2020	*28.8*	35.1	0.820512821
PWS_AIRPORT_BORE	14/01/2020	*32*	37.96	0.842992624
DEPOT_TANK2	21/01/2020	*9.01*	10.8	0.834259259
DEPOT_TAP	21/01/2020	*8.79*	10.5	0.837142857
FRE_TAP1	20/01/2020	*8.63*	10.3	0.837864078
FRE_TAP2	20/01/2020	*22.3*	27.5	0.810909091
ID003_BORE	16/01/2020	0.04	0.04	1
ID013_SW01	22/01/2020	*4.5*	5.22	0.862068966
ID013_SW01	11/03/2021	*2.84*	3.51	0.809116809
ID014_BORE	23/01/2020	*3.13*	3.8	0.823684211
ID014_BORE	12/03/2021	1.93	2.47	0.781376518
ID014_BORE	12/03/2021	1.82	2.33	0.78111588
ID014_BORE	12/03/2021	*2.2*	2.8	0.785714286
ID014_BORE	21/01/2020	*2.75*	3.32	0.828313253
ID014_BORE	23/01/2020	*2.24*	2.73	0.820512821
ID015_BORE	23/01/2020	1.09	1.46	0.746575342
ID015_BORE	16/03/2021	0.45	0.61	0.737704918
ID016_BORE	12/03/2021	0.14	0.2	0.7
ID024_TAP1	17/03/2021	1.67	2.17	0.769585253
PWS_HCAS_TOILETS	16/03/2021	*32.3*	38.2	0.845549738
PWS_HEAD_TOILETS	16/03/2021	*31.5*	37.7	0.835543767
PWS_HESSIES_RESV	14/01/2020	0.01	0.01	1
PWS_HOSP_TANK 2	15/01/2020	0.02	0.02	1
PWS_HOSP_TAP1	15/01/2020	0.5	0.5	1
PWS_HOSP_TAP1	13/02/2020	0.5	0.5	1
PWS_HOSP_TAP1	13/02/2020	0.52	0.52	1
PWS_HOSP_TAP1	13/02/2020	0.58	0.58	1
PWS_HOSP_TAP3	13/02/2020	0.34	0.34	1
PWS_HOSP_TAP4	13/02/2020	0.47	0.47	1

Mean 0.88
Median 0.84



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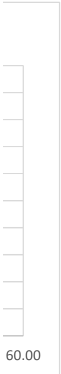
60.00

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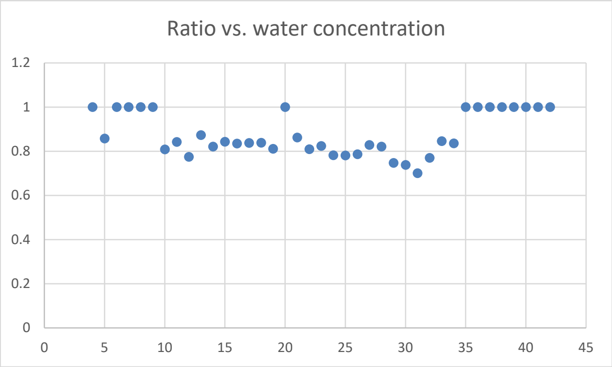
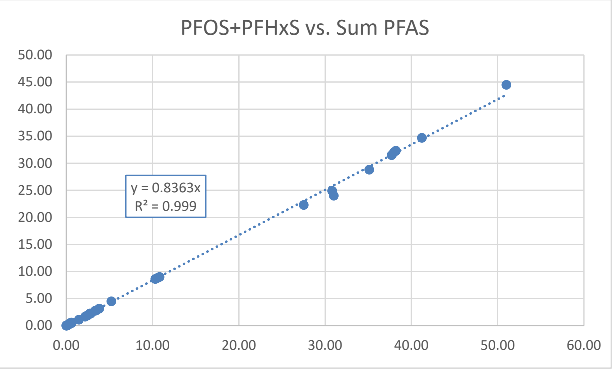
Location Code	Date	Sum of PFHxS and PFOS	Sum of PFAS	Ratio PFOS+PFHxS: Sum PFAS
		µg/L	µg/L	
		0.01	0.01	
A_BORE1	14/01/2020	0.07	0.07	1
A_STP_OUT	16/03/2021	0.24	0.28	0.857142857
A_TAP1	9/03/2021	0.02	0.02	1
A_TAP2	9/03/2021	0.01	0.01	1
A_TAP4	16/03/2021	0.11	0.11	1
A_TAP5	16/03/2021	0.04	0.04	1
AIRPORT_BORE	9/03/2021	*24.9*	30.8	0.808441558
AIRPORT_BORE	9/03/2021	*34.7*	41.2	0.84223301
AIRPORT_BORE	9/03/2021	*24*	31	0.774193548
PWS_AIRPORT_BORE	14/01/2020	*44.5*	51	0.87254902
PWS_AIRPORT_BORE	14/01/2020	*28.8*	35.1	0.820512821
PWS_AIRPORT_BORE	14/01/2020	*32*	37.96	0.842992624
DEPOT_TANK2	21/01/2020	*9.01*	10.8	0.834259259
DEPOT_TAP	21/01/2020	*8.79*	10.5	0.837142857
FRE_TAP1	20/01/2020	*8.63*	10.3	0.837864078
FRE_TAP2	20/01/2020	*22.3*	27.5	0.810909091
ID003_BORE	16/01/2020	0.04	0.04	1
ID013_SW01	22/01/2020	*4.5*	5.22	0.862068966
ID013_SW01	11/03/2021	*2.84*	3.51	0.809116809
ID014_BORE	23/01/2020	*3.13*	3.8	0.823684211
ID014_BORE	12/03/2021	1.93	2.47	0.781376518
ID014_BORE	12/03/2021	1.82	2.33	0.78111588
ID014_BORE	12/03/2021	*2.2*	2.8	0.785714286
ID014_BORE	21/01/2020	*2.75*	3.32	0.828313253
ID014_BORE	23/01/2020	*2.24*	2.73	0.820512821
ID015_BORE	23/01/2020	1.09	1.46	0.746575342
ID015_BORE	16/03/2021	0.45	0.61	0.737704918
ID016_BORE	12/03/2021	0.14	0.2	0.7
ID024_TAP1	17/03/2021	1.67	2.17	0.769585253
PWS_HCAS_TOILETS	16/03/2021	*32.3*	38.2	0.845549738
PWS_HEAD_TOILETS	16/03/2021	*31.5*	37.7	0.835543767
PWS_HESSIES_RESV	14/01/2020	0.01	0.01	1
PWS_HOSP_TANK 2	15/01/2020	0.02	0.02	1
PWS_HOSP_TAP1	15/01/2020	0.5	0.5	1
PWS_HOSP_TAP1	13/02/2020	0.5	0.5	1
PWS_HOSP_TAP1	13/02/2020	0.52	0.52	1
PWS_HOSP_TAP1	13/02/2020	0.58	0.58	1
PWS_HOSP_TAP3	13/02/2020	0.34	0.34	1
PWS_HOSP_TAP4	13/02/2020	0.47	0.47	1

Mean	0.88
Median	0.84





Appendix B: PFAS accumulation in fat (tallow), marrow and bone

1. PFAS Accumulation in Fat

PFAS compounds have a relatively low potential to accumulate in fat relative to other tissues. As a general comment (not specifically for cattle) a study in humans (Perez et al., 2013) draws the following conclusion regarding the accumulation of PFAS in the human body:

"PFASs can have long persistence in the body. However, they do not tend to accumulate in fat tissue."

There is limited information specifically for cattle. One study (Lupton et al., 2015) did study the distribution of PFAS in various beef cattle tissues. It is noted that the actual concentrations measured in this study are likely to be of limited direct relevance to the environmental exposures on Norfolk Island (the cattle were exposed to a single dose of PFAS, rather than continuous exposure to low concentrations). This study indicated that PFOS concentrations in back fat were 4 – 7 times lower than the concentrations in liver, and PFOS concentrations in intraperitoneal fat were 10 – 14 times lower than the concentrations in liver. The concentrations in fat were generally similar to, but in some cases higher than, the concentrations measured in different cuts of meat (muscle). However, as the quantities of fat eaten are likely to be much less than the quantities of meat eaten, the overall exposure to PFAS via fat consumption is likely to be lower than the exposure via meat.

Based on these results, it is likely that there will be some accumulation of PFAS in the fat of cattle, but the concentrations are expected to be lower than in other edible tissues (in particular, liver) in which PFAS is known to accumulate preferentially, and the overall exposure to PFAS via fat consumption is likely to be lower than the exposure via other consumption pathways (e.g. meat and offal).

2. PFAS Accumulation in Marrow / Bone

PFAS compounds have a relatively low potential to accumulate in bone and bone marrow relative to other tissues.

There is limited information specifically for cattle. One study (Lupton et al., 2015) did study the distribution of PFAS in various beef cattle tissues. It is noted that the actual concentrations measured in this study are likely to be of limited direct relevance to the environmental exposures on Norfolk Island (the cattle were exposed to a single dose of PFAS, rather than continuous exposure to low concentrations). This study indicated that PFOS concentrations in bone were 20 – 50 times lower than the concentrations in liver. The concentrations in bone were generally similar to, but lower than, the concentrations measured in different cuts of meat (muscle). However, as estimated bone consumption (e.g. mass of bones used for stock, or marrow consumed) is likely to be less than the quantities of meat eaten, the overall exposure to PFAS via bone consumption is likely to be lower than the exposure via meat.

These results are supported by a study in humans (Perez et al. 2013); in this study PFOS accumulated primarily in the liver, kidney, and lung, and it was not detected in bone. A study in mice (Bogdanska et al. 2011, reported in a USEPA review (USEPA, 2016)) measured tissue distribution of PFAS after low-dose and high-dose exposure; after 5 days exposure, the measured concentrations in whole bone were similar to, or lower than, the concentrations in other tissues, and roughly 5 times lower than in liver.

Based on these results, it is likely that there will be limited accumulation of PFAS in the bones and bone marrow of cattle; concentrations are expected to be lower than in other edible tissues (in particular, liver) in which PFAS is known to accumulate preferentially, and the overall exposure to PFAS via bone consumption is likely to be lower than the exposure via other consumption pathways (e.g. meat and offal).

3. References

Bogdanska et al. 2011. *Tissue distribution of 35S-labelled perfluorooctane sulfonate in adult mice after oral exposure to a low environmentally relevant dose or a high experimental dose.*

Lupton et al., 2015. *Perfluorooctane Sulfonate Plasma Half-Life Determination and Long-Term Tissue Distribution in Beef Cattle (Bos taurus)*

Perez et al., 2013. *Accumulation of perfluoroalkyl substances in human tissues*

USEPA, 2016. *Health Effects Support Document for Perfluorooctane Sulfonate (PFOS)*

Appendix C: Livestock screening levels

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Acceptable concentrations in beef cattle tissues / blood plasma

COPC	**Meat (muscle)**		
	FSANZ trigger	Muscle-plasma distribution factor	Corresponding plasma concentration
	µg/kg	(µg/kg)/(µg/L)	µg/L
PFOS	3.5	0.074	**47.2**
PFHxS	3.5	0.045	**77.0**

COPC	**Liver**		
	FSANZ trigger	Liver-plasma distribution factor	Corresponding plasma concentration
	µg/kg	(µg/kg)/(µg/L)	µg/L
PFOS	96.0	1.580	60.8
PFHxS	96.0	0.159	605.0

COPC	**Kidney**		
	FSANZ trigger	Kidney-plasma distribution factor	Corresponding plasma concentration
	µg/kg	(µg/kg)/(µg/L)	µg/L
PFOS	96.0	0.6	169.0
PFHxS	96.0	0.3	320.4

Acceptable concentrations in milk/plasma of dairy cows

COPC	**Milk**			
	FSANZ trigger	Corresponding milk concentration	Milk-plasma distribution factor	Corresponding plasma concentration
	µg/kg	µg/L	(µg/L)/(µg/L)	µg/L
PFOS	**0.40**	0.42	0.013	32
PFHxS	**0.40**	0.42	0.007	59

Acceptable concentrations in blood plasma are estimated by dividing the trigger values (in meat, offal and milk) by distribution factors developed based on literature data, and which relate the concentrations in these livestock produce types to corresponding concentrations in blood plasma. (see Appendix D). The lowest acceptable plasma concentration is selected.

Trigger values for meat, milk and offal are provided in FSANZ, 2017 *Perfluorinated Chemicals in food* . Trigger values are defined as the maximum concentration level of these chemicals that could be present in individual foods or food groups so where even at high consumption levels, consumers of these foods would not have dietary exposures exceeding the relevant health based guidance value; the trigger values are conservative screening levels for comparison with the estimated concentrations.

Concentrations in milk (ug/L) converted to concentrations in milk (ug/kg) based on a milk density of 1.04 kg/L (FAO, http://www.fao.org/docrep/017/ap815e/ap815e.pdf)

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Acceptable intake (beef cattle)

COPC	Acceptable plasma concentration	Plasma uptake factor	Acceptable intake
	µg/L	(µg/L)/(µg/kgbw/day)	µg/kgbw/day
PFOS	47.2	1450	0.03
PFHxS	77.0	650	0.12
PFOA	401.3	17	23.61

COPC	Liver
	Corresponding plasma concentration
	µg/L
PFOS	60.8
PFHxS	605.0
PFOA	655.6

COPC	Kidney
	Corresponding plasma concentration
	µg/L
PFOS	169.0
PFHxS	320.4
PFOA	761.1

Acceptable intake (dairy cows)

COPC	Acceptable plasma concentration	Plasma uptake factor	Acceptable intake
	µg/L	(µg/L)/(µg/kgbw/day)	µg/kgbw/day
PFOS	32	310	0.10
PFHxS	59	91	0.65
PFOA	7	17	0.44

Acceptable intakes are estimated by dividing the acceptable concentrations in blood plasma (see Table C1) by uptake factors developed based on literature data, and which relate the (steady-state) concentrations in cattle blood plasma to PFAS intakes.

The lowest acceptable plasma concentrations from Table C1 have been selected (e.g. for beef cattle, distribution to meat, kidney and liver is considered, and the most stringent used to define the acceptable blood concentration).

The derivation of uptake factors is discussed in the text of Appendix D.

Medium	Cattle ingestion rate	Units	Source for value
Grass	0.018	$kg.kgbw^{-1}.day^{-1}$	DEDJTR, 2015 reports maximum daily dry matter intakes for different cattle groups ranging between 1.8 % (800kg bulls) and 2.9% (150 kg weaned steers and heifers). As these are maximum intakes the low-end value has been selected.
Water	0.1	$kg.kgbw^{-1}.day^{-1}$	Estimated based on data provided by Oklahoma State University, Nutrient Requirements of Beef Cattle E-974 (tabulated below). The average maximum temperature ion Norfolk Island is 21.5°C (http://www.bom.gov.au/climate/averages/tables/cw_200288.shtml). The low-end value for 21.1°C (0.1 L/kgbw/day) has been selected as likely to provide as conservative value for both beef and dairy cattle. While dairy cattle are likely to have higher water requirements, this value is conservative as most cattle on Norfolk Island graze of Pasture. NRC, 2001 (Nutrient Requirements of Dairy Cattle Seventh Revised Edition, 2001) indicates that cattle grazing pasture consumed only 38% of their total water intake through drinking.

Cattle water requirements (L/kgbw) at varying tempeartatures, adapted from Oklahoma State University, Nutrient Requirements of Beef Cattle E-974

Weight(kg)	Temperature (°C)					
	4.4	**10**	**15.6**	**21.1**	**26.7**	**32.2**
182	0.08	0.09	0.10	0.12	0.14	0.20
272	0.07	0.08	0.09	0.11	0.12	0.18
363	0.07	0.07	0.08	0.10	0.11	0.16
272	0.08	0.09	0.10	0.12	0.14	0.20
363	0.08	0.08	0.09	0.11	0.13	0.18
454	0.07	0.08	0.09	0.11	0.12	0.17

Whitehead, 2000. *Nutrient Elements in Grassland: Soil-plant-animal Relationships*
DEDJTR, 2015. *Drought Feeding and Management of Beef Cattle 2015.* Available at:
https://www.agric.wa.gov.au/sites/gateway/files/Drought-feeding-and-management-of-beef-cattle-2015.pdf

Table C4: Derivation of water screening levels

Water screening levels (beef cattle)

COPC	Acceptable intake	Water Ingestion Rate	Screening level
	µg/kgbw/day	$kg.kgbw^{-1}\cdot day^{-1}$	µg/L
PFOS	0.03	0.1	0.33
PFHxS	0.12	0.1	1.2

Water screening levels (dairy cattle)

COPC	Acceptable intake	Soil intake	Screening level
	µg/kgbw/day	$kg.kgbw^{-1}\cdot day^{-1}$	µg/L
PFOS	0.10	0.1	1.0
PFHxS	0.65	0.1	6.5

$$Intake = water\ concentration \cdot water\ intake$$

$$Screening\ level = \frac{acceptable\ intake}{water\ intake}$$

Notes:

The acceptable intakes are as defined in Table C2.
Water intakes are as defined in Table C3.

Table C5: Derivation of grass screening levels for beef cattle

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Grass screening levels (beef cattle)

COPC	Acceptable intake	Grass ingestion rate	Proportion of grass eaten from impacted area	Screening level (dw)	Screening level (dw)	Screening level (ww)
	µg/kgbw/day	$kg.kgbw^{-1}\cdot day^{-1}$	%	µg/kg	mg/kg	mg/kg
PFOS	0.03	0.018	5%	36.1	0.04	0.03
PFHxS	0.12	0.018	5%	131.6	0.13	0.10

$$Intake = soil\ concentration \cdot grass\ ingestion\ rate$$

$$Screening\ level = \frac{acceptable\ intake}{grass\ ingestion\ rate}$$

Notes:

The accepatable intakes are as defined in Table C2.
Grass ingestion rates are as defined in Table C3.
Conversion from dry weight to wet weight based on the maximum moisture content (25%) measured in sampled grass. Moisture content was analysed for only in a subset of samples, with a range of 19-25% measured. The relatively low moisture content is considered reflective of the generally dry conditions in the period before sampling. Review of data from the Bureau of Meterology (http://www.bom.gov.au/climate/averages/tables/cw_200288.shtml) indicates only 0.2 mm of rain in the preceeding 8 days, and 32 mm in the previous 4 weeks). This is significantly below the average rainfall in March (104 mm), and well below estimated evaporation over the period (142 mm).

Table C6: Derivation of acceptable concentrations in plasma

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Acceptable concentrations in sheep tissues / blood plasma

COPC	Meat (muscle)		
	FSANZ trigger	Muscle-plasma distribution factor	Corresponding plasma concentration
	µg/kg	(µg/kg)/(µg/L)	µg/L
PFOS	3.5	0.11	**31.8**
PFHxS	3.5	0.11	**31.8**

COPC	Liver		
	FSANZ trigger	Liver-plasma distribution factor	Corresponding plasma concentration
	µg/kg	(µg/kg)/(µg/L)	µg/L
PFOS	96.0	2.6	36.9
PFHxS	96.0	2.6	36.9

COPC	Kidney		
	FSANZ trigger	Kidney-plasma distribution factor	Corresponding plasma concentration
	µg/kg	(µg/kg)/(µg/L)	µg/L
PFOS	96.0	0.7	137.1
PFHxS	96.0	0.7	137.1

Acceptable concentrations in cattle plasma estimated by applying selected plasma uptake and tissue distribution factors to acceptable meat and offal concentrations (see Appendix D)
All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

Table C7: Derivation of acceptable intakes

Acceptable intake (sheep)			
COPC	Acceptable plasma concentration	Plasma uptake factor	Acceptable intake
	µg/L	(µg/L)/(µg/kgbw/day)	µg/kgbw/day
PFOS	31.8	200	0.16
PFHxS	31.8	300	0.11

Acceptable concentrations in sheep plasma estimated by applying selected plasma uptake and tissue distribution factors to acceptable meat and offal concentrations (see Appendix D)

All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

Medium	Sheep ingestion rate	Units	Source for value
Water	0.1	$kg.kgbw^{-1}.day^{-1}$	Approximate mid point of a range (0.009 - 0.2 L/kg/day) of water intakes for sheep and lambs.

Table C9: Derivation of water screening levels

Water screening levels (sheep)			
COPC	Acceptable intake	Water Ingestion Rate	Screening level
	μg/kgbw/day	$kg.kgbw^{-1}.day^{-1}$	μg/L
PFOS	0.16	0.1	1.6
PFHxS	0.11	0.1	1.1

$$Intake = water\ concentration \cdot water\ intake$$

$$Screening\ level = \frac{acceptable\ intake}{water\ intake}$$

Notes:

The acceptable intakes are as defined in Table C7.
Water intakes are as defined in Table C8.

Appendix D: Derivation of livestock uptake and distribution factors

Appendix D: Derivation of livestock uptake and distribution factors

D1 Introduction

In order to estimate the level of risk to consumers of animal and animal products (i.e. meat and milk) from livestock, it is necessary, in the absence of measured PFAS concentrations, to estimate the concentrations of PFAS in these products.

A number of studies, including Kowalczyk, 2013[1], have demonstrated clear relationships between blood plasma concentrations and concentrations in milk and meat for dairy cows. This means a non-destructive test can be completed to measure PFAS concentration in cattle blood serum (or plasma), and then use experimentally derived factors to estimate the concentrations in meat and milk from the concentrations in blood serum (or plasma).

However, serum data is unavailable, and it is therefore necessary to additionally estimate the concentrations in plasma from the likely intake in cattle diet and stock water. This is performed by using the measured concentrations from site grass and water used for stock watering. There is limited available data to facilitate the estimation of plasma concentrations from dietary intake. There is therefore a relatively high level of uncertainty in this aspect of the assessment, in particular because the animal's overall exposure is estimated, not measured.

This appendix summarises the derivation of:

- **Plasma uptake factors,** to allow the estimation of plasma concentrations in cattle from the estimated intake in cattle diet; and
- **Meat–plasma and milk–plasma distribution factors,** to allow the estimation of milk and meat concentrations from estimated plasma concentrations.

D2 Derivation of plasma uptake factors

General rationale: selection of plasma uptake factors which estimate steady-state plasma concentrations

There is anticipated to be a strong relationship between the timeframe over which PFAS exposure occurs and the plasma concentrations resulting from PFAS intake in the diet; this relationship has been demonstrated experimentally (e.g. by Kowalczyk et al, 2013). For given PFAS concentrations in livestock diet, resulting concentrations in cattle plasma will be lower when the exposure occurs for only a short time period, and higher when the exposure occurs long term. Plasma concentrations will increase with increased exposure time, until the PFAS excretion rate balances the intake rate. Once this point is reached, plasma concentrations will reach steady-state, and will not increase further regardless of the time-frame over which continued exposure occurs. The time taken to reach steady-state concentrations will vary for different PFAS compounds if their excretion half-lives are different.

[1] Kowalczyk et al., 2013. *Absorption, Distribution, and Milk Secretion of the Perfluoroalkyl Acids PFBS, PFHxS, PFOS, and PFOA by Dairy Cows Fed Naturally Contaminated Feed. dx.doi.org/10.1021/jf304680j* J. Agric. Food Chem. 2013, 61, 2903−2912

It is additionally noted that, following cessation of exposure, PFAS concentrations will begin to decrease (based on estimated elimination half-life). For some compounds, this may happen rapidly (over days to weeks). For PFOS for example, the timeframe before concentrations to decrease may extend over a number of months (elimination half-lives of PFOS in dairy cows of 39 days[2]– 56 days[2]; and elimination half-lives in beef cattle of 106 – 120 days[3],[4]).

Given these time-related aspects of the relationship between intake and resultant plasma concentrations, which are then used to estimate tissue concentration, it is possible to define an uptake factor which estimates either:

- Plasma concentrations following a defined exposure period; or
- Steady-state plasma concentrations, which represent the maximum plasma concentrations which could be reached following extended exposure.

Consideration has been given to the most appropriate approach for this HHERA.

There are varying herd dynamics for the livestock kept on-island,. It cannot be excluded that cattle could, in at least some cases, spend the majority of their time drinking water impacted by PFAS, though it is likely that they would be present across varying pasture areas, which may be affected by PFAS to varying extents. In other cases cattle may be moved between different pastures, and the exposure time-frame within impacted areas may be limited.

Given the variability in the timeframe over which exposures could occur it is considered most appropriate to derive plasma uptake factors which estimate the steady-state PFAS concentrations which could result from daily intakes which continue for an extended period. On this basis, and for this HHERA, plasma uptake factors are defined as the ratio between PFAS intake and steady-state plasma concentration.

This is a conservative approach which accounts for situations where cattle remain within PFAS-affected areas (or drinking PFAS-impacted water) for extended periods, and may overestimate plasma concentrations where the exposure timeframe within PFAS-affected areas is limited.

There is precedent[5] for estimating plasma uptake according to the following first-order one-compartment pharmacokinetic model:

$$\frac{C_{plasma}}{intake} = \frac{t_{1/2}}{0.693 \cdot V_d}$$

Where:

- C_{plasma} = the steady-state plasma concentration
- $t_{1/2}$ = the elimination half-life
- V_d = the assumed volume of distribution (L/kg), by common practice the extracellular volume in dairy cattle is adopted.

There is a level of uncertainty associated with this assessment, given the limited available half-life data, and also potentially in the volume of distribution.

[2] van Asselt et. al., 2013. *Transfer of perfluorooctane sulfonic acid (PFOS) from contaminated feed to dairy milk.* Food Chemistry 141 (2013) 1489–1495. Half-life was estimated for milk based on PBPK modelling using data from Kowalczyk, 2013.[1] Given the known linear relationship between milk and plasma concentrations, this half-life is also considered applicable for plasma.

[3] Lupton et al., 2014. Distribution and Excretion of Perfluorooctane Sulfonate (PFOS) in Beef Cattle (Bos taurus). dx.doi.org/10.1021/jf404355b | J. Agric. Food Chem. 2014, 62, 1167−1173

[4] Lupton et al., 2015. Perfluorooctane Sulfonate Plasma Half-Life Determination and Long-Term Tissue Distribution in Beef Cattle (Bos taurus). DOI: 10.1021/acs.jafc.5b04565. J. Agric. Food Chem., 2015, 63 (51), pp 10988–10994

[5] AECOM, 2016. Off-site human health risk assessment (July 2016). RAAF base Williamtown.

General rationale: linear relationship between intake and steady-state PFAS concentrations

In defining plasma uptake factors as the ratio between PFAS intake and steady-state plasma concentration (the approach followed in this HHERA), it is assumed that the ratio between PFAS intake and steady-state plasma concentration measured (or estimated) in scientific studies can be applied to the estimated intakes to estimate plasma concentrations.

For this approach to be valid, there should be evidence that a linear relationship between intake and steady-state PFAS plasma concentrations is expected. A non-linear relationship could be possible if there are toxico-kinetic processes (defining the way PFAS is transferred around the body or excreted) which act at a fixed or limited rate, rather than operating at a rate proportional to the concentration of PFAS.

Review of FSANZ, 2017a[6] indicates the following:

- The tolerable daily intake in humans was defined assuming a linear relationship between plasma concentrations and intake, as follows:

human equivalent dose (mg//kg bw/d) = average serum concentration (µg/mL) × CL[7]

As discussed in FSANZ, 2017a, "*The scaling assumed linear first order human kinetics. Linear first order kinetics are observed in animals at the doses at which NOAELs and LOAELs occur (1-10 mg/kg/day), although nonlinear kinetics are observed at higher doses.*"

The NOAELs and LOAELs considered in FSANZ, 2017a range from around 1000 – 10,000 µg/kg/day, which are well above expected environmental exposures. In addition the intakes in the studies utilised to define plasma intake factors are also well below this level, for example:

- The intakes on island are up to around 0.7 µg/kg/day (based on a water concentration of 3 µg/L and a water intake of 0.1 L/kg.day). This range is markedly below the NOAELs and LOAELs at which linear kinetics are observed.
- The intakes utilised in two key studies (2 – 10 µg/kg body weight (bw)/day in Kowalczyk, 2013; and 0.0005 – 0.001 µg/kg body weight (bw)/day in Vestegren, 2013) are markedly below the doses at which linear kinetics are observed.
- The modelled PFOS intake in van Asselt, 2013 (5 ug/kgbwday) is also markedly below the doses at which linear kinetics are observed.
- The single bolus doses used in Lupton, 2014 and Lupton, 2015 range from 98 µg/kg/day to 9100 µg/kg/day (within the range of the NOAELs and LOAELs); when averaged over the study period (to provide an average intake), the intake factors are markedly below doses at which linear kinetics are observed.
- The PFOS intakes in Drew, 2021 are around 0.3 µg/kg/day (based on a water concentration of 3 µg/L and a water intake of 0.1 L/kg.day)

On this basis, it is considered reasonable to assume a linear relationship between intake and steady-state plasma concentration at the intake ranges used in the studies utilised to define uptake factors, and for this project. As such, the approach of defining plasma uptake factors as the ratio between PFAS intake and steady-state plasma concentration is considered valid and appropriate.

[6] FSANZ, 2017a. *Hazard assessment report – Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA), Perfluorohexane Sulfonate (PFHxS)*
[7] CL=clearance, in this case a constant (0.000081 (L/kg bw/d))

D3 Cattle: Derivation of plasma uptake factor for PFOS

The tables overleaf detail the plasma uptake factors derived from the results of a number of different studies, together with a discussion of the data and approach utilised to define the plasma uptake factor in each case. The literature review included searching for relevant studies in which PFAS intake and plasma concentrations in cattle were quantified; recently completed Australian PFAS risk assessments (including AECOM, 2016) were also reviewed to assess whether key studies had been identified.

It is emphasised firstly that a number of these studies (with the exception of Lupton, 2014 and Lupton, 2015) were conducted in lactating dairy cows. Milk represents a key excretory pathway for PFOS (given PFAS affinity for binding to proteins). As such, there are uncertainties associated in extrapolating these results to beef cattle. In beef cattle, this excretory pathway is absent, and therefore higher plasma concentrations might be expected for a given intake (as less PFOS is excreted), although there may be other physiological differences. On this basis, consideration has been given to the derivation of separate uptake factors for dairy cattle and beef cattle.

On the basis of the studies reviewed overleaf, the following plasma uptake factors for PFOS have been estimated and selected for use in the HHRA:

Dairy cows: 310 (µg/L)/(µg/kg bw/day)) estimated using a first-order one-compartment pharmaco-kinetic model and from van Asselt, 2013, based on:

- Higher uptake factors were estimated using PBPK modelling in the same study, however these have been discounted as the predicted steady-state serum concentrations match poorly with those measured experimentally (Vestergren, 2013).
- With the exception of the discounted results above, this is the maximum estimated plasma uptake factor. The uptake factor assumes a milk yield of 25 L/day^{-1}.An uptake factor based on a milk yield of 25L/day is likely to be broadly appropriate[8]. It is noted that it may underestimate steady-state plasma uptake in dairy cows if their milk production rate is <25L/day, or overestimate plasma uptake for cows with higher milk production rates
- The selected uptake factor is higher than the low-end uptake factor estimated from maximum measured serum concentrations in Kowalczyk, 2013 (milk yield 18 L/day), and higher than the uptake factor estimated from steady-state serum concentrations in Kowalczyk, 2013 (milk yield 25.4 L/day).
- It is noted that in this study, steady state concentrations were only achieved after timeframes approaching 2 years. This indicates that where continuous exposures to PFAS-affected areas occur for shorter period than this, steady state concentrations may not be reached, and the uptake factor may overestimate plasma concentrations. It is noted that across much of the off-Base investigation area, exposure concentrations are low (or even less than the laboratory level or reporting (<LOR)). As such, even for cows that remain within these pastures, it is most likely that there will not be continuous exposure to PFAS-affected soil, grass and water and the adopted approach will be conservative.

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[8] An average milk production rate for dairy of 15 L.day-1 can be estimated from data provided by Dairy Australia (https://www.dairyaustralia.com.au/industry/production-and-sales/milk/yield) which indicates that average daily milk yield per dairy cow in the Gippsland, Victoria region has remained constant (15-17 L.day-1) over the last ten years. However, this rate is likely to underestimate the milk yield for a cow currently producing milk. It is noted that this is an average yield based on the total number of cows within dairy herds; at any one time, herds will include productive cows (with a milk yield higher than the average) and cows not currently producing milk (because they have not yet calved, or at a non-milk producing part of their calving cycle. Modern Australian dairy cows are bred to produce up to around 30L/day (http://www.swresearch.com.au/Dairy/Dairy%20Australia.pdf) while they are producing milk. It is most relevant to consider the uptake factor in a currently productive cow, as the assessment for dairy cows is focussed on assessing likely PFAS concentrations in milk produced for human consumption (via estimating first in serum), and this pathway is only relevant for currently productive cows.

Overall, given the conservatism in the adopted steady-state serum uptake factor (as discussed above), the selected uptake factor is considered appropriate for use for dairy cattle in the investigation area.

Beef cattle: 1450 (µg/L)/(µg/kg bw/day)) estimated using based on paired stock water and serum concentrations (Drew et al., 2021).

The uptake factor is higher those measured from other available studies in the literature, including those based on first-order one-compartment pharmaco-kinetic modelling completed on half-life data presented in Lupton, 2014 and Lupton 2015. This uptake factor is therefore considered to be conservative.

Overall, given the conservatism in the adopted steady-state serum uptake factor (as discussed above), the selected uptake factor is considered appropriate for use for beef cattle.

The table overleaf details the plasma uptake factors derived from the results of a number of different studies, together with a discussion of the data and approach utilised to define the plasma uptake factor in each case.

Candidate PFOS plasma uptake factors: Dairy cattle

Study	PFOS plasma uptake factor (µg/L)/(µg/kg bw/day)	Basis for uptake factor	Discussion
Kowalczyk, 2013	**>290**	Average plasma concentration (2,200 µg/L), divided by the intake (7.6 µg/kg bw/day)	Six dairy cows (milk yield = 18 L/day) were fed PFAS contaminated feed for a 28-day period. Plasma concentrations were measured throughout this period. At the end of this period 3 cows were slaughtered (and analysed for PFAS in their tissues) and 3 cows were fed PFAS-free feed for another 21 days (depuration period). Plasma concentrations of PFOS increased continuously throughout the feeding period (i.e. steady state was not achieved), and remained constantly high during the depuration period. The average of the plasma concentrations measured at 28-days and following the depuration feeding period (i.e. the maximum concentrations achieved) was divided by the intake (7.6 µg/kg bw/day) to estimate an uptake factor at the 28-day period. As concentrations were increasing continually (and roughly linearly) until the end of the feeding period, it is clear that steady-state concentrations were not achieved, and that if the feeding period had continued, plasma concentrations would have also increased. Given this, it is considered that the plasma uptake factor estimated from this study is unlikely to be representative of a steady-state plasma uptake factor, but may be useful in providing a lower bound to the likely uptake factor expected in dairy cattle.
van Asselt, 2013	**3600**	**12.5 L.day^{-1}:** Milk uptake factor (48 (µg/kg/µg/kg bw/day), divided by milk-plasma distribution factor (0.013; (Kowalczyk, 2013).	Based on the dataset from Kowalczyk, 2013, physiologically based pharmacokinetic (PBPK) model was derived to describe the uptake of PFOS from contaminated feed by dairy cows and its subsequent elimination through the cows' milk. This model allowed estimation of simulated steady-state concentrations for three scenarios, each assuming intake of 3000 µg/day (5 µg/kg bw/day for a 600 kg dairy cow) for a period of 600 days. • Cows with a milk production of 12.5 L/day: steady state concentration of 240 µg/L achieved after around 600 days • Cows with a milk production of 25 L/day: steady state concentration of 120 µg/L achieved after around 400 days • Cows with a milk production of 50 L/day: steady state concentration of 60 µg/L achieved after 300 days The simulated steady state concentrations were converted into milk uptake factors (µg/$L_{(milk)}$/ µg/kg bw/$day_{(intake)}$) by dividing by the intake (5 µg/kg bw/day for a 600 kg dairy cow). These have then been converted into plasma uptake factors using a milk-plasma distribution factor (ratio of milk to plasma of 0.013) from (Kowalczyk, 2013) (discussed later in this Appendix). This study is relevant in demonstrating a likely relationship between milk yield and uptake factors, indicating the value in selection of an uptake factor associated with an appropriate milk production rate. Overall, this study is considered useful in its prediction of steady-state concentrations for a range of milk production levels. However, it is noted that the predicted steady-state plasma concentrations (18,000 µg/L for a 12.5L/day yield and 5 µg/kg bw/day intake) were far outside the range of the concentrations measured in the original study (up to 2,200 µg/L for cows with an 18 L/day yield). In addition, the uptake factor estimated for 25 L/day is nearly 10 times higher than that estimated from Vestergren, 2013 for a similar milk yield (see below). In the Vestergren study, stead-state plasma concentrations were measured directly, rather than extrapolated. There is therefore more confidence in the representativeness of the Vestergren study.
	1800	**25 L.day^{-1}:** Milk uptake factor (24 (µg/kg/µg/kg bw/day), divided by milk-plasma distribution factor (0.013; (Kowalczyk, 2013).	
	920	**50 L.day^{-1}:**Milk uptake factor (12 (µg/kg/µg/kg bw/day), divided by milk-plasma distribution factor (0.013; (Kowalczyk, 2013).	

Study	PFOS plasma uptake factor (µg/L)/(µg/kg bw/day)	Basis for uptake factor	Discussion
van Asselt, 2013	310	Steady state concentration estimated based on a plasma depletion half-life of 56 days, and a volume of distribution of 0.26 L/kg	In addition to estimating steady-state serum concentrations from steady state milk concentrations (as above) steady-state serum concentrations have been estimated using the following first-order one-compartment pharmaco-kinetic model: $$\frac{C_{serum}}{intake} = \frac{t_{1/2}}{0.693 \cdot V_d}$$ Where: • $t_{1/2}$ = the elimination half-life; the milk elimination half-life (56 days) is used as a surrogate for plasma elimination half-life, noting the close linear relationship between milk and serum concentrations observed in Kowalczyk, 2013 (and discussed further below). This is the half-life for a milk production rate of 25 L/day; half-lives for other production rates are not presented in the study; as such this approach (based on the half-life estimated for a particular milk yield) does not allow the milk yield to be factored in to the calculation of steady state serum concentrations, even though the predictive PBPK modelling showed a strong relationship between steady-state conditions, and milk yield. • an assumed volume of distribution (Vd); the extracellular volume in dairy cattle (0.26 L/kg, as utilised in common practice, including AECOM, 2016) While the toxicokinetics of PFOS are likely more complicated than this, it is noted that (as discussed above) utilising this simple first-order approach is consistent with the approach used by FSANZ to define the human equivalent dose from NOAEL serum levels, and there is evidence for a linear relationship at the concentrations used in this study. It is noted that the adopted Vd parameter may partly explain the differences between the uptake factor predicted using this simple first-order method and those estimated from the PBPK modelling results; in the PBPK model, the blood compartment volume of distribution was assumed to be lower (0.047 L/kg, based on circulating blood volume, rather than 0.26 L/kg based on extra-cellular volume). This uptake factor (predicted using a Vd of 0.26 L/kg) is similar (within 50%) to that estimated in Vestergren, 2013 (based on measured steady-state serum concentrations in dairy cows with a similar milk yield, see below). As such, the use of a Vd of 0.26 L/kg results in plasma concentrations similar to those measured experimentally). The similarity between these results lends further support to the use of a Vd of 0.26 L/kg, and to the uptake factors estimated using both studies for a milk yield of 25 L/day.
Vestergren, 2013	**221**	Steady-state plasma concentration (0.115 µg/L) divided by the intake (0.00052 µg/kg bw/day).	The bioaccumulation of a range of PFAS (including PFOS) in dairy cows receiving naturally contaminated feed and drinking water was investigated by conducting a mass balance for a herd of dairy cows (on average 92 cows). The study concluded that (on a herd-wide basis) steady state had been reached, based on a previous monitoring study, a controlled feeding study, and a mass balance which demonstrated for the herd as a whole, there was mass balance between intake and excretion. It was noted that for individual cattle, variability in physiological parameters such as body weight and milk production throughout the calving/milking cycle may, however, lead to a deviation from steady-state. The study therefore focussed on herd-wide average measures, rather than individual results. Biotransfer factors (BTF) into milk and muscle were estimated for the herd based on measured concentrations in meat (5 slaughtered cows) and milk (collected from pooled milk from the herd on 6 occasions), compared with intake estimated from herd-wide consumption of feed and water (which had also been tested for PFAS concentrations on 6 occasions). The arithmetic mean PFOS concentration in whole blood was 110 ng/kg. This was converted into a concentration of 115 ng/L using a specific gravity of 1.05[9]. The PFOS intake was 304 ng/day (0.52 ng/kg bw/day) based on the average body weight of cows in the study (587 kg). The serum uptake factor was estimated as the steady-state serum concentration (0.115 µg/L) divided by the intake (0.00052 µg/kg bw/day). The average milk production rate of the herd is relevant to the representativeness of the estimated uptake factor. A milk production rate of 25.4 $L.day^{-1}$ was measured for the herd. This is noted to be significantly higher than the average milk production rate for dairy cows in the Gippsland region (15 $L.day^{-1}$, discussed above). At higher milk production rates, the excretion of PFOS is more efficient, reducing the body burden of PFOS for a given intake. In turn, plasma concentrations (and, in turn milk and muscle concentrations) will be lower at higher milk production rates. If it is assumed that the Gippsland average milk production rate is applicable to the investigation area, it can be concluded that the uptake factors estimated for within Vestergren, 2013 may underestimate steady-state plasma concentrations in dairy cows in the investigation area.

[9] The average blood specific gravity measured in bovine blood by Chaplin et al, 1970. Specific gravity of bovine blood as affected by breed and age. American Journal of Veterinary Research 1970 Vol.31 pp.1887-1888. Average specific gravities for 5 age groups ranged from 1.046 – 1.051.

Candidate PFOS plasma uptake factors: Beef cattle

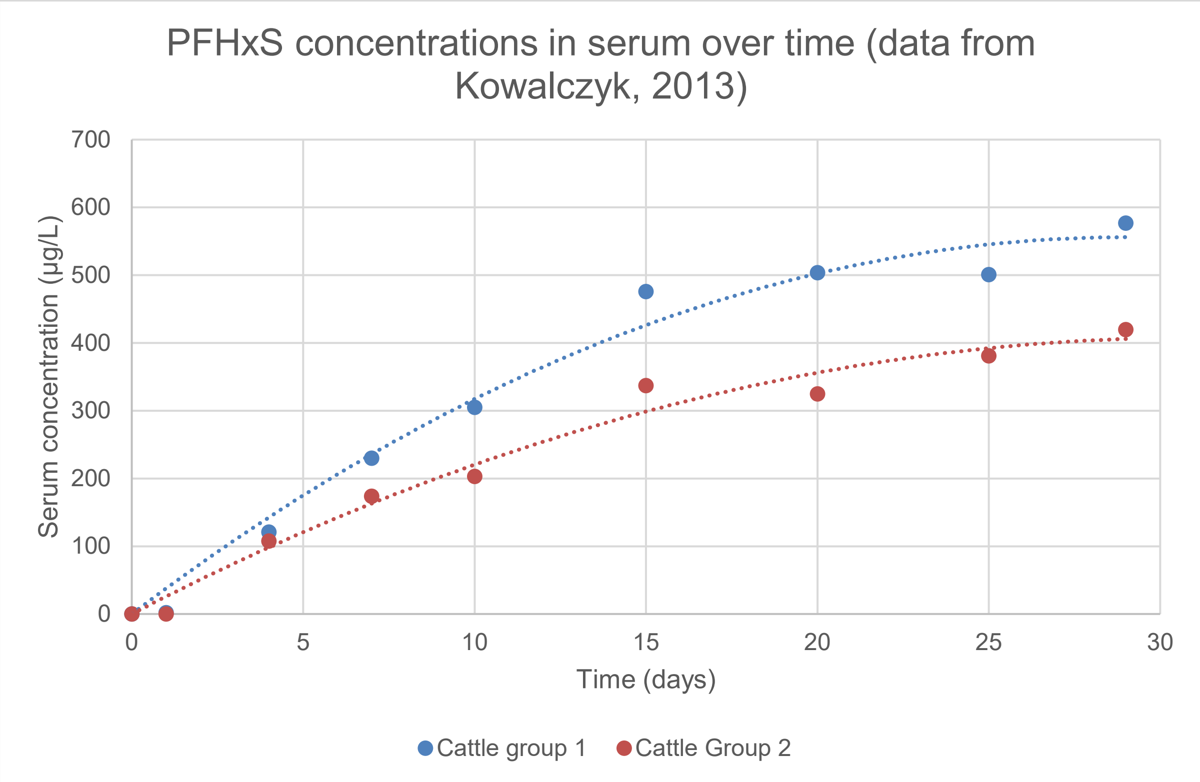
Study	PFOS plasma uptake factor (µg/L)/(µg/kg bw/day)	Basis for uptake factor	Discussion
Lupton, 2014	**>180**	Maximum plasma concentration (52,600 µg/L), divided by the average intake (285 µg/kg bw/day)	In this study, 3 beef cattle were each given a single bolus dose of 8 mg/kg bw PFOS, and plasma concentrations were measured over the 28 day study period. Given the nature of this study, it is generally considered unsuitable for the estimation of the steady-state plasma uptake factor, as only a single dose was given, and steady-state concentrations were not achieved. As the maximum concentrations were not measured until the final day of the study, it is additionally unclear whether the maximum plasma concentration from this dose was measured. Despite these shortcomings, the study has been considered on the basis that it was conducted in beef cattle. The following are noted: • To allow estimation of the uptake factor, the intake ((285 µg/kg bw/day) was estimated as the dose (8000 µg/kg bw) averaged over the time until the maximum concentration was reached (28 days, the length of the study). • It is acknowledged that the delivery of a single dose is unlikely to be equivalent to the delivery of the same dose averaged over the time of the study. It is noted that by the end of the study, approximately 11% of the dose had been excreted (almost entirely through faeces). It is possible that the remaining body burden is lower than if the intake had been averaged over the study period, although it is noted that nearly 90% of the PFOS remained within the body at this point in the study. • As steady-state concentrations were not achieved, the maximum measured plasma concentration was used as a surrogate for the steady-state plasma concentration ((i.e. it is assumed that if intake had continued from this point, with intake rates equal to the average intake up to this point, plasma concentrations would remain constant). The maximum concentrations were not measured until the final day of the study; as such it is unclear whether the maximum plasma concentration resulting from this dose was measured. Given the shortcomings above, it is considered that the plasma uptake factor estimated from this study is unlikely to be representative, but may be useful in providing a lower bound to the likely uptake factor expected in beef cattle.
Lupton, 2015	**>720**	**Low-dose steers:** Maximum plasma concentration (670 µg/L), divided by the average intake (0.93 µg/kg bw/day).	This study included dosing of 2 steers with 0.098 mg/kg bw PFOS, and 4 heifers with 9.1 mg/kg bw PFOS. Plasma concentrations were monitored in both groups for 343 days. The maximum plasma concentrations from these doses were recorded (at 105 days for the low-dose steers, and 42 days for the high-dose heifers). Given the nature of this study, it is generally considered unsuitable for the estimation of the steady-state plasma uptake factor, as only a single dose was given, and steady-state concentrations were not achieved. Despite these shortcomings, the study has been considered on the basis that it was conducted in beef cattle. The following are noted: • To allow estimation of the uptake factor for each group, the intake was estimated as the dose averaged over the time until the maximum concentration was reached • It is acknowledged that the delivery of a single dose is unlikely to be equivalent to the delivery of the same dose averaged over the time of the study. • Maximum plasma concentrations from these doses were recorded (at 105 days for the low-dose steers, and 42 days for the high-dose heifers). It is noted that half-lives of 120 days (steers) and 106 days (heifers) were estimated for this study. On this basis, a significant portion of the dose will have been excreted by the time the maximum concentration was measured. It is therefore likely that the remaining body burden at the time that the maximum plasma concentrations were measured is lower than if the intake had been averaged over the study period. • As steady-state concentrations were not achieved, the maximum measured plasma concentration was used as a surrogate for the steady-state plasma concentration (i.e. it is assumed that if intake had continued from this point, with intake rates equal to the average intake up to this point, plasma concentrations would remain constant). While the design of the study does not allow direct estimation of a steady-state plasma uptake factor, the plasma uptake factors estimated from this study are considered useful in providing an estimate of a likely low-end uptake factor expected in beef cattle.
	>330	**High-dose heifers:** Maximum plasma concentration (71,480 µg/L), divided by the average intake (217 µg/kg bw/day).	
Lupton, 2014	**780**	Steady state concentration estimated based on a plasma depletion half-life of 114 days, and a volume of distribution of 0.21 L/kg	
Lupton, 2015	**820**	Steady state concentration estimated based on a plasma depletion half-life of 120 days, and a volume of distribution of 0.21 L/kg	

	730	Steady state concentration estimated based on a plasma depletion half-life of 106 days, and a volume of distribution of 0.21 L/kg	For the studies above (Lupton, 2014 and Lupton, 2015), in addition to estimated (low-end) uptake factors based on maximum measured serum concentrations (as discussed above), steady-state serum concentrations have been estimated using the following first-order one-compartment pharmaco-kinetic model: $$\frac{C_{serum}}{intake} = \frac{t_{1/2}}{0.693 \cdot V_d}$$ Where: • $t_{1/2}$ = the elimination half-life; the plasma elimination half-lives estimated for each of the cattle groups have been adopted • an assumed volume of distribution (Vd); the extracellular volume in beef cattle (0.21 L/kg, as utilised in common practice, including AECOM, 2016) has been adopted. While the toxicokinetics of PFOS are likely more complicated than this, it is noted that (as discussed above) utilising this simple first-order approach is consistent with the approach used by FSANZ to define the human equivalent dose from NOAEL serum levels, and there is evidence for a linear relationship at the concentrations used in this study. One area of uncertainty in this assessment is the use of the extracellular volume as the Vd. The uptake factor for dairy cattle predicted from the van Asselt, 2013 study using extracellular volume as the V_d is similar (within 50%) to that estimated in Vestergren, 2013 for a similar milk yield (based on measured steady-state serum concentrations). Even though these studies were in dairy cattle, this match between predicted and experimental data is considered to offer a level of support to the adoption of the extracellular fluid volume as the V_d. In conclusion, the estimated uptake factors are considered useful as they utilise the half-life data to estimate steady-state conditions. It is additionally noted that the estimated values are above the low-end uptake factors estimated from the maximum serum concentrations measured after a bolus dose (Lupton, 2015 above).
Drew et al., 2021	**1450**	Based on empirically measured assimilation of PFAS from water into serum, and an assumed water ingestion rate of 0.1 L/kg/day.	Drew, 2021 presents the results of a study undertaken in 16 cattle on a property in Victoria. Cattle were exposed through PFOS in drinking water, and the study compared steady-state serum concentrations (436.2 ± 59.2 µg/L) directly with concentrations in stock water (3.0 ± 0.7 µg/L). Based on this data, an assimilation factor (relating serum concentrations to water concentrations) of 145 µg/Lserum/µg/Lwater can be estimated. A water ingestion rate of 0.1 L/kgbw/day is assumed in this HHERA for the development of screening levels, with detailed discussion of this parameter provided in Table B3. Based on this water ingestion rate, an uptake factor of 1450 (µg/L)/(µg/kg bw/day) has been estimated.

D4 Cattle: Derivation of plasma uptake factor for PFHxS

There is more limited data available for PFHxS than for PFOS. However, the data that is available indicates that PFHxS has a shorter elimination half-life and a lower potential for uptake into plasma than PFOS.

The key study identified for dairy cattle is Kowalczyk, 2013. As discussed above (for PFOS), six dairy cows were fed PFAS contaminated feed for a 28-day period. Plasma concentrations were measured throughout this period. At the end of this period 3 cows were slaughtered (and analysed for PFAS in their tissues) and 3 cows were fed PFAS-free feed for another 21 days (depuration period). Plasma concentrations of PFHxS increased during the feeding period, although (as indicated below), concentrations in the two groups of cattle were approaching steady state at the end of the feeding period:



During the 21-day depuration period concentrations reduced markedly (to about ¼ of the maximum levels measured at the end of the feeding period). This is in contrast to PFOS (for which concentrations continued to increase during the depuration period), and further supports the conclusion that conditions are at (or approaching) steady-state at the 28-day period.

On this basis, the maximum PFHxS concentration measured at the end of the feeding period (419 ± 172 µg/L) has been adopted as the steady-state plasma concentration measured for this study. This concentration was divided by the intake (4.6 µg/kg bw/day) to estimate a **plasma uptake factor for dairy cattle of 91 (µg/L)/(µg/kg bw/day).**

For beef cattle, Drew, 2021 presents the results of a study undertaken in 16 cattle at a property in Victoria, Australia. Cattle were exposed through PFHxS in drinking water, and the study compared steady-state serum concentrations (392 ± 89 µg/L) directly with concentrations in stock water (6.1 ± 1.7 µg/L). Based on this data, an assimilation factor (relating serum concentrations to water concentrations) of 65 µg/Lserum/µg/Lwater can be estimated. A water ingestion rate of 0.1 L/kgbw/day is assumed in this HHERA for the development of screening levels, with detailed discussion of this parameter provided in Table B3. Based on this water ingestion rate, a **plasma uptake factor for beef cattle** of **650 (µg/L)/(µg/kg bw/day)** has been estimated. This uptake factor has been conservatively selected for the HHERA.

D5 Cattle: Milk–plasma distribution factors

Unlike the complex relationship between intake and plasma concentration (given its dependence on timeframe and dosing regime), it is anticipated that at the levels of intake used in relevant studies (and likely in the investigation area), linear kinetics will apply and concentrations in milk are likely to be directly proportional to plasma concentrations.

Kowalczyk, 2013

Six dairy cows were fed PFAS contaminated feed for a 28-day period. At the end of this period 3 cows were slaughtered (and analysed for PFAS in their tissues) and 3 cows were fed PFAS-free feed for another 21 days (depuration period), before being slaughtered (and analysed for PFAS in their tissues). Paired plasma and milk concentrations were measured throughout this study. Estimated milk-plasma distribution factors from this study are summarised below:

PFAS	Milk-plasma distribution factor $(\mu g/L_{milk})/(\mu g/L_{serum})$	Discussion
PFOS	0.013	The mean ratio between milk and plasma (M:P) concentration was 0.007:1 for PFHxS and 0.013:1 for PFOS, as shown on the plots below. The plots indicate a very strong positive correlation of increasing PFOS/PFHxS milk with increasing PFOS/PFHxS plasma across multiple samples, giving a high level of confidence in the distribution factors for these COPC
PFHxS	0.007	

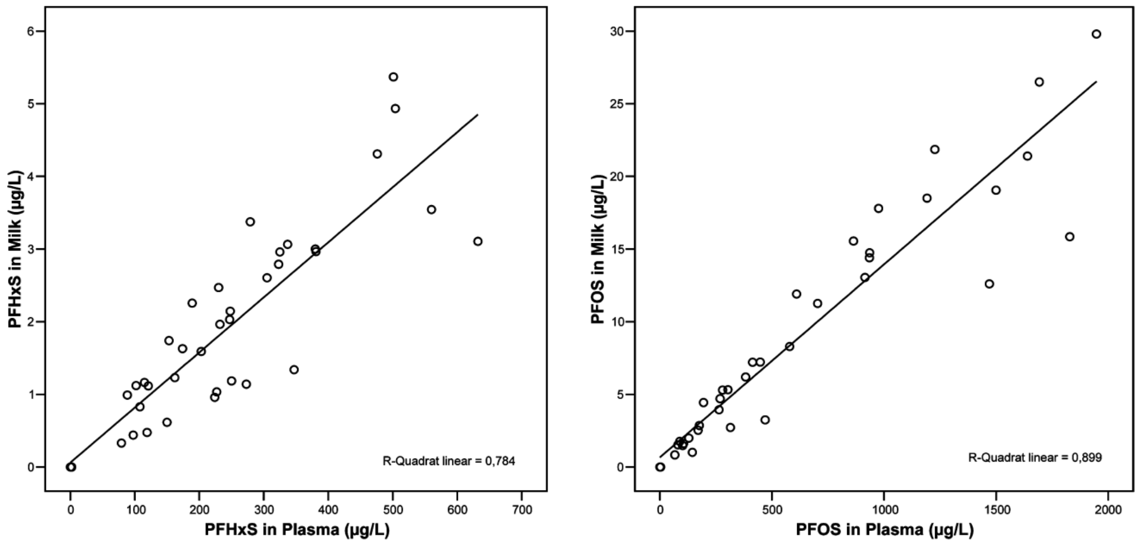


Figure 4. Scatter plot for the correlation of PFHxS and PFOS levels in matched plasma and milk samples from six cows during the PFAA-feeding period: (left) PFHxS (r^2 = 0.784); (right) PFOS (r^2 = 0.899).

Vestergren, 2013.

The bioaccumulation of a range of PFAS (including PFOA) in dairy cows receiving naturally contaminated feed and drinking water was investigated by conducting a mass balance for a herd of dairy cows (on average 92 cows). The study concluded that (on a herd-wide basis) steady state had been reached, based on a previous monitoring study, a controlled feeding study, and also a mass balance which demonstrated for the herd as a whole, there was mass balance between intake and excretion. Average plasma and milk concentrations were measured during this study. Estimated milk-plasma distribution factors from this study are summarised below:

PFAS	Milk-plasma distribution factor $(\mu g/L_{milk})/(\mu g/L_{serum})$	Discussion
PFOS	0.058	The arithmetic mean PFOS concentration in whole blood was 110 ng/kg. This was converted into a concentration of 116 ng/L using a specific gravity of 1.05. The milk-plasma distribution factor is defined the mean milk concentration (0.0067 µg/L) divided by this blood concentration (0.116 µg/L)

D6 Cattle: Selected Milk–plasma distribution factors

The following milk–plasma distribution factors have been selected:

PFAS	Milk-plasma distribution factor $(\mu g/L_{milk})/(\mu g/L_{serum})$	Source and discussion
PFOS	0.013	**Kowalczyk, 2013;** while a higher factor for PFOS was estimated from Vestergren, 2013, the mean ratio from Kowalczyk, 2013 is retained as there is a strong positive correlation of increasing PFOS/PFHxS milk with increasing PFOS/PFHxS plasma across multiple samples, giving a higher level of confidence in the distribution factors for these COPC. For the Vestergren study, there is a lower level of confidence that the measured milk and plasma concentrations in the Vestergren study can be reliably correlated, as we only know the time-averaged plasma and milk concentration for the whole herd.
PFHxS	0.007	

D7 Cattle: Meat–plasma distribution factors

Unlike the complex relationship between intake and plasma concentration (given its dependence on timeframe and dosing regime), it is anticipated that at the levels of intake used in relevant studies (and likely in the investigation area), linear kinetics will apply and concentrations in milk are likely to be directly proportional to plasma concentrations.

Kowalczyk, 2013

Six dairy cows were fed PFAS contaminated feed for a 28-day period. At the end of this period 3 cows were slaughtered (and analysed for PFAS in their tissues) and 3 cows were fed PFAS-free feed for another 21 days (depuration period), before being slaughtered (and analysed for PFAS in their tissues). Paired plasma and meat (muscle and offal) concentrations were measured throughout this study. Estimated meat-plasma distribution factors from this study are summarised below:

PFAS	Meat-plasma distribution factor ($\mu g/kg_{meat}$)/($\mu g/L_{serum}$)			Discussion
	Muscle	Kidney	Liver	
PFOS	0.074	0.57	1.6	Arithmetic mean concentrations in meat tissues were divided by the corresponding average concentrations in plasma. This calculation was performed for two cattle groups (group 1, slaughtered at 28 days; group 2, slaughtered after a 21-day depuration period). The higher of the values estimated for the two groups has been selected, unless the results are very similar, in which case the arithmetic mean was chosen.
PFHxS	0.045	0.3	0.16	

Vestergren, 2013.

The bioaccumulation of a range of PFAS (including PFOA) in dairy cows receiving naturally contaminated feed and drinking water was investigated by conducting a mass balance for a herd of dairy cows (on average 92 cows). The study concluded that (on a herd-wide basis) steady state had been reached, based on a previous monitoring study, a controlled feeding study, and also a mass balance which demonstrated for the herd as a whole, there was mass balance between intake and excretion. Arithmetic mean plasma concentrations for the herd were measured during this study, and concentrations in muscle and liver tissue were measured in only 5 cows slaughtered on two occasions. Estimated meat-plasma distribution factors from this study are summarised below:

PFAS	Meat-plasma distribution factor ($\mu g/kg_{meat}$)/($\mu g/L_{serum}$)		Discussion
	Muscle	Liver	
PFOS	0.18	1.1	The arithmetic mean PFOS concentration in whole blood was 110 ng/kg. This was converted into a concentration of 117 ng/L using a specific gravity of 1.05. The muscle-plasma distribution factor is defined as the mean muscle concentration in slaughtered cows (0.021 µg/kg) divided by this blood concentration (0.117 µg/L). The liver-plasma distribution factor is defined the mean liver concentration in slaughtered cows (0.13 µg/kg) divided by this blood concentration (0.117 µg/L).

D8 Cattle: Meat–plasma distribution factors selected for the HHERA

The following meat–plasma distribution factors have been selected for use in the HHERA model:

PFAS	Meat-plasma distribution factor ($\mu g/kg_{meat}$)/($\mu g/L_{serum}$)			Discussion
	Muscle	Kidney	Liver	
PFOS	0.074	0.57	1.6	**All factors from Kowalczyk, 2013 were selected.** While a number of the factors estimated from Vestergren, 2013 were higher, there is a lower level of confidence that the

PFAS	Meat-plasma distribution factor (µg/kg$_{meat}$)/(µg/L$_{serum}$)			Discussion
	Muscle	Kidney	Liver	
PFHxS	0.045	0.3	0.16	measured meat concentrations in the Vestergren study can be reliably correlated, as we only know the time-averaged serum concentration for the whole herd, and meat tissue results for five individual cows slaughtered at two specific points in time.

D9 Sheep: Derivation of plasma uptake factor for PFOS and PFHxS

The tables overleaf detail the plasma uptake factors derived from the results of a number of different studies, together with a discussion of the data and approach utilised to define the plasma uptake factor in each case.

On the basis of the studies reviewed overleaf, the following plasma uptake factors for PFOS have been estimated and selected for use in the HHRA:

- **PFOS:** 200 (µg/L)/(µg/kg bw/day)) estimated using based on paired stock water and cattle serum concentrations, and ratios of cattle:sheep serum (Drew et al., 2021).
- **PFHxS:** 300 (µg/L)/(µg/kg bw/day)) estimated using based on paired stock water and cattle serum concentrations, and ratios of cattle:sheep serum (Drew et al., 2021).
    - It is noted that these values are broadly similar to (but lower than) the uptake factor estimated using a first-order one-compartment pharmacokinetic model and data from Drew, 2017

Overall, given the conservatism in the adopted steady-state serum uptake factor (as discussed above), these selected uptake factors are considered appropriate for use for the development of screening levels.

Candidate PFOS plasma uptake factors: Sheep

Study	PFOS plasma uptake factor (µg/L)/(µg/kg bw/day)	Basis for uptake factor	Discussion
Kowalczyk, 2012	**>130**	Average maximum plasma concentration (172 µg/L), divided by the average intake (1.3 µg/kg bw/day)	Two sheep were fed PFAS contaminated feed for a 21-day period. Plasma concentrations were measured throughout this period. At the end of this period 1 sheep was slaughtered (and analysed for PFAS in their tissues) and 1 sheep was fed PFAS-free feed for another 21 days (depuration period). Plasma concentrations of PFOS increased continuously throughout the feeding period (i.e. steady state was not achieved), and remained constantly high during the depuration period. The average of the maximum plasma concentrations measured at 21-days (i.e. the maximum concentrations achieved; 172 µg/L) was divided by the average intake (1.3 µg/kg bw/day) to estimate an uptake factor at the 28-day period. As concentrations were increasing continually (and roughly linearly) until the end of the feeding period, it is assumed that steady-state concentrations were not achieved, and that if the feeding period had continued, plasma concentrations would have also increased. Given this, it is considered that the plasma uptake factor estimated from this study is unlikely to be representative of a steady-state plasma uptake factor, but may be useful in providing a lower bound to the likely uptake factor expected in sheep
Drew, 2017	**350**	Steady state concentration estimated based on a conservative plasma depletion half-life of 68 days, and a volume of distribution of 0.21 L/kg	Steady-state serum concentrations have been estimated using the following first-order one-compartment pharmaco-kinetic model: $\frac{C_{serum}}{intake} = \frac{t_{1/2}}{0.693 \cdot V_d}$ Where: • $t_{1/2}$ = the elimination half-life; half-lives of 19 days (hoggets), 63 days (non-pregnant ewes), 40 days (lactating ewes) and 68 days (rams) were estimated by Drew, 2017. The half-life for rams has conservatively been adopted. For younger sheep most likely to be slaughtered for meat, this approach will be conservative. • an assumed volume of distribution (Vd); the extracellular volume in sheep (0.28 L/kg, an average value from a range of studies and utilised in common practice, including previous stock assessments completed for Fiskville. While the toxicokinetics of PFOS are likely more complicated than this, it is noted that (as discussed above) utilising this simple first-order approach is consistent with the approach used by FSANZ to define the human equivalent dose from NOAEL serum levels, and there is evidence for a linear relationship at the environmental concentrations measured in the study area. In conclusion, the estimated uptake factors are considered useful as they utilise the half-life data to estimate steady-state conditions. It is additionally noted that the estimated values are above the low-end uptake factors estimated from the maximum serum concentrations measured after a bolus dose (Kowalczyk, 2012 above).
Drew et al., 2018	**200**	Based on empirically measured assimilation of PFAS from water into serum in cattle, measured ratios of cattle serum to sheep serum, and an assumed water ingestion rate of 0.1 L/kg/day.	Drew, 2021 presents the results of a study undertaken in 16 *cattle* at a local property. Cattle were exposed through PFOS in drinking water, and the study compared steady-state serum concentrations (436.2 ± 59.2 µg/L) directly with concentrations in stock water (3.0 ± 0.7 µg/L). Based on this data, an assimilation factor (relating serum concentrations to water concentrations) of 145 µg/Lserum/µg/Lwater can be estimated *for beef cattle*. The study also has paired serum data for sheep and beef cattle (collected at a different time, but when all livestock were exposed to the same water concentrations). This data shows serum concentrations in sheep to be 11-13% of the serum concentrations in cattle. An assimilation factor for sheep (relating serum concentrations to water concentrations) of 20 µg/Lserum/µg/Lwater (14% of the cattle assimilation factor) can therefore be estimated. A water ingestion rate of 0.1 L/kgbw/day is assumed in this HHERA for the development of screening levels, with detailed discussion of this parameter provided in Table B8. Based on this water ingestion rate, an uptake factor of 200 (µg/L)/(µg/kg bw/day) has been estimated.

Candidate PFHxS plasma uptake factors: Sheep

Study	PFHxS plasma uptake factor (µg/L)/(µg/kg bw/day)	Basis for uptake factor	Discussion
Drew, 2017	**200**	Steady state concentration estimated based on a conservative plasma depletion half-life of 43 days, and a volume of distribution of 0.28 L/kg	Steady-state serum concentrations have been estimated using the following first-order one-compartment pharmaco-kinetic model: $$\frac{C_{serum}}{intake} = \frac{t_{1/2}}{0.693 \cdot V_d}$$ Where: • $t_{1/2}$ = the elimination half-life; a half-life of 39 days was estimated for rams by Drew, 2017. Half-lives could not be estimated for other groups as concentrations fell below the detection limit in the study period, but it was concluded that in all other groups (hoggets, non-pregnant ewes and lactating ewes) the half life was <43 days. The half-life for rams has conservatively been adopted. For younger sheep most likely to be slaughtered for meat, this approach will be conservative. • an assumed volume of distribution (Vd); the extracellular volume in sheep (0.28 L/kg, an average value from a range of studies and utilised in common practice, including previous stock assessments completed for Fiskville. While the toxicokinetics of PFOS are likely more complicated than this, it is noted that (as discussed above) utilising this simple first-order approach is consistent with the approach used by FSANZ to define the human equivalent dose from NOAEL serum levels, and there is evidence for a linear relationship at the environmental concentrations measured in the study area. In conclusion, the estimated uptake factors are considered useful as they utilise the half-life data to estimate steady-state conditions.
Drew et al., 2018	**300**	Based on empirically measured assimilation of PFAS from water into serum in cattle, measured ratios of cattle serum to sheep serum, and an assumed water ingestion rate of 0.1 L/kg/day.	Drew, 2018 presents the results of a study undertaken in 16 *cattle* at a local property. Cattle were exposed through PFHxS in drinking water, and the study compared steady-state serum concentrations (392 ± 89 µg/L) directly with concentrations in stock water (6.1 ± 1.7 µg/L). Based on this data, an assimilation factor (relating serum concentrations to water concentrations) of 65 µg/Lserum/µg/Lwater can be estimated *for beef cattle*. The study also has paired serum data for sheep and beef cattle (collected at a different time, but when all livestock were exposed to the same water concentrations). This data shows serum concentrations in sheep to be 47% of the serum concentrations in cattle. An assimilation factor for sheep (relating serum concentrations to water concentrations) of 30 µg/Lserum/µg/Lwater (46% of the cattle assimilation factor) can therefore be estimated. A water ingestion rate of 0.1 L/kgbw/day is assumed in this HHERA for the development of screening levels, with detailed discussion of this parameter provided in Table B8. Based on this water ingestion rate, an uptake factor of 300 (µg/L)/(µg/kg bw/day) has been estimated.

B1 Sheep: Meat–plasma distribution factors

Unlike the complex relationship between intake and plasma concentration (given its dependence on timeframe and dosing regime), it is anticipated that at the levels of intake used in relevant studies (and likely in the investigation area), linear kinetics will apply and concentrations in meat are likely to be directly proportional to plasma concentrations.

Data for sheep is much more limited than for cattle. However, paired serum, liver kidney and muscle data was collected by ToxConsult for one ewe and ten lambs, on a property in Victoria. Based on this data, the following PFOS distribution factors were developed by ToxConsult, and have been utilised in previous risk assessments completed in Australia.

PFAS	Meat-plasma distribution factor ($\mu g/L_{meat}$)/($\mu g/L_{serum}$)		
	Muscle	Kidney	Liver
PFOS	0.11	0.7	2.6

These results were similar to those estimated in the Kowalczyk, 2012 study (for two lactating ewes):

PFAS	Meat-plasma distribution factor ($\mu g/L_{meat}$)/($\mu g/L_{serum}$)		
	Muscle	Kidney	Liver
PFOS	0.15	1.1	5.1

Given the greater sample numbers in the ToxConsult study, and the greater relevance of data in lambs the ToxConsult data has been adopted.

No data specifically for PFHxS could be sourced. The distribution factors for PFOS have been adopted for PFHxS in the absence of alternative data. This approach is considered to be conservative. This is because in cattle, the PFHxS meat–plasma distribution factors are lower than for PFOS (indicating lower meat concentrations for a given exposure), and this relationship might be expected to also be observed in sheep.

B2 Sheep: Meat–plasma distribution factors selected for the HHERA

The following meat–plasma distribution factors have been selected for use in the HHERA model:

PFAS	Meat-plasma distribution factor ($\mu g/L_{meat}$)/($\mu g/L_{serum}$)		
	Muscle	Kidney	Liver
PFOS	0.11	0.7	2.6
PFHxS	0.11	0.7	2.6

Appendix E: Mission Creek cattle risk assessment models

Appendix E1: Selected uptake and distribution factors (beef cattle)

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Parameter	PFOS	PFHxS
	Value	Value
Plasma uptake factor ((ug/L)/(ug/kgbw/day))	1450	650
Muscle-plasma distribution factor ((ug/kg)/(ug/L))	0.074	0.045
Liver-plasma distribution factor ((ug/kg)/(ug/L))	1.6	0.16
Kidney-plasma distribution factor ((ug/kg)/(ug/L))	0.57	0.30

Appendix E-A1: Concentration Inputs - Property A

Scenario		Water concentration µg/L	
		PFOS	PFHxS
Property A	2020	1.93	1.2
	2021	0.89	1.04

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Estimation of cattle intake	
Scenario	Property A 2020

Source concentrations			Cattle Ingestion rates		Intake (ug/kgbw/day)	
Medium	PFOS	PFHxS			PFOS	PFHxS
Stock water	1.93	1.2	Water (L/kgbw/day)	0.1	0.193	0.12
				Total intake	**0.193**	**0.12**

Estimated concentrations in cattle tissues	
Scenario	Property A 2020

COPC	Beef cattle			
	Plasma (ug/L)	Muscle (ug/kg)	Liver (ug/kg)	Kidney (ug/kg)
PFOS	2.8E+02	2.1E+01	4.5E+02	1.6E+02
PFHxS	7.8E+01	3.5E+00	1.2E+01	2.3E+01
PFOS+PFHxS	3.6E+02	2.4E+01	4.6E+02	1.8E+02
FSANZ trigger value	**--**	**3.5E+00**	**9.6E+01**	**9.6E+01**

Concentrations in cattle tissues estimated by applying selected plasma uptake and tissue distribution factors (as discussed in Appendix D) to estimated cattle intakes for the scenario.
All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

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Estimated hazard indices for products entering public food supply	
Scenario	Property A 2020

Exposed population	Body weight (kg)	Foodstuff	Mean Ingestion rate (g/day)	Assumed proportion in diet	Intake (PFOS + PFHxS) ug/kg/day	HQ *
Adults	78	Meat	71	5%	1.1E-03	6.0E-02
		Offal	32	5%	9.4E-03	5.1E-01
Children (aged 2-6)	19	Meat	33	5%	2.1E-03	1.1E-01
		Offal	--	--	--	--

Intakes are estimated by multiplying estimated tissue concentrations for the scenario by mean ingestion rates (kg per kgbw/day) for the foodstuffs and a factor representing the assumed proportion of food in the diet from the investigation area (justified elsewhere)

Consumption rates are mean rates as defined by FSANZ, 2017c *Supporting Document 2 Assessment of potential dietary exposure to perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) occurring in foods sampled from contaminated sites*

* Hazard Quotient (HQ) calculated as (estimated intake)/(acceptable intake). Where the estimated intake is equal to, or below, the acceptable intake (i.e. for a HQ <1.0) risks are estimated to be below the acceptable level. Acceptable intakes are defined as follows:

COPC	Acceptable intake ug/kgbw/day	Source
PFOS+PFHxS	0.0185	FSANZ TDI minus ambient
PFOA	0.159	

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Estimation of cattle intake	
Scenario	Property A 2021

Source concentrations			Cattle Ingestion rates		Intake (ug/kgbw/day)	
Medium	PFOS	PFHxS			PFOS	PFHxS
Water	0.89	1.04	Water (L/kgbw/day)	0.1	0.089	0.104
				Total intake	**0.089**	**0.104**

Estimated concentrations in cattle tissues	
Scenario	Property A 2021

COPC	Beef cattle			
	Plasma (ug/L)	Muscle (ug/kg)	Liver (ug/kg)	Kidney (ug/kg)
PFOS	1.3E+02	9.6E+00	2.1E+02	7.3E+01
PFHxS	6.8E+01	3.1E+00	1.1E+01	2.0E+01
PFOS+PFHxS	2.0E+02	1.3E+01	2.2E+02	9.4E+01
FSANZ trigger value	--	**3.5E+00**	**9.6E+01**	**9.6E+01**

Concentrations in cattle tissues estimated by applying selected plasma uptake and tissue distribution factors (as discussed in Appendix G) to estimated cattle intakes for the scenario.
Concentrations in milk (ug/L) converted to concentrations in milk (ug/kg) based on a milk density of 1.04 kg/L (FAO,
All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

Estimated hazard indices for products entering public food supply	
Scenario	Property A 2021

Exposed population	Body weight (kg)	Foodstuff	Mean Ingestion rate (g/day)	Assumed proportion in diet	Intake (PFOS + PFHxS) ug/kg/day	HQ *
Adults	78	Meat	71	5%	5.8E-04	3.1E-02
		Offal	32	5%	4.5E-03	2.4E-01
Children (aged 2-6)	19	Meat	33	5%	1.1E-03	5.9E-02
		Offal	--	--	--	--

Intakes are estimated by multiplying estimated tissue concentrations for the scenario by mean ingestion rates (kg per kgbw/day) for the foodstuffs and a factor representing the assumed proportion of food in the diet from the investigation area (justified elsewhere)

Consumption rates are mean rates as defined by FSANZ, 2017c *Supporting Document 2 Assessment of potential dietary exposure to perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) occurring in foods sampled from contaminated sites*

* Hazard Quotient (HQ) calculated as (estimated intake)/(acceptable intake). Where the estimated intake is equal to, or below, the acceptable intake (i.e. for a HQ <1.0) risks are estimated to be below the acceptable level. Acceptable intakes are defined as follows:

COPC	Acceptable intake ug/kgbw/day	Source
PFOS+PFHxS	0.0185	FSANZ TDI minus
PFOA	0.159	ambient

Appendix E-B1: Concentration Inputs - Property B

Scenario		Water concentration µg/L	
		PFOS	PFHxS
Property B	2020	0.46	0.63
	2021	0.15	0.3

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Estimation of cattle intake	
Scenario	Property B 2020

Source concentrations			**Cattle Ingestion rates**		**Intake (ug/kgbw/day)**	
Medium	**PFOS**	**PFHxS**			**PFOS**	**PFHxS**
Stock water	0.46	0.63	Water (L/kgbw/day)	0.1	0.046	0.063
				Total intake	**0.046**	**0.06**

Estimated concentrations in cattle tissues	
Scenario	Property B 2020

COPC	**Beef cattle**			
	Plasma (ug/L)	**Muscle (ug/kg)**	**Liver (ug/kg)**	**Kidney (ug/kg)**
PFOS	6.7E+01	5.0E+00	1.1E+02	3.8E+01
PFHxS	4.1E+01	1.9E+00	6.5E+00	1.2E+01
PFOS+PFHxS	1.1E+02	6.8E+00	1.1E+02	5.0E+01
FSANZ trigger value	**--**	**3.5E+00**	**9.6E+01**	**9.6E+01**

Concentrations in cattle tissues estimated by applying selected plasma uptake and tissue distribution factors (as discussed in Appendix G) to estimated cattle intakes for the scenario.
All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

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Estimated hazard indices for products entering public food supply	
Scenario	Property B 2020

Exposed population	Body weight (kg)	Foodstuff	Mean Ingestion rate (g/day)	Assumed proportion in diet	Intake (PFOS + PFHxS) ug/kg/day	HQ *
Adults	78	Meat	71	5%	3.1E-04	1.7E-02
		Offal	32	5%	2.3E-03	1.3E-01
Children (aged 2-6)	19	Meat	33	5%	5.9E-04	3.2E-02
		Offal	--	--	--	--

Intakes are estimated by multiplying estimated tissue concentrations for the scenario by mean ingestion rates (kg per kgbw/day) for the foodstuffs and a factor representing the assumed proportion of food in the diet from the investigation area (justified elsewhere)

Consumption rates are mean rates as defined by FSANZ, 2017c *Supporting Document 2 Assessment of potential dietary exposure to perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) occurring in foods sampled from contaminated sites*

* Hazard Quotient (HQ) calculated as (estimated intake)/(acceptable intake). Where the estimated intake is equal to, or below, the acceptable intake (i.e. for a HQ <1.0) risks are estimated to be below the acceptable level. Acceptable intakes are defined as follows:

COPC	Acceptable intake ug/kgbw/day	Source
PFOS+PFHxS	0.0185	FSANZ TDI minus ambient
PFOA	0.159	

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Estimation of cattle intake	
Scenario	Property B 2021

Source concentrations			Cattle Ingestion rates		Intake (ug/kgbw/day)	
Medium	PFOS	PFHxS			PFOS	PFHxS
Water	0.15	0.3	Water (L/kgbw/day)	0.1	0.015	0.03
				Total intake	**0.015**	**0.030**

Estimated concentrations in cattle tissues	
Scenario	Property B 2021

COPC	Beef cattle			
	Plasma (ug/L)	Muscle (ug/kg)	Liver (ug/kg)	Kidney (ug/kg)
PFOS	2.2E+01	1.6E+00	3.5E+01	1.2E+01
PFHxS	2.0E+01	8.9E-01	3.1E+00	5.8E+00
PFOS+PFHxS	4.1E+01	2.5E+00	3.8E+01	1.8E+01
FSANZ trigger value	**--**	**3.5E+00**	**9.6E+01**	**9.6E+01**

Concentrations in cattle tissues estimated by applying selected plasma uptake and tissue distribution factors (as discussed in Appendix G) to estimated cattle intakes for the scenario.
All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

Appendix E-B3: Results for Property B - 2021

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Estimated hazard indices for products entering public food supply	
Scenario	Property B 2021

Exposed population	Body weight (kg)	Foodstuff	Mean Ingestion rate (g/day)	Assumed proportion in diet	Intake (PFOS + PFHxS) ug/kg/day	HQ *
Adults	78	Meat	71	5%	1.1E-04	6.2E-03
		Offal	32	5%	7.8E-04	4.2E-02
Children (aged 2-6)	19	Meat	33	5%	2.2E-04	1.2E-02
		Offal	--	--	--	--

Intakes are estimated by multiplying estimated tissue concentrations for the scenario by mean ingestion rates (kg per kgbw/day) for the foodstuffs and a factor representing the assumed proportion of food in the diet from the investigation area (justified elsewhere)

Consumption rates are mean rates as defined by FSANZ, 2017c *Supporting Document 2 Assessment of potential dietary exposure to perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) occurring in foods sampled from contaminated sites*

* Hazard Quotient (HQ) calculated as (estimated intake)/(acceptable intake). Where the estimated intake is equal to, or below, the acceptable intake (i.e. for a HQ <1.0) risks are estimated to be below the acceptable level. Acceptable intakes are defined as follows:

COPC	Acceptable intake ug/kgbw/day	Source
PFOS+PFHxS	0.0185	FSANZ TDI minus ambient
PFOA	0.159	

Appendix E-C1: Concentration Inputs - Property C

Scenario		Water concentration µg/L	
		PFOS	PFHxS
Property C	2020	--	--
	2021	3.53	3.48

Estimation of cattle intake	
Scenario	Property C 2021

Source concentrations			Cattle Ingestion rates		Intake (ug/kgbw/day)	
Medium	PFOS	PFHxS			PFOS	PFHxS
Water	3.53	3.48	Water (L/kgbw/day)	0.1	0.353	0.348
				Total intake	**0.353**	**0.348**

Estimated concentrations in cattle tissues	
Scenario	Property C 2021

COPC	Beef cattle			
	Plasma (ug/L)	Muscle (ug/kg)	Liver (ug/kg)	Kidney (ug/kg)
PFOS	5.1E+02	3.8E+01	8.2E+02	2.9E+02
PFHxS	2.3E+02	1.0E+01	3.6E+01	6.8E+01
PFOS+PFHxS	7.4E+02	4.8E+01	8.5E+02	3.6E+02
FSANZ trigger value	**--**	**3.5E+00**	**9.6E+01**	**9.6E+01**

Concentrations in cattle tissues estimated by applying selected plasma uptake and tissue distribution factors (as discussed in Appendix G) to estimated cattle intakes for the scenario.
All trigger values from FSANZ, 2017b. *Consolidated Report - Perfluorinated Chemicals in Food*

Appendix E-C2: Results for Property C - 2021

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Estimated hazard indices for products entering public food supply	
Scenario	Property C 2021

Exposed population	Body weight (kg)	Foodstuff	Mean Ingestion rate (g/day)	Assumed proportion in diet	Intake (PFOS + PFHxS) ug/kg/day	HQ *
Adults	78	Meat	71	5%	2.2E-03	1.2E-01
		Offal	32	5%	1.8E-02	9.5E-01
Children (aged 2-6)	19	Meat	33	5%	4.2E-03	2.3E-01
		Offal	--	--	--	--

Intakes are estimated by multiplying estimated tissue concentrations for the scenario by mean ingestion rates (kg per kgbw/day) for the foodstuffs and a factor representing the assumed proportion of food in the diet from the investigation area (justified elsewhere)

Consumption rates are mean rates as defined by FSANZ, 2017c *Supporting Document 2 Assessment of potential dietary exposure to perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) occurring in foods sampled from contaminated sites*

* Hazard Quotient (HQ) calculated as (estimated intake)/(acceptable intake). Where the estimated intake is equal to, or below, the acceptable intake (i.e. for a HQ <1.0) risks are estimated to be below the acceptable level. Acceptable intakes are defined as follows:

COPC	Acceptable intake ug/kgbw/day	Source
PFOS+PFHxS	0.0185	FSANZ TDI minus ambient
PFOA	0.159	

Appendix F: Screening Levels for Pathways of Water Uptake by Home Grown Produce

Appendix F: Screening Levels for Pathways of Water Uptake by Home Grown Produce

F1 Derivation of screening levels for pathways of water uptake by home grown produce

There are currently no available water screening level to assess the pathway of PFAS uptake by plants watered with PFAS-containing water for human consumption. The following methodology has been adopted for this screening assessment:

- Trigger values for fruit and vegetables are provided in FSANZ, 2017[1] Trigger values are defined as the maximum concentration level of these chemicals that could be present in individual foods or food groups so where even at high consumption levels, consumers of these foods would not have dietary exposures exceeding the relevant health based guidance value; the trigger values are conservative screening levels for comparison with the estimated concentrations.
- The corresponding concentrations in water which would result in the FSANZ trigger values in produce have been estimated by applying a literature-derived produce–uptake factor, which expresses the empirically defined ratio between concentrations in water and resultant concentrations in produce.

The key studies utilised to identify these ratios are:

- **Felizeter et al., 2014.** *Root uptake and translocation of perfluorinated alkyl acids by three hydroponically grown crops.* Environmental Science & Technology, 2012 vol.46, no.21, pp.11735–11743.
- **Blaine et al., 2014.** *Perfuoroalkyl Acid Uptake in Lettuce (Lactuca sativa) and Strawberry (Fragaria ananassa) Irrigated with Reclaimed Water.* Environ. Sci. Technol., 2014, vol.48, no.24, pp.14361–14368.
- **Australian Department of Defence 2017,** *PFAS in Plants – 2017 Study Findings Army Aviation Centre Oakey Stage 2C Environmental Investigation, PFAS Investigation and Management Program* www.defence.gov.au/Environment/PFAS/Docs/Oakey/FactSheets/20171206AACOPlantStudy.pdf, accessed 31/10/2019.

Each of these studies allowed for the estimation of **Water – produce transfer factors (TFs)** for a range of produce types, expressed as the ratio of the (wet weight) concentration in produce, to the concentration in water used for irrigation. The estimated TFs from each of the studies is summarised below.

This study measured resultant (wet weight)concentrations in a range of plant tissues which result from watering with water containing a range of PFAS compounds (including PFOS, PFOA and PFHxS) at known concentrations; the plants (cabbage, zucchini and tomato) were grown hydroponically.

The study presents detailed data of the measured (wet weight) concentrations at a range of different concentrations in water. The detailed data relevant to this assessment is the data for the edible portions of the vegetables and fruit (e.g. cabbage heads, zucchini and tomato). The maximum uptake factor estimated for each PFAS compound and produce type is summarised below:

[1] Food Standards Australia New Zealand (FSANZ), 2017. *Perfluorinated Chemicals in food.*

Felizeter et al., 2014

PFAS compound	Water – produce transfer factors (µg/kg$_{wet\ weight}$)/(µg/L)		
	Cabbage Head	Zucchini	Tomato (fruit)
PFOS	0.20	0.32	0.03
PFHxS	0.27	0.27	0.06

Australian Department of Defence 2017

PFAS compound	Water – produce transfer factors (µg/kg$_{wet\ weight}$)/(µg/L)				
	Leafy Green Vegetables				Root vegetable
	Alfalfa	Beet	Lettuce	Radish Leaf	Radish
PFOS	0.8	1.2	0.9	8.1	1.5
PFHxS	4	6.9	1.4	5.3	1.3

Blaine et al., 2014

PFAS compound	Water – produce transfer factors (µg/kg$_{wet\ weight}$)/(µg/L)	
	Lettuce	Strawberry
PFOS	0.33	<0.0006
PFHxS	0.78	<0.0006

For the purpose of developing screening levels, the following transfer factors have been adopted:

- For vegetables, the geometric mean of the transfer factors for each relevant produce type across all three studies has been estimated
- For fruit, there is more limited data available; however the data from Blaine et al 2104 (which demonstrated no uptake into strawberries above the laboratory limit of reporting, even at very high (40 µg/L) water concentrations supports the results from Felitzeter, 2014 which show that uptake into tomato (fruit) is much less than for leafy vegetables. On this basis, the data from Felitzeter, 2014 for tomato has been adopted as a conservative estimate of the transfer factor into fruit

The final adopted water uptake factors in the screening level derivation are as follows:

PFAS compound	Water – produce transfer factor $(\mu g/kg_{wet\ weight})/(\mu g/L)$	
	Vegetables	Fruit
PFOS	0.8	0.03
PFHxS	1.4	0.06

Based on these water uptake factors, water screening levels have been developed as follows:

PFAS compound	Produce Type	FSANZ trigger value for produce	Water – produce transfer factor	Water screening level[2]
		(µg/kg)	(µg/kg)/(µg/L)	(µg/L)
PFOS	Fruit	0.6	0.03	20
	Vegetables	1.1	0.8	1.4
PFHxS	Fruit	0.6	0.06	10
	Vegetable	1.1	1.4	0.8

2

$$Water\ screening\ level\ (\mu g/L) = \frac{FSANZ\ trigger\ value\ in\ produce\ (\mu g/kg)}{Water\text{–}produce\ uptake\ factor\ \left(\mu g/kg \middle/ \mu g/L\right)}$$

Table D1: Derivation of soil screening levels for a pathway of uptake into produce

Produce type (FSANZ)	Subgroup (NEMP)	FSANZ Trigger value (µg/kg)	NEMP Transfer factor ($mg/kg_{ww}/mg/kg_{soil}$)		Soil screening level (mg/kg)	
			PFOS	PFHxS	PFOS	PFHxS
Fruit	Fruit	0.6	0.005	0.03	0.1	0.02
Vegetables	Green vegetable	1.1	0.2	1.4	**0.006**	**0.0008**
	Root vegetable	1.1	0.13	0.90	0.008	0.001
	Tuber vegetable	1.1	0.05	0.35	0.02	0.003

Notes

$$Soil\ screening\ level\ (\mu g/L) = \frac{FSANZ\ trigger\ value\ in\ produce\ (\mu g/kg)}{Soil - produce\ uptake\ factor\ \left(\mu g/kg\ wet\ weight \big/ \mu g/kg\ soil \right)}$$

Trigger values for fruit and vegetables are provided in FSANZ, 2017 *Perfluorinated Chemicals in food* . Trigger values are defined as the maximum concentration level of these chemicals that could be present in individual foods or food groups so where even at high consumption levels, consumers of these foods would not have dietary exposures exceeding the relevant health based guidance value; the trigger values are conservative screening levels for comparison with the estimated concentrations.

The transfer factors into different produce types are taken from NSWOEH, 2019. *Human health soil screening criteria for PFOS, PFHxS and PFOA Calculation protocols and draft values for potential inclusion in the PFAS National Environmental Management Plan.* The adopted values are those utilised in the derivation of the low-density PFAS screening levels in the HEPA, 2019 PFAS National Environmental Management Plan v2.0 Consultation Draft

Appendix G: Refined HIL-A derivation

Consumption of Fruit and Vegetables by Adults and Children

Percentage of Fruit and Vegetables per produce group (as per Table 7 in Schedule B7)

Produce Group	Adults (%)	Adult Consumption Rate (g/day)	Children (%)	Child Consumption Rate (g/day)
Green Vegetables	59	153.4	55	55
Root Vegetables	18	46.8	17	17
Tuber Vegetables	23	59.8	28	28
Tree Fruit	100	140	100	180
Total consumption		400		280

Uptake and Intake from Produce - Organics

Soil bulk density (g/cm^3)	1.63	Assumed for typical soil in root zone
Soil-water content by volume (cm^3/cm^3)	0.13	Assumed for typical soil in root zone
Fraction organic carbon (foc)	2%	Noted in Section 5.3.5.3 in Schedule B7
Fraction Home-grown (HIL A)	10%	As per Table 5 in Schedule B7

Consumption rates (from above table, with change of units)	Green Vegetables	Root Vegetables	Tuber Vegetables	Tree Fruit
Consumption Rate Adults (kg/day)	0.1534	0.0468	0.0598	0.14
Consumption Rate Children (kg/day)	0.055	0.017	0.028	0.18

	Soil-to-Plant Concentration Factors (mg/kg fresh weight to mg/kg soil dry weight)					Plant Uptake Factor - Adults (UF_{VA}) (kg/day) as per Equation 16	Plant Uptake Factor - Young Children (UF_{VC}) (kg/day) as per Equation 16
	Green Vegetables (CF_{green}) as per Equation 27	Root Vegetables (CF_{root}) as per Equation 22	Tuber Vegetables (CF_{tuber}) as per Equation 23	Tree Fruit (CF_{fruit}) (as per Equation 28)			
PFOS	2.00E-01	1.30E-01	5.00E-02	5.00E-03		4.05E-03	1.55E-03
PFHxS	1.38E+00	8.97E-01	3.45E-01	3.45E-02		2.79E-02	1.07E-02

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HIL A - Low Density Residential - As per OEH (2019) / HEPA NEMP 2.0 (draft), but separate HILs derived for PFOS and PFHxS

Summary of Exposure Parameters		Abbreviation	units	Parameter	References/Notes
Soil and Dust Ingestion Rate	- Young children (0-5 years)	IR_{SC}	mg/day	100	Schedule B7, Table 5
	- Adults	IR_{SA}	mg/day	50	Schedule B7, Table 5
Surface Area of Skin	- Young children (0-5 years)	SA_C	cm^2/day	2700	Schedule B7, Table 5
	- Adults	SA_A	cm^2/day	6300	Schedule B7, Table 5
Soil-to-Skin Adherence Factor		AF	mg/cm^2/day	0.5	Schedule B7, Table 5
Time Spent Outdoors		ETo	hours	4	Schedule B7, Table 5
Time Spent Indoors		ETi	hours	20	Schedule B7, Table 5
Lung Retention Factor		RF	-	0.375	Schedule B7, Table 5
Particulate Emission Factor		PEFo	(m^3/kg)	2.9E+10	Calculated for scenario, refer to Equations 19 and 20 and assumptions in Schedule B7
Indoor Air Dust Factor		PEFi	(m^3/kg)	2.6E+07	As per Equation 21 based assumptions presented in Schedule B7
Fraction of indoor dust comprised of outdoor soil		TF	-	0.5	Assume 50% soil concentration present in dust as noted in Schedule B7
Indoor Air-to-Soil Gas Attenuation Factor		a	-	0.1	Value adopted as discussed in Section 5.5 of Schedule B7
Body weight	- Young children (0-5 years)	BW_C	kg	15	Schedule B7, Table 5
	- Adults	BW_A	kg	70	Schedule B7, Table 5
Exposure Frequency		EF	days/year	365	Schedule B7, Table 5
Exposure Duration	- Young children (0-5 years)	ED_C	years	6	Schedule B7, Table 5
	- Adults	ED_A	years	29	Schedule B7, Table 5
Averaging Time (non-carcinogenic)		AT_T	days	ED*365	Calculated based on ED for each relevant age group, multiplied by 24 hours for the assessment of inhalation exposures
Averaging Time (carcinogenic)		AT_{NT}	days	25550	Based on lifetime of 70 years, multiplied by 24 hours for the assessment of inhalation exposures

Compound	**Toxicity Reference Value Oral (TRV_O)** (mg/kg/day)	**GI Absorption (GAF)** (unitless)	**Toxicity Reference Value Dermal (TRV_D)** (mg/kg/day)	**Oral Bioavailability BA_O (%)**	**Dermal Absorption Factor (DAF)** (unitless)	**Background Intake Oral/Dermal (BI_O)** (% of TDI)	**Toxicity Reference Value Inhalation (TRV_I)** (mg/m^3)	**Background Intake Inhalation (BIi)** (% of TC)	**Plant Uptake Factor (incl % intake) Children** (kg/day) (eqn 16)	**Pathway Specific HILs (mg/kg)**				**Derived Soil HIL (to 1 or 2 s.f.)** (mg/kg)
										Soil Ingestion (eqn 3)	**Home-grown produce** (eqn 15)	**Dermal** (eqn 6)	**Dust** (eqn 9)	
PFOS	0.00002	1	0.00002	100%	0.0005	80%	0.00007	80%	1.6E-03	6.0E-01	3.9E-02	8.9E+01	2.3E+03	**0.04**
PFHxS	0.00002	1	0.00002	100%	0.0005	80%	0.00007	80%	1.1E-02	6.0E-01	5.6E-03	8.9E+01	2.3E+03	**0.006**

Notes

These screening levels have been derived using an identical methodology and identical input parameters to the derivation of the low-density residential screening levels from the v2.0 HEPA NEMP (draft).

The only difference is that the screening levels have been derived separately for PFOS and PFHxS, wheras the value in the NEMP v2.0 is derived for PFOS+PFHxS, where it is assumed that each is present as 50% of the mixture.

Appendix H: Development of water screening levels for consumers of home-raised chicken eggs

Appendix H: Development of water screening levels for consumers of home-raised chicken eggs

H1 Background and exposure scenarios considered in the assessment

This appendix details the development of stock watering screening levels for PFOS and PFHxS.

The screening levels consider exposure to chickens associated with the use of impacted water as the drinking water source for chickens.

For the purpose of deriving screening levels for comparison with water concentrations, it has been assumed that exposure of chickens to PFAS via other routes is negligible (e.g. it is assumed that supplied chicken feed does not contain PFAS).

The stock watering criteria will be derived considering the following exposure pathways:

- Home (human) consumption of chicken eggs from poultry ingesting PFAS impacted water as their drinking water source (likely to be the key pathway)
- Chicken Health for poultry ingesting PFAS impacted water as their drinking water source (for confirmation that the screening levels derived for the protection of human health are also protective of chicken health).

H2 Assessment methodology: home consumption of chicken eggs

General Methodology

USEPA, 2005[1] presents a methodology for estimating concentrations in chicken eggs, based on the measured concentrations in their diet (grain, water, and incidental soil ingestion), an adapted form of which is presented below:

$$A_{egg} = \frac{\left(\sum[F_i \cdot Qp_i \cdot P_i] + (Q_S \cdot C_S \cdot B_S) + (Q_w \cdot C_w)\right) \cdot TF}{LR \cdot EW}$$

Otherwise expressed as:

$$A_{egg} = \frac{\left(\sum[intakes\ from\ different\ foods] + (intake\ from\ soil) + (intake\ from\ water)\right) \cdot TF}{LR \cdot EW}$$

Where:

A_{egg}	=	concentration of COPC in chicken egg (mg COPC / kg FW egg)
F_i	=	Fraction of food type ‘i' (where ‘I’ can represent each of the food types consumed by the chicken in turn) ingested by the chicken
Qp_i	=	Quantity of food type ‘i' eaten by the chicken each day (kg DW plant/day)
P_i	=	Concentration of COPC in food type ‘i' eaten by the chicken (mg COPC/kg DW)
Q_s	=	Quantity of soil eaten by the chicken (kg/day)
C_s	=	Average COPC concentration in soil to which the chicken is exposed (mg COPC/kg)

[1] US EPA, 2005. Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities. Office of Solid Waste and Emergency Response. Ref: EPA530-R-05-006

B_s = Soil bioavailability factor (unitless)

Q_w = Quantity of water drunk by the chicken (L/day)

C_w = Average COPC concentration in water to which the chicken is exposed (mg COPC/L)

TF = transfer factor into eggs (fraction of COPC intake which is transferred to eggs), expressed as percentage of total intake

LR = laying rate (eggs/day)

EW = average weight of edible portion of egg (kg/egg)

Water screening level derivation methodology

For the purpose of developing water screening levels, exposure through drinking water is the pathway of concern. In this case, the approach for estimating the concentrations in eggs can therefore be simplified as follows for this site:

$$A_{egg} = \frac{(Q_w \cdot C_w) \cdot TF}{LR \cdot EW}$$

Rather than estimating the egg concentration from a given water concentration, the aim is to derive a stock watering screening level which will not result in unacceptable concentrations within eggs.

For the purposes of this assessment, the trigger values for poultry eggs provided in FSANZ, 2017[2] have been adopted as the acceptable concentration in eggs. Trigger values are defined as the maximum concentration level of these chemicals that could be present in individual foods or food groups so where even at high consumption levels, consumers of these foods would not have dietary exposures exceeding the relevant health based guidance value; the trigger values are conservative screening levels for comparison with the estimated concentrations.

Substituting the FSANZ trigger value (TV) for A_{egg}, the equation above is rearranged as follows for the derivation of a screening level:

$$SSL = \frac{TV \cdot LR \cdot EW}{TF \cdot Q_w}$$

Where:

SSL = stock watering screening level (µg/L)

TV = FSANZ trigger value (µg/kg)

[2] Food Standards Australia New Zealand (FSANZ), 2017. Perfluorinated Chemicals in food.

H3 Transfer factors (TF) (% of total intake entering eggs)

A lab-based study completed by Scolexia[3] was undertaken with the purpose of defining egg transfer factors for laying hens watered with PFAS impacted water.

In this observational exposure study, chickens were divided into 5 groups and watered with PFAS-containing water for a period of two months:

Group	Number of birds	Target concentration of each PFAS compound (µg/L in water)
T1	22	Nil (Control)
T2	22	0.3
T3	25	3
T4	25	30
T5	25	300

The average drinking water intake and PFAS concentrations in the water were measured through the study (allowing the intake for each group to be estimated), and eggs were collected through the study (usually 6 eggs from each group every two days) and analysed for PFAS (to allow the PFAS mass in the eggs to be compared with the intake, facilitating estimation of transfer factors).

Key results are summarised below:

- The laying rate in all groups was good (roughly 1 egg per bird per day), facilitating the collection of a large number of eggs for PFAS analysis.
- PFAS was not detected above the detection limit in eggs from the control group.
- In the other groups PFAS was identified in eggs. In all groups, PFAS concentrations started below the LOR and increased over a period of 1 – 2 weeks. Concentrations in the eggs then remained generally stable (indicating steady state conditions) until the end of the exposure period, although it is unclear that steady state was achieved for group T2 (the lowest exposure group).
- Scolexia estimated transfer factors for each exposure group based on the laying rate, average egg weight (whole egg (edible portion)), and average egg concentration (in the whole egg (edible portion)) measured across the steady state period (to estimate PFAS output in eggs), compared with the estimated PFAS intake across the exposure period.
- The transfer factors estimated by Scolexia for the COPC of interest are summarised below:

Group	Data points (number of eggs in "steady state" period)	Transfer factor		
		PFOS*	PFHxS	PFOA
T2	144*	1.0	0.872	0.494
T3	150	1.0	0.581	0.449
T4	150	1.0	0.659	0.447
T5	25	1.0	0.646	0.433

[3] Scolexia, 2017. *Evaluation of Residues in Hen Eggs after Exposure of Laying Hens to Water Containing Per and Poly-Fluoroalkyl Substances*

Notes:

*For group T2, 144 eggs were collected and analysed during the steady state period. However, not all of these eggs were included in the estimation of transfer factors, as eggs where PFAS was not detected above the detection limit were excluded. This resulted in significant censorship of the data for this group (the assessment was based on 116/144 eggs (PFOS) 122/144 eggs (PFOA) and 78/144 eggs (PFHxS). Removal of non-detect data will result in an overestimate of the transfer rate. In addition, the fact that a large portion of the eggs were below detection limits casts doubt on whether steady state was achieved in this group, particularly for PFHxS (the achievement of steady state was estimated by Scolexia from visual inspection of graphs excluding this data).

*For PFOS transfer factors for each group slightly (10%) above 1.0 were estimated, however the maximum possible transfer factor is 1.0, with the error attributed to difficulties in accurately estimating the PFAS intake, and analytical variability in both water and eggs. Given that the estimate transfer factors were within the range of expected analytical variability, a transfer factor of 1.0 (indicating 100% of transfer to the egg) was assumed for PFOS.

For this assessment, Senversa has adopted the average of the transfer rates for groups T3, T4 and T5. The data from group T2 is not considered reliable (for the reasons given above). The adopted transfer factors are as follows:

- PFOS: 1 (i.e. 100% of PFOS transferred into eggs)
- PFHxS: 0.63
- PFOA: 0.44

H4 Input Parameters

Parameter	Units	Value	Reference
Quantity of water consumed by the chicken (Qw)	L/day	0.4	The peak water intake of 0.4 L/day for chickens has been adopted from ANZECC guidance[4]. This is the peak value for laying hens and is conservative when compared with the average for laying hens (0.32 L/day). This conservative approach (adopting peak water consumption rates) has been retained as it is consistent with the approach used in the ANZECC guidance for the derivation of stock-watering criteria for other toxicants.
Laying rate (LR)	eggs/day	0.7	The FAO[5] indicates that in temperate climates, chickens can produce between 250 -300 eggs/year (5 – 6 eggs/week; 0.7 – 0.8 eggs/day)
Average weight of edible portion of egg (Ew)	kg/egg	0.044	Australian Food, Supplement and Nutrient Database (AUSNUT). 2011-2013 Food Measures File; mass of edible portion of regular egg. It is noted that the FSANZ trigger value is applicable to whole egg (the edible portion). As such, while the majority of PFAS is transferred to the yolk, it is the correct approach to utilise the average weight of a whole egg (edible portion) rather than just the yolk in the estimation of the screening level. The transfer factors are derived for whole egg (edible portion).

[4] ANZECC & ARMCANZ, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality Volume 3 Primary Industries — Rationale and Background Information
[5] Food and Agriculture Association of the United Nations (FAO), 2003. Egg marketing A guide for the production and sale of eggs; http://www.fao.org/docrep/005/Y4628E/y4628e03.htm

H5 Screening levels

Derivation of the screening levels for consumers of chicken eggs is presented in **Attachment A**. The screening levels below have been developed to offer protection to consumers of chicken eggs:

CoPC	Water screening level (µg/L)
PFOS	0.85
PFHxS	1.3

H6 Protection of chicken health

There is limited data regarding the toxicity of PFAS compounds to chickens. However, it is noted that in the Scolexia study (Scolexia, 2017) no health impacts were noted in chickens in the study at water concentrations of up to around 300 µg/L (for each of PFOS and PFHxS) and exposure over several months, and despite frequent veterinary inspections. This water concentration is around 300 times higher than the water screening level (which corresponds to the level of exposure which results in egg concentrations around the trigger level). This indicates that at the level of exposure corresponding to the screening levels for the consumers of chicken eggs, the potential for health effects in chickens are likely to be negligible

To further support this argument, a preliminary water screening level for PFOS has been estimated using the avian daily threshold effects dose (DTED) derived by CCME[6] and literature data for the drinking water ingestion rate and body weight of chickens. There are a number of limitations in this screening level, specifically around whether the adopted DTED (which is a draft value, based on toxicity data for different species) is protective for the most sensitive end-point in chickens. On this basis, this preliminary screening level should not be adopted as a standalone screening level for a pathway for chicken health, but instead has been developed to provide a line of evidence that the screening levels for consumer of home-grown eggs will also be protective of chicken health. The estimated screening level has been derived as follows:

$$SSL = \frac{DTED \cdot BW}{Q_w} \times 1000$$

Where:

SSL = stock watering screening level (chicken health) (µg/L)

DTED = avian daily threshold effects dose (mg/kg bw/day)

BW = chicken body weight (kg)

Q_w = Quantity of water drunk by the chicken (L/day)

[6] CCME, 2017. Draft Scientific Criteria Document for the Development of the Canadian Soil and Groundwater Quality Guidelines for Perfluorooctane Sulfonate (PFOS)

The parameters adopted in this assessment are as follows:

Parameter	Units	Value	Reference
DTED	mg/kgbw/day	0.386	CCME, 2017. Avian daily threshold effects dose.
Quantity of water consumed by the chicken (Qw)	L/day	0.4	The body weight and peak water intake for chickens has been adopted from ANZECC guidance[7]. This adopted parameters are consistent with those used in the ANZECC guidance for the derivation of stock-watering criteria for other toxicants.
Chicken weight	kg	2.8	

Based on this approach, a PFOS screening level for the protection of chicken health of 2,700 µg/L has been estimated. The water PFOS screening level for the protection of consumers of chicken eggs is approximately 3000 times lower than this. On this basis, while there are a number of limitations in the screening level, it further supports the conclusion that the potential for health effects in chickens at the screening levels estimated for the consumers of chicken eggs are likely to be negligible, and as such, the screening levels will also be protective of chicken health.

While screening levels for protection of chicken health have not been derived for PFHxS, the avian toxicity of PFHxS is expected to be similar to that of PFOS, based on relative toxicity observed in animal toxicity studies and assumed for humans. The large margin of safety between the consumer-based and chicken health-based screening levels for PFOS is therefore considered likely to also apply to PFHxS.

[7] ANZECC & ARMCANZ, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality Volume 3 Primary Industries — Rationale and Background Information

Table H1: Derivation of screening levels for poultry to protect home-consumers of eggs

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Parameter	Units	Value
Quantity of water consumed by the chicken (Qw)	L/day	0.4
Laying rate (LR)	eggs/day	0.7
Average weight of edible portion of egg (Ew)	kg/egg	0.044

COPC	FSANZ trigger value (TV)	Transfer factor into eggs	Water screening level
	µg/kg	unitless	µg/L
PFOS	11	1	0.85
PFHxS	11	0.63	1.3

Appendix I: Firefighter threshold level derivation

Standard exposure parameter		units	Adopted value
ED	Exposure duration	years	30
CF	Conversion factor	L/mL	0.001
BW	Body weight	kg	70
AT	Averaging time	days	10950

Adopted toxicity values		units	Adopted value
PFOS+PFHxS	**TDI - background (80% background assumed)**	µg/kg/day	0.004

Scenario	Site-specific exposure parameters			Threshold Level
	EF	**IR**	**FI**	PFOS+PFHxS
	Exposure Frequency	Ingestion rate	Fraction of ingested water/foam from impacted source	Training water
	events/year	mL/event	-	µg/L
Exposure to water during training/testing - likely exposure	52	2	1	980
Exposure to water during training/testing - exposure every working day	240	2	1	210

Appendix J: Derivation of HIL for intrusive workers

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Derivation of Investigation Levels
HIL for intrusive worker

Summary of Exposure Parameters		Abbreviation	units	Parameter	References/Notes
Soil and Dust Ingestion Rate	- Adults	IR_{SA}	mg/day	330	Value for intrusive maintenance workers from CRC CARE, 2011
Time Spent Outdoors		ETo	hours	8	Value for intrusive maintenance workers from CRC CARE, 2011
Time Spent Indoors		ETi	hours	0	Value for intrusive maintenance workers from CRC CARE, 2011
Lung Retention Factor		RF	-	0.375	NEPM Schedule B7, Table 5
Particulate Emission Factor		PEFo	(m^3/kg)	4.4E+08	Value for intrusive maintenance workers from CRC CARE, 2011
Body weight	- Adults	BW_C	kg	70	Schedule B7, Table 5
Exposure Frequency		EF	days/year	20	Assumed maximum frequency for individual worker engaged in inground works (daily exposure; 4 working weeks per year)
Exposure Duration	- Adults	ED_C	years	30	NEPM Schedule B7, Table 5
Averaging Time (non-carcinogenic)		AT_T	days	10950	Calculated based on ED for each relevant age group, multiplied by 24 hours for the assessment of inhalation exposures
Averaging Time (carcinogenic)		AT_{NT}	days	25550	Based on lifetime of 70 years, multiplied by 24 hours for the assessment of inhalation exposures

Threshold Calculations - Adult Worker

Compound	Toxicity Reference Value Oral (TRV_O) (mg/kg/day)	GI Absorption (GAF) (unitless)	Toxicity Reference Value Dermal (TRV_D) (mg/kg/day)	Oral Bioavailability BA_O (%)	Dermal Absorption Factor (DAF) (unitless)	Background Intake Oral/Dermal (BI_O) (% of TDI)	Toxicity Reference Value Inhalation (TRV_I) (mg/m^3)	Background Intake Inhalation (BIi) (% of TC)		Pathway Specific HILs (mg/kg)			Soil Vapour HIL (mg/m^3) (eqn 12)	Derived Interim Soil Gas HIL - Threshold (to 1 or 2 s.f.) (mg/m3)	Derived Soil HIL (not rounded) (mg/kg) (eqn 2 for relevant pathways)	Derived Soil HIL (to 1 or 2 s.f.) (mg/kg)
										Soil Ingestion (eqn 3)	Dermal (eqn 6)	Dust (eqn 9)				
PFOS+PFHxS	0.00002	1	0.00002	100%	-	80%	0.00007	80%		1.5E+01	-	9.0E+05			15	**15**

NA Pathway not of significance for chemical assessed (refer to Appendix A for chemical-specific details)

Appendix K: Derivation of HIL for airport workers

Derivation of Investigation Levels
HIL for intrusive worker

Summary of Exposure Parameters		Abbreviation	units	Parameter	References/Notes
Soil and Dust Ingestion Rate	- Adults	IR_{SA}	mg/day	25	NEPM Schedule B7, Table 5
Time Spent Outdoors		ETo	hours	8	Value for intrusive maintenance workers from CRC CARE, 2011
Time Spent Indoors		ETi	hours	0	Value for intrusive maintenance workers from CRC CARE, 2011
Lung Retention Factor		RF	-	0.375	NEPM Schedule B7, Table 5
Particulate Emission Factor		PEFo	(m^3/kg)	4.4E+08	Value for intrusive maintenance workers from CRC CARE, 2011
Body weight	- Adults	BW_C	kg	70	Schedule B7, Table 5
Exposure Frequency		EF	days/year	240	NEPM Schedule B7, Table 5
Exposure Duration	- Adults	ED_C	years	30	NEPM Schedule B7, Table 5
Averaging Time (non-carcinogenic)		AT_T	days	10950	Calculated based on ED for each relevant age group, multiplied by 24 hours for the assessment of inhalation exposures
Averaging Time (carcinogenic)		AT_{NT}	days	25550	Based on lifetime of 70 years, multiplied by 24 hours for the assessment of inhalation exposures

Threshold Calculations - Adult Worker

Compound	Toxicity Reference Value Oral (TRV_O) (mg/kg/day)	GI Absorption (GAF) (unitless)	Toxicity Reference Value Dermal (TRV_D) (mg/kg/day)	Oral Bioavailability BA_O (%)	Dermal Absorption Factor (DAF) (unitless)	Background Intake Oral/Dermal (BI_O) (% of TDI)	Toxicity Reference Value Inhalation (TRV_I) (mg/m^3)	Background Intake Inhalation (BIi) (% of TC)		Pathway Specific HILs (mg/kg) Soil Ingestion (eqn 3)	Pathway Specific HILs (mg/kg) Dermal (eqn 6)	Pathway Specific HILs (mg/kg) Dust (eqn 9)	Soil Vapour HIL (mg/m^3) (eqn 12)	Derived Interim Soil Gas HIL - Threshold (to 1 or 2 s.f.) (mg/m3)	Derived Soil HIL (not rounded) (mg/kg) (eqn 2 for relevant pathways)	Derived Soil HIL (to 1 or 2 s.f.) (mg/kg)
PFOS+PFHxS	0.00002	1	0.00002	100%	-	80%	0.00007	80%		1.7E+01	-	7.5E+04			17	**17**

NA Pathway not of significance for chemical assessed (refer to Appendix A for chemical-specific details)

Appendix L: ProUCL outputs: 95%UCL PFOS+PFHxS in different soil and sediment domains

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.12021-09-08 17:19:12
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Soil on-airport

General Statistics

Total Number of Observations	244	Number of Distinct Observations	207
		Number of Missing Observations	0
Minimum	2.0000E-4	Mean	0.212
Maximum	9.13	Median	0.0284
SD	0.73	Std. Error of Mean	0.0467
Coefficient of Variation	3.45	Skewness	8.671

Normal GOF Test

Shapiro Wilk Test Statistic	0.313	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.386	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0571	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.289	95% Adjusted-CLT UCL (Chen-1995)	0.316
		95% Modified-t UCL (Johnson-1978)	0.293

Gamma GOF Test

A-D Test Statistic	11.37	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.858	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.184	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.0632	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.349	k star (bias corrected MLE)	0.347
Theta hat (MLE)	0.606	Theta star (bias corrected MLE)	0.609
nu hat (MLE)	170.3	nu star (bias corrected)	169.5
MLE Mean (bias corrected)	0.212	MLE Sd (bias corrected)	0.359
		Approximate Chi Square Value (0.05)	140.4
Adjusted Level of Significance	0.049	Adjusted Chi Square Value	140.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.255	95% Adjusted Gamma UCL (use when n<50)	0.256

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.981	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk P Value	0.319	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0438	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.0571	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-8.517	Mean of logged Data	-3.482
Maximum of Logged Data	2.212	SD of logged Data	2.023

Assuming Lognormal Distribution

95% H-UCL	0.361	90% Chebyshev (MVUE) UCL	0.383
95% Chebyshev (MVUE) UCL	0.452	97.5% Chebyshev (MVUE) UCL	0.546
99% Chebyshev (MVUE) UCL	0.733		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.288	95% Jackknife UCL	0.289
95% Standard Bootstrap UCL	0.285	95% Bootstrap-t UCL	0.349
95% Hall's Bootstrap UCL	0.59	95% Percentile Bootstrap UCL	0.295
95% BCA Bootstrap UCL	0.329		
90% Chebyshev(Mean, Sd) UCL	0.352	95% Chebyshev(Mean, Sd) UCL	0.415
97.5% Chebyshev(Mean, Sd) UCL	0.503	99% Chebyshev(Mean, Sd) UCL	0.676

Suggested UCL to Use

95% H-UCL	0.361		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.

H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.

It is therefore recommended to avoid the use of H-statistic based 95% UCLs.

Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Sediment on-airport

General Statistics

Total Number of Observations	22	Number of Distinct Observations	19
		Number of Missing Observations	0
Minimum	3.0000E-4	Mean	0.0155
Maximum	0.141	Median	0.00345
SD	0.0321	Std. Error of Mean	0.00685
Coefficient of Variation	2.073	Skewness	3.256

Normal GOF Test

Shapiro Wilk Test Statistic	0.516	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.352	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL	**95% UCLs (Adjusted for Skewness)**

95% Student's-t UCL	0.0273	95% Adjusted-CLT UCL (Chen-1995)	0.0318
		95% Modified-t UCL (Johnson-1978)	0.0281
Gamma GOF Test			
A-D Test Statistic	1.408	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.812	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.27	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.197	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.465	k star (bias corrected MLE)	0.432
Theta hat (MLE)	0.0333	Theta star (bias corrected MLE)	0.0359
nu hat (MLE)	20.46	nu star (bias corrected)	19
MLE Mean (bias corrected)	0.0155	MLE Sd (bias corrected)	0.0236
		Approximate Chi Square Value (0.05)	10.12
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	9.638
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	0.0291	95% Adjusted Gamma UCL (use when n<50)	0.0306
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.953	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.154	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-8.112	Mean of logged Data	-5.549
Maximum of Logged Data	-1.959	SD of logged Data	1.662
Assuming Lognormal Distribution			
95% H-UCL	0.0573	90% Chebyshev (MVUE) UCL	0.0314
95% Chebyshev (MVUE) UCL	0.0395	97.5% Chebyshev (MVUE) UCL	0.0507
99% Chebyshev (MVUE) UCL	0.0727		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	0.0268	95% Jackknife UCL	0.0273
95% Standard Bootstrap UCL	0.0266	95% Bootstrap-t UCL	0.044
95% Hall's Bootstrap UCL	0.0641	95% Percentile Bootstrap UCL	0.0275
95% BCA Bootstrap UCL	0.0337		
90% Chebyshev(Mean, Sd) UCL	0.036	95% Chebyshev(Mean, Sd) UCL	0.0454
97.5% Chebyshev(Mean, Sd) UCL	0.0583	99% Chebyshev(Mean, Sd) UCL	0.0837
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	0.0454		
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
Recommendations are based upon data size, data distribution, and skewness.			
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.			

Soil at works depot

General Statistics

Total Number of Observations	18	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	0.001	Mean	0.0205
Maximum	0.21	Median	0.0047
SD	0.0488	Std. Error of Mean	0.0115
Coefficient of Variation	2.384	Skewness	3.855

Normal GOF Test

Shapiro Wilk Test Statistic	0.408	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.425	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.202	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.0405	95% Adjusted-CLT UCL (Chen-1995)	0.0506
		95% Modified-t UCL (Johnson-1978)	0.0423

Gamma GOF Test

A-D Test Statistic	1.759	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.794	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.28	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.214	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.564	k star (bias corrected MLE)	0.507
Theta hat (MLE)	0.0363	Theta star (bias corrected MLE)	0.0404
nu hat (MLE)	20.32	nu star (bias corrected)	18.27
MLE Mean (bias corrected)	0.0205	MLE Sd (bias corrected)	0.0288
		Approximate Chi Square Value (0.05)	9.584
Adjusted Level of Significance	0.0357	Adjusted Chi Square Value	8.984

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.039	95% Adjusted Gamma UCL (use when n<50)	0.0416

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.921	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.161	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.202	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-6.908	Mean of logged Data	-4.993
Maximum of Logged Data	-1.561	SD of logged Data	1.296

Assuming Lognormal Distribution

95% H-UCL	0.0416	90% Chebyshev (MVUE) UCL	0.0299

	A–E	F	G–K	L
221	95% Chebyshev (MVUE) UCL	0.0369	97.5% Chebyshev (MVUE) UCL	0.0465
222	99% Chebyshev (MVUE) UCL	0.0655		
223				
224	**Nonparametric Distribution Free UCL Statistics**			
225	**Data appear to follow a Discernible Distribution at 5% Significance Level**			
226				
227	**Nonparametric Distribution Free UCLs**			
228	95% CLT UCL	0.0394	95% Jackknife UCL	0.0405
229	95% Standard Bootstrap UCL	0.0391	95% Bootstrap-t UCL	0.17
230	95% Hall's Bootstrap UCL	0.125	95% Percentile Bootstrap UCL	0.0425
231	95% BCA Bootstrap UCL	0.0536		
232	90% Chebyshev(Mean, Sd) UCL	0.055	95% Chebyshev(Mean, Sd) UCL	0.0707
233	97.5% Chebyshev(Mean, Sd) UCL	0.0924	99% Chebyshev(Mean, Sd) UCL	0.135
234				
235	**Suggested UCL to Use**			
236	95% Chebyshev (Mean, Sd) UCL	0.0707		
237				
238	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
239	Recommendations are based upon data size, data distribution, and skewness.			
240	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
241	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.			
242				
243				
244	Other off-airport soil			
245				
246	**General Statistics**			
247	Total Number of Observations	28	Number of Distinct Observations	23
248			Number of Missing Observations	0
249	Minimum	2.0000E-4	Mean	0.00318
250	Maximum	0.0171	Median	0.0022
251	SD	0.00396	Std. Error of Mean	7.4795E-4
252	Coefficient of Variation	1.245	Skewness	2.343
253				
254	**Normal GOF Test**			
255	Shapiro Wilk Test Statistic	0.716	**Shapiro Wilk GOF Test**	
256	5% Shapiro Wilk Critical Value	0.924	Data Not Normal at 5% Significance Level	
257	Lilliefors Test Statistic	0.262	**Lilliefors GOF Test**	
258	5% Lilliefors Critical Value	0.164	Data Not Normal at 5% Significance Level	
259	**Data Not Normal at 5% Significance Level**			
260				
261	**Assuming Normal Distribution**			
262	**95% Normal UCL**		**95% UCLs (Adjusted for Skewness)**	
263	95% Student's-t UCL	0.00445	95% Adjusted-CLT UCL (Chen-1995)	0.00476
264			95% Modified-t UCL (Johnson-1978)	0.00451
265				
266	**Gamma GOF Test**			
267	A-D Test Statistic	0.493	**Anderson-Darling Gamma GOF Test**	
268	5% A-D Critical Value	0.781	Detected data appear Gamma Distributed at 5% Significance Level	
269	K-S Test Statistic	0.125	**Kolmogorov-Smirnov Gamma GOF Test**	
270	5% K-S Critical Value	0.171	Detected data appear Gamma Distributed at 5% Significance Level	
271	**Detected data appear Gamma Distributed at 5% Significance Level**			
272				
273	**Gamma Statistics**			
274	k hat (MLE)	0.839	k star (bias corrected MLE)	0.773
275	Theta hat (MLE)	0.00379	Theta star (bias corrected MLE)	0.00411

nu hat (MLE)	46.98	nu star (bias corrected)	43.28
MLE Mean (bias corrected)	0.00318	MLE Sd (bias corrected)	0.00362
		Approximate Chi Square Value (0.05)	29.19
Adjusted Level of Significance	0.0404	Adjusted Chi Square Value	28.48

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	0.00471	95% Adjusted Gamma UCL (use when n<50)	0.00483

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.939	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.924	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.144	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.164	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-8.517	Mean of logged Data	-6.454
Maximum of Logged Data	-4.069	SD of logged Data	1.303

Assuming Lognormal Distribution

95% H-UCL	0.00753	90% Chebyshev (MVUE) UCL	0.00662
95% Chebyshev (MVUE) UCL	0.00804	97.5% Chebyshev (MVUE) UCL	0.01
99% Chebyshev (MVUE) UCL	0.0139		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.00441	95% Jackknife UCL	0.00445
95% Standard Bootstrap UCL	0.00436	95% Bootstrap-t UCL	0.00521
95% Hall's Bootstrap UCL	0.0105	95% Percentile Bootstrap UCL	0.00448
95% BCA Bootstrap UCL	0.00472		
90% Chebyshev(Mean, Sd) UCL	0.00542	95% Chebyshev(Mean, Sd) UCL	0.00644
97.5% Chebyshev(Mean, Sd) UCL	0.00785	99% Chebyshev(Mean, Sd) UCL	0.0106

Suggested UCL to Use

95% Adjusted Gamma UCL	0.00483		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Off-airport sediment

General Statistics

Total Number of Observations	46	Number of Distinct Observations	37
		Number of Missing Observations	0
Minimum	2.0000E-4	Mean	0.161
Maximum	0.524	Median	0.14
SD	0.161	Std. Error of Mean	0.0237
Coefficient of Variation	1.002	Skewness	0.908

Normal GOF Test

Shapiro Wilk Test Statistic	0.849	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.945	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.159	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.129	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.2	95% Adjusted-CLT UCL (Chen-1995)	0.203
		95% Modified-t UCL (Johnson-1978)	0.201

Gamma GOF Test

A-D Test Statistic	1.492	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.814	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.171	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.138	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.499	k star (bias corrected MLE)	0.481
Theta hat (MLE)	0.322	Theta star (bias corrected MLE)	0.334
nu hat (MLE)	45.87	nu star (bias corrected)	44.21
MLE Mean (bias corrected)	0.161	MLE Sd (bias corrected)	0.232
		Approximate Chi Square Value (0.05)	29.96
Adjusted Level of Significance	0.0448	Adjusted Chi Square Value	29.58

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.237	95% Adjusted Gamma UCL (use when n<50)	0.24

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.811	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.945	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.216	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.129	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-8.517	Mean of logged Data	-3.104
Maximum of Logged Data	-0.646	SD of logged Data	2.409

Assuming Lognormal Distribution

95% H-UCL	3.638	90% Chebyshev (MVUE) UCL	1.725
95% Chebyshev (MVUE) UCL	2.208	97.5% Chebyshev (MVUE) UCL	2.877
99% Chebyshev (MVUE) UCL	4.192		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.2	95% Jackknife UCL	0.2
95% Standard Bootstrap UCL	0.199	95% Bootstrap-t UCL	0.201
95% Hall's Bootstrap UCL	0.203	95% Percentile Bootstrap UCL	0.199
95% BCA Bootstrap UCL	0.204		
90% Chebyshev(Mean, Sd) UCL	0.232	95% Chebyshev(Mean, Sd) UCL	0.264
97.5% Chebyshev(Mean, Sd) UCL	0.309	99% Chebyshev(Mean, Sd) UCL	0.397

	A	B	C	D	E	F	G	H	I	J	K	L
386												
387	Suggested UCL to Use											
388	97.5% Chebyshev (Mean, Sd) UCL					0.309						
389												
390	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
391	Recommendations are based upon data size, data distribution, and skewness.											
392	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
393	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
394												

Appendix M: Creek user screening level derivation

Parameter		Units	Value	Notes
Tolerable daily intake	TDI	µg/kg body weight/day	0.02	NHMRC, 2019 (FSANZ TDI)
Unit conversion factor	CF	days/year	365	NHMRC, 2019
Body weight	BW	kg	70	NHMRC, 2019
Proporation of allowable exposure from water		-	0.1	NHMRC, 2020
Exposure frequency	EF		104	Site-specific assumption
Water ingestion rate	IR	L/event	0.007	Site-specific assumption
Annual accidental ingestion volume	AAI	L/year	0.728	Calculated (EF × IR)
Screening level	SL	µg/L	**70**	Calculated

Screening level (SL) estimated in accordance with NHMRC, 2019 approach:

$$SL = \frac{TDI \cdot CF \cdot BW \cdot PW}{AAI}$$

Appendix N: ProUCL outputs: 95%UCL PFOS in different soil domains (depot, ID013, airport)

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.12021-09-12 14:46:12								
5	From File			WorkSheet_a.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	PFOS ID_013											
12												
13	General Statistics											
14	Total Number of Observations					7	Number of Distinct Observations					7
15							Number of Missing Observations					0
16	Minimum					0.0014	Mean					0.00597
17	Maximum					0.0165	Median					0.0052
18	SD					0.00507	Std. Error of Mean					0.00191
19	Coefficient of Variation					0.848	Skewness					1.802
20												
21	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
22	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
23	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
24	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
25												
26	Normal GOF Test											
27	Shapiro Wilk Test Statistic					0.82	Shapiro Wilk GOF Test					
28	5% Shapiro Wilk Critical Value					0.803	Data appear Normal at 5% Significance Level					
29	Lilliefors Test Statistic					0.269	Lilliefors GOF Test					
30	5% Lilliefors Critical Value					0.304	Data appear Normal at 5% Significance Level					
31	Data appear Normal at 5% Significance Level											
32												
33	Assuming Normal Distribution											
34	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
35	95% Student's-t UCL					0.00969	95% Adjusted-CLT UCL (Chen-1995)					0.0105
36							95% Modified-t UCL (Johnson-1978)					0.00991
37												
38	Gamma GOF Test											
39	A-D Test Statistic					0.232	Anderson-Darling Gamma GOF Test					
40	5% A-D Critical Value					0.716	Detected data appear Gamma Distributed at 5% Significance Level					
41	K-S Test Statistic					0.17	Kolmogorov-Smirnov Gamma GOF Test					
42	5% K-S Critical Value					0.315	Detected data appear Gamma Distributed at 5% Significance Level					
43	Detected data appear Gamma Distributed at 5% Significance Level											
44												
45	Gamma Statistics											
46	k hat (MLE)					1.95	k star (bias corrected MLE)					1.21
47	Theta hat (MLE)					0.00306	Theta star (bias corrected MLE)					0.00494
48	nu hat (MLE)					27.31	nu star (bias corrected)					16.94
49	MLE Mean (bias corrected)					0.00597	MLE Sd (bias corrected)					0.00543
50							Approximate Chi Square Value (0.05)					8.627
51	Adjusted Level of Significance					0.0158	Adjusted Chi Square Value					6.914
52												
53	Assuming Gamma Distribution											
54	95% Approximate Gamma UCL (use when n>=50))					0.0117	95% Adjusted Gamma UCL (use when n<50)					0.0146
55												

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.984	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.803	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.146	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.304	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-6.571	Mean of logged Data	-5.399
Maximum of Logged Data	-4.104	SD of logged Data	0.809

Assuming Lognormal Distribution

95% H-UCL	0.0179	90% Chebyshev (MVUE) UCL	0.0114
95% Chebyshev (MVUE) UCL	0.0139	97.5% Chebyshev (MVUE) UCL	0.0173
99% Chebyshev (MVUE) UCL	0.0241		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.00912	95% Jackknife UCL	0.00969
95% Standard Bootstrap UCL	0.00889	95% Bootstrap-t UCL	0.0126
95% Hall's Bootstrap UCL	0.0232	95% Percentile Bootstrap UCL	0.00919
95% BCA Bootstrap UCL	0.00989		
90% Chebyshev(Mean, Sd) UCL	0.0117	95% Chebyshev(Mean, Sd) UCL	0.0143
97.5% Chebyshev(Mean, Sd) UCL	0.0179	99% Chebyshev(Mean, Sd) UCL	0.025

Suggested UCL to Use

95% Student's-t UCL	0.00969		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFOS Depot

General Statistics

Total Number of Observations	18	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	0.001	Mean	0.0166
Maximum	0.155	Median	0.0045
SD	0.0361	Std. Error of Mean	0.0085
Coefficient of Variation	2.174	Skewness	3.733

Normal GOF Test

Shapiro Wilk Test Statistic	0.438	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.415	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.202	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL	**95% UCLs (Adjusted for Skewness)**

95% Student's-t UCL	0.0314	95% Adjusted-CLT UCL (Chen-1995)	0.0386
		95% Modified-t UCL (Johnson-1978)	0.0326

Gamma GOF Test

A-D Test Statistic	1.514	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.789	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.267	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.213	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.626	k star (bias corrected MLE)	0.559
Theta hat (MLE)	0.0265	Theta star (bias corrected MLE)	0.0297
nu hat (MLE)	22.54	nu star (bias corrected)	20.11
MLE Mean (bias corrected)	0.0166	MLE Sd (bias corrected)	0.0222
		Approximate Chi Square Value (0.05)	10.94
Adjusted Level of Significance	0.0357	Adjusted Chi Square Value	10.29

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.0305	95% Adjusted Gamma UCL (use when n<50)	0.0324

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.151	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.202	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-6.908	Mean of logged Data	-5.08
Maximum of Logged Data	-1.864	SD of logged Data	1.251

Assuming Lognormal Distribution

95% H-UCL	0.034	90% Chebyshev (MVUE) UCL	0.0256
95% Chebyshev (MVUE) UCL	0.0314	97.5% Chebyshev (MVUE) UCL	0.0395
99% Chebyshev (MVUE) UCL	0.0554		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0306	95% Jackknife UCL	0.0314
95% Standard Bootstrap UCL	0.0306	95% Bootstrap-t UCL	0.107
95% Hall's Bootstrap UCL	0.093	95% Percentile Bootstrap UCL	0.0325
95% BCA Bootstrap UCL	0.0414		
90% Chebyshev(Mean, Sd) UCL	0.0421	95% Chebyshev(Mean, Sd) UCL	0.0537
97.5% Chebyshev(Mean, Sd) UCL	0.0697	99% Chebyshev(Mean, Sd) UCL	0.101

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	0.0537		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

	A	B	C	D	E	F	G	H	I	J	K	L
166												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.12021-09-12 10:02:06								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	PFOS airport											
11												
12	General Statistics											
13					Total Number of Observations	269					Number of Distinct Observations	223
14					Number of Detects	260					Number of Non-Detects	9
15					Number of Distinct Detects	222					Number of Distinct Non-Detects	3
16					Minimum Detect	2.0000E-4					Minimum Non-Detect	2.0000E-4
17					Maximum Detect	9.09					Maximum Non-Detect	0.005
18					Variance Detects	0.475					Percent Non-Detects	3.346%
19					Mean Detects	0.186					SD Detects	0.689
20					Median Detects	0.0245					CV Detects	3.696
21					Skewness Detects	9.416					Kurtosis Detects	111
22					Mean of Logged Detects	-3.671					SD of Logged Detects	2.007
23												
24	Normal GOF Test on Detects Only											
25					Shapiro Wilk Test Statistic	0.292	Normal GOF Test on Detected Observations Only					
26					5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level					
27					Lilliefors Test Statistic	0.393	Lilliefors GOF Test					
28					5% Lilliefors Critical Value	0.0554	Detected Data Not Normal at 5% Significance Level					
29	Detected Data Not Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32					KM Mean	0.18					KM Standard Error of Mean	0.0414
33					KM SD	0.677					95% KM (BCA) UCL	0.251
34					95% KM (t) UCL	0.248					95% KM (Percentile Bootstrap) UCL	0.256
35					95% KM (z) UCL	0.248					95% KM Bootstrap t UCL	0.307
36					90% KM Chebyshev UCL	0.304					95% KM Chebyshev UCL	0.36
37					97.5% KM Chebyshev UCL	0.438					99% KM Chebyshev UCL	0.592
38												
39	Gamma GOF Tests on Detected Observations Only											
40					A-D Test Statistic	13.48	Anderson-Darling GOF Test					
41					5% A-D Critical Value	0.86	Detected Data Not Gamma Distributed at 5% Significance Level					
42					K-S Test Statistic	0.198	Kolmogorov-Smirnov GOF					
43					5% K-S Critical Value	0.0613	Detected Data Not Gamma Distributed at 5% Significance Level					
44	Detected Data Not Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47					k hat (MLE)	0.339					k star (bias corrected MLE)	0.338
48					Theta hat (MLE)	0.549					Theta star (bias corrected MLE)	0.551
49					nu hat (MLE)	176.5					nu star (bias corrected)	175.8
50					Mean (detects)	0.186						
51												
52	Gamma ROS Statistics using Imputed Non-Detects											
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	2.0000E-4	Mean	0.181
Maximum	9.09	Median	0.0228
SD	0.678	CV	3.757
k hat (MLE)	0.34	k star (bias corrected MLE)	0.338
Theta hat (MLE)	0.532	Theta star (bias corrected MLE)	0.534
nu hat (MLE)	182.7	nu star (bias corrected)	182
Adjusted Level of Significance (β)	0.0491		
Approximate Chi Square Value (181.98, α)	151.8	Adjusted Chi Square Value (181.98, β)	151.6
95% Gamma Approximate UCL (use when n>=50)	0.216	95% Gamma Adjusted UCL (use when n<50)	0.217

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.18	SD (KM)	0.677
Variance (KM)	0.458	SE of Mean (KM)	0.0414
k hat (KM)	0.0709	k star (KM)	0.0726
nu hat (KM)	38.12	nu star (KM)	39.03
theta hat (KM)	2.543	theta star (KM)	2.484
80% gamma percentile (KM)	0.07	90% gamma percentile (KM)	0.4
95% gamma percentile (KM)	1.041	99% gamma percentile (KM)	3.341

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (39.03, α)	25.72	Adjusted Chi Square Value (39.03, β)	25.66
95% Gamma Approximate KM-UCL (use when n>=50)	0.273	95% Gamma Adjusted KM-UCL (use when n<50)	0.274

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.98	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0.275	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.053	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0554	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.18	Mean in Log Scale	-3.816
SD in Original Scale	0.678	SD in Log Scale	2.132
95% t UCL (assumes normality of ROS data)	0.248	95% Percentile Bootstrap UCL	0.255
95% BCA Bootstrap UCL	0.281	95% Bootstrap t UCL	0.299
95% H-UCL (Log ROS)	0.327		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.81	KM Geo Mean	0.0221
KM SD (logged)	2.115	95% Critical H Value (KM-Log)	3.251
KM Standard Error of Mean (logged)	0.129	95% H-UCL (KM -Log)	0.316
KM SD (logged)	2.115	95% Critical H Value (KM-Log)	3.251
KM Standard Error of Mean (logged)	0.129		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.18	Mean in Log Scale	-3.814
SD in Original Scale	0.678	SD in Log Scale	2.132
95% t UCL (Assumes normality)	0.248	95% H-Stat UCL	0.328

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

	A	B	C	D	E	F	G	H	I	J	K	L
111												
112	Suggested UCL to Use											
113					KM H-UCL	0.316						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

Appendix O: Endemic Flora Species

Appendix O: Endemic Flora Species

Flora species of Norfolk Island listed under the Environment Protection and Biodiversity Conservation Act 1999 (from DNP, 2010)

Species	Common name	EPBC Act Status	Range
Abutilon julianae	Norfolk Island abutilon	Critically Endangered	Endemic
Achyranthes arborescens	chaff tree, soft-wood	Critically Endangered	Endemic
Achyranthes margaretarum	Phillip Island chaff-tree	Critically Endangered	Endemic (to Phillip Is)
Blechnum norfolkianum	Norfolk Island water-fern	Endangered	NI, Kermadec Is, Vanuatu, Samoa, Society Is
Boehmeria australis var. australis	tree nettle, nettletree	Critically Endangered	Endemic
Calystegia affinis	a creeper	Critically Endangered	Endemic to NI and LHI
Clematis dubia	clematis	Critically Endangered	Endemic
Coprosma baueri	coastal coprosma	Endangered	Endemic
Coprosma pilosa	mountain coprosma	Endangered	Endemic
Cordyline obtecta	ti	Vulnerable	NI, NZ
Crepidomanes endlicherianum	middle filmy fern	Endangered	NI, NZ, Fiji, Vanuatu, Samoa and Tahiti but not New Caledonia
Dysoxylum bijugum	sharkwood	Vulnerable	NI, New Caledonia, southern Vanuatu
Elatostema montanum	mountain procris	Critically Endangered	Endemic
Elymus multiflorus var. *kingianus*	Phillip Island wheat-grass	Critically Endangered	Endemic to NI and LHI
Euphorbia norfolkiana	Norfolk Island euphorbia	Critically Endangered	Endemic
Euphorbia obliqua	a herb	Vulnerable	NI, New Caledonia, Vanuatu
Hibiscus insularis	Phillip Island hibiscus	Critically Endangered	Endemic (to Phillip Is)
Hypolepis dicksonioides	downy ground-fern, brake fern, ground fern	Vulnerable	NI, Kermadec Is, NZ, Samoa, Society Is, Marquesas
Ileostylus micranthus	mistletoe	Vulnerable	NZ, arrived NI 1930s
Lastreopsis calantha	shield-fern	Endangered	Endemic
Marattia salicina	king fern, para, potato fern	Endangered	NI, NZ
Melicope littoralis	shade tree	Vulnerable	Endemic
Melictyus latifolius	Norfolk Island mahoe	Critically Endangered	Endemic
Melicytus ramiflorus subsp. *oblongifolius*	whiteywood	Vulnerable	Endemic
Meryta angustifolia	a tree	Vulnerable	Endemic
Meryta latifolia	broad-leaved meryta	Critically Endangered	Endemic
Muehlenbeckia australis	shrubby creeper, pohuehue	Endangered	NI, NZ
Myoporum obscurum	popwood	Critically Endangered	Endemic
Myrsine ralstoniae	beech	Vulnerable	Endemic
Pennantia endlicheri	pennantia	Endangered	Almost endemic (single tree on Three Kings Island (northern tip of NZ) appears to be this species)
Phreatia limenophylax	Norfolk Island phreatia	Critically Endangered	Endemic
Phreatia paleata	an orchid	Endangered	NI, New Caledonia, New Guinea, Solomon Is, Vanuatu
Pittosporum bracteolatum	oleander	Vulnerable	Endemic
Pouteria costata	bastard ironwood	Endangered	NI, NZ
Pteris kingiana	King's brakefern	Endangered	Endemic
Pteris zahlbruckneriana	netted brakefern	Endangered	Endemic
Senecio australis	a daisy	Vulnerable	NI, NZ
Senecio evansianus	a daisy	Endangered	Endemic
Senecio hooglandii	a daisy	Vulnerable	Endemic
Streblus pendulinus	Siah's backbone	Endangered	NI, New Guinea, Micronesia, Vanuatu, New Caledonia, Fiji, Hawaii
Taeniophyllum norfolkianum	minute orchid, ribbon-root orchid	Vulnerable	Endemic
Thelychiton brachypus	Norfolk Island orchid	Endangered	Endemic
Tmesipteris norfolkensis	hanging fork-fern	Vulnerable	Endemic
Ungeria floribunda	bastard oak	Vulnerable	Endemic
Wikstroemia australis	kurrajong	Critically Endangered	Endemic
Zehneria baueriana	native cucumber, giant cucumber	Endangered	NI, New Caledonia

Endemic plants of Norfolk Island not listed under the Environment Protection and Biodiversity Conservation Act 1999 (from DNP, 2010)

Species Name	Common Name	Distribution	Habitat
Alyxia gynopogon	evergreen	Widespread shrub	Shaded forest areas
Araucaria heterophylla	Norfolk Island pine	Widespread	Forests and open areas at all elevations from coastal to peaks
Asplenium dimorphum	two-frond fern, lace fern	Common in forests	Found in forests of NI National Park
Capparis nobilis	Devil's guts	Common in forests	Tall climber in the forests
Carex neesiana	a tufted perennial	Locally common	Damp area by streams in NI National Park
Cyathea australis norfolkensis	rough treefern, farn	Not common	Valleys and upper slopes of Mt Pitt and Mt Bates
Cyathea brownii	Norfolk Island treefern, farn	Common	Occurs at all elevations
Dendrobium macropus macropus	Norfolk Island orchid	Fairly common	Forest areas
Dianella intermedia	a herb	Fairly rare	In grassy and rocky places in light forest and in coastal areas
Freycinetia baueriana	mountain rush, palm-lily, screw palm	Frequent in forested areas	Male plants more common than relatively rare female plants
Korthalsella disticha	mistletoe	Widespread	Parasitises a number of species especially *Baloghia inophylla* and *Citrus jambhirra*
Melodinus baueri	big creeper	Not uncommon	Forests from lowest elevations to the summits in NI National Park
Streblorrhiza speciosa	Phillip Island glory pea	Extinct. Was endemic to Phillip Island	

Appendix P: Bird species identified on Norfolk Island

Bird Checklist for Norfolk Island

Forest birds

Common Name	Local Name	Scientific Name	Where	When	Seen
Green parrot (E, N)		*Cyanoramphus cookii*	Forest	All year	
Grey gerygone (N)	Hummingbird	*Gerygone modesta*	All habitats	All year	
Golden whistler (V, N)	Tamey	*Pachycephala pectoralis xanthoprocta*	Forest	All year	
Scarlet robin (V, E)		*Petroica multicolor multicolor*	Forest	All year	
Grey fantail (N)		*Rhipidura fuliginosa pelzelni*	Forest	All year	
White-breasted white-eye (X)	Grinnell	*Zosterops albogularis*	Forest		
Silvereye	Grinnell	*Zosterops lateralis*	Forest, gardens	All year	
Long-billed white-eye (N)	Grinnell	*Zosterops tenuirostris*	Forest	All year	
Sacred kingfisher (N)	Nuffka	*Halcyon sancta*	All habitats	All year	
Norfolk Island boobook owl (E, N)	Morepork	*Ninox novaeseelandiae undulata*	Forest	All year	
Shining bronze-cuckoo	Greenback	*Chrysococcyx lucidus*	Forest	Summer	
Welcome swallow		*Hirundo neoxena*	Open areas	Winter	
Long-tailed cuckoo		*Eudynamis taitensis*	Forest	Winter-spring	
Emerald dove		*Chalcophaps indica*	Forest, gardens	All year	
Australian kestrel	Sparrow-hawk	*Falco cenchroides*	Pasture, cliffs and forest edges	All year	
European goldfinch *		*Carduelis carduelis*	Open areas, gardens	All year	
European greenfinch *		*Carduelis chloris*	Open areas, gardens	All year	
House sparrow *		*Passer domesticus*	Open areas, gardens	All year	
Common starling *		*Sturnus vulgaris*	Open areas, gardens	All year	
European blackbird *		*Turdus merula*	All habitats	All year	
Song thrush *		*Turdus philomelos*	All habitats	All year	
Feral pigeon *		*Columba livia*	Open areas, gardens	All year	
Feral chicken *	Fowl / chook	*Gallus gallus*	All habitats	All year	
California quail *		*Lophortyx californicus*	All habitats	All year	
Crimson rosella *	Red parrot	*Platycercus elegans*	All habitats	All year	

Waterbirds

Common Name	Local Name	Scientific Name	Where	When	Seen
Mallard *		*Anas platyrhynchos*	Wetlands, dams	All year	
Pacific black duck	Duck	*Anas superciliosa*	Wetlands, dams	All year	
Feral goose *		*Anser domesticus*	Wetlands, dams	All year	
White-faced heron	Crane	*Ardea novaehollandiae*	Pastures, reef	All year	
Purple swamphen	Tarler bird	*Porphyrio porphyrio*	Wetlands, thick vegetation	All year	
Spotless crake	Little tarler bird	*Porzana tabuensis*	Wetlands	All year	
Buff-banded rail	Little tarler bird	*Rallus philippensis*	Wetlands	All year	
Great cormorant		*Phalacrocorax carbo*	Wetlands, coastal	Winter	
Little pied cormorant		*Phalacrocorax melanoleucos*	Wetlands, coastal	Winter	
Little black cormorant		*Phalacrocorax sulcrirostris*	Wetlands, coastal	Winter	

Legend: (E) = endangered; (V) = vulnerable; (X) = extinct; (N) = endemic to Norfolk Island; * = introduced

Seabirds

Common Name	Local Name	Scientific Name	Where	When	Seen
Grey ternlet	Patro	*Procelsterna albivittata*	Off-shore Islands	All year	
White-capped noddy	Titerack	*Anous minutus*	Off-shore Islands	All year, some migrate	
White tern		*Gygis alba*	Forest	All year, some migrate	
Red-tailed tropic bird		*Phaethon rubricauda roseotincta*	Coastal cliffs & off-shore Islands	All year, some migrate	
Masked booby	Garnet	*Sula dactylatra fullagari*	Off-shore Islands	All year, some migrate	
Common noddy	Noddy	*Anous stolidus*	Off-shore Islands	Spring - autumn	
Australasian gannet	Garnet	*Morus serrator*	Off-shore Islands	Spring - autumn	
Wedge-tail shearwater	Ghostbird	*Puffinus pacificus*	Coastal cliffs	Spring - autumn	
Sooty tern	Whale bird	*Sterna fuscata*	Off-shore Islands	Spring - autumn	
Little shearwater		*Puffinus assimilis*	Coastal cliffs & off-shore Islands	Spring - autumn	
Ruddy turnstone		*Arenaria interpres*	Coastal and reef	Summer	
Bar-tailed godwit		*Limosa lapponica*	Wetlands and coastal	Summer	
Black-tailed godwit		*Limosa limosa*	Wetlands and coastal	Summer	
Whimbrel		*Numenius phaeopus*	Wetlands and coastal	Summer	
Lesser golden plover		*Pluvialis dominica*	Pasture	Summer	
Pacific golden plover		*Pluvias fulva*	Pasture	Summer	
Black-winged petrel		*Pterodroma nigripennis*	Coastal	Summer	
Greenshank		*Tringa nebularia*	Wetlands and coastal	Summer	
White-necked petrel		*Pterodroma cervicalis*	Phillip Island	Summer - autumn	
Kermadec petrel (V)		*Pterodroma neglecta*	Phillip Island	Summer - autumn	
Double-banded plover		*Charadrius bicinctus*	Coastal and reef	Winter	
Providence petrel		*Pterodroma solandri*	Phillip Island	Winter	
Lesser frigatebird		*Fregata ariel*	Coastal	All year	
Greater frigatebird		*Fregata minor*	Coastal	All year	

Birdwatchers notes:

Legend: (E) = endangered; (V) = vulnerable; (X) = extinct; (N) = endemic to Norfolk Island; * = introduced

Occasional visitors / vagrants

Common Name	Scientific Name	Habitat
Brown goshawk	*Accipiter fasciatus*	All habitats
White-throated needletail	*Hirundapus caudacutus*	All habitats
Fork-tailed swift	*Apus pacificus*	All habitats
Barn owl	*Tyto alba*	All habitats
Masked lapwing	*Vanellus miles*	All habitats
Hardhead	*Aythya australis*	Wetlands, coastal
Cattle egret	*Bubulcus ibis*	Pasture, wetlands
Pallid cuckoo	*Cuculus pallidus*	Forest
Rose-crowned fruit-dove	*Ptilinopus regina*	Forest
Dollarbird	*Eurystomus orientalis*	Forest and gardens
Cape petrel	*Daption capense*	Coastal
Gould's petrel	*Pterodroma leucoptera*	Coastal
Short-tailed shearwater	*Puffinus tenuirostris*	Coastal
Townsend's shearwater	*Puffinus auricularis*	Coastal
Flesh-footed shearwater	*Puffinus carneipes*	Coastal
Wandering albatross	*Diomedea exulans*	Coastal
White-fronted tern	*Sterna striata*	Coastal
Brown booby	*Sula leucogaster*	Coastal
Silver gull	*Larus novaehollandiae*	Coastal
Kelp gull	*Larus dominicanus*	Coastal
Southern giant petrel	*Macronectes giganteus*	Coastal
White-winged tern	*Chlidonias leucopterus*	Coastal
Laysan albatross	*Phoebastria immutabilis*	Coastal
White-tailed tropicbird	*Phaethon lepturus*	Coastal
Terek sandpiper	*Xenus cinereus*	Wetlands and coastal
Eurasian coot	*Fulica atra*	Wetlands, coastal
Latham's snipe	*Gallinago hardwickii*	Wetlands, coastal
South Island pied oystercatcher	*Haematopus ostralegus finschi*	Wetlands, coastal
Grey-tailed tattler	*Heteroscelus brevipes*	Wetlands, coastal
Wandering tattler	*Heteroscelus incanus*	Wetlands, coastal

Common Name	Scientific Name	Habitat
Eastern curlew	*Numenius phaeopus*	Wetlands, coastal
Australasian grebe	*Tachybaptus novaehollandiae*	Wetlands, coastal
Australian pelican	*Pelecanus conspicillatus*	Wetlands, coastal
Bristle-thighed curlew	*Numenius tahitiensis*	Wetlands, coastal
Great cormorant	*Phalacrocorax carbo*	Wetlands, coastal
Little black cormorant	*Phalacrocorax sulcirostris*	Wetlands, coastal
Marsh sandpiper	*Tringa stagnatilis*	Wetlands, coastal
Little pied cormorant	*Microcarbo melanoleucos*	Wetlands, coastal
Curlew sandpiper	*Calidris ferruginea*	Wetlands, coastal
Hudsonian godwit	*Limosa haemastica*	Wetlands, coastal
Black-winged stilt	*Himantopus himantopus*	Wetlands, coastal
Sharp-tailed sandpiper	*Calidris acuminata*	Wetlands, coastal
Red knot	*Calidris canutus*	Wetlands, coastal
Common sandpiper	*Actitis hypoleucos*	Wetlands, coastal
Red-necked stint	*Calidris ruficolis*	Wetlands, coastal
Brown skua	*Catharacta skua*	Wetlands, coastal
Mongolian plover	*Charadrius mongolus*	Wetlands, coastal
Marsh harrier	*Circus aeruginosus*	Wetlands, coastal
Black swan	*Cygnus atratus*	Wetlands
Australian shelduck	*Tadorna tadornoides*	Wetlands
Sacrid ibis	*Threskiornis bernieri*	Wetlands
White Ibis	*Threskiornis molluca*	Wetlands
Plumed whistling duck	*Dendrocygna eytoni*	Wetlands
Pacific heron	*Ardea pacifica*	Wetlands
Little egret	*Egretta garzetta*	Wetlands
Intermediate egret	*Egretta intermedia*	Wetlands
Yellow-billed spoonbill	*Platalea flavipes*	Wetlands
Royal spoonbill	*Platalea regia*	Wetlands
Great egret	*Ardea alba*	Wetlands

Appendix Q: Screening levels for raptors identified on Norfolk Island

Appendix Q: Screening levels for raptors identified on-island

1. Introduction

Two carnivorous birds (raptors, or birds of prey) have been identified on-island and are assessed to be potentially present in off-site areas:

- Norfolk Island Boobook owl (*Ninox novaeseelandiae undulata*; endangered); and
- Australian kestrel (*Falco cenchroides*; not listed))

No relevant screening level for carnivorous birds is presented in ECCC, 2017. A site-specific screening level has been derived utilising the same approach as adopted in ECCC, 2017, but incorporating species-specific literature-sourced parameter values (e.g. assumed diet, body weight, food ingestion rate) for the species listed above.

2. Assumed diet

A key factor in the derivation of the screening levels is an understanding of what makes up the diet of these birds. PFAS is taken up more readily into some species than others; for example PFAS concentrations in invertebrates are estimated to be higher than PFAS concentrations in mammals exposed to the same concentrations in the environment. As such, exposure of predators will vary depending on their diet.

A literature review has indicated that both the southern boobook owl (*Ninox novaeseelandiae)* (i.e. the mainland species of which the Norfolk Island Boobook owl is a subspecies) and the Australian kestrel (*Falco cenchroides*) have variable diets, as summarised below:

- **Boobook owl:** Fitzsimmons and Rose (2010)[1] presents a study into the diet of a southern boobook in Victoria, Australia. An analysis of pellets found invertebrates to represent 82% of the prey items, but vertebrates (mice) to represent 88% of the biomass. It is noted that invertebrates may be under-represented in pellets (i.e. other studies show pellets contain proportionally less invertebrates than stomach contents); some other studies referenced also list invertebrates as the main prey item (although with vertebrates still representing a significant proportion of the diet) and others list the biomass as primarily vertebrates. It is noted that the invertebrate species targeted by the owl are above-ground and/or flying (e.g. moths, beetles, spiders) which are less likely to be exposed to PFAS than soil invertebrates (e.g. earthworms). Based on this review, a screening level which assumes a mammalian diet is most likely to be representative/conservative; however a diet of invertebrates has also been considered for conservatism.
- **Australian kestrel:** Olsen and Olsen (1978)[2] presents observations on the diet of the Australian kestrel. During a mouse plague, castings were found to contain 99% vertebrates by biomass (almost entirely mice) while in another study (not during a mouse plague), digestive tracts were found to contain 69% invertebrates by biomass. The digestive tracts of immature kestrels were found to contain only invertebrates. The predominant invertebrates were flying insects (mainly grasshoppers and crickets) which are less likely to be exposed to PFAS than soil invertebrates (e.g. earthworms). Based on this review, screening levels have been derived assuming both a vertebrate diet and an invertebrate diet.

[1] Fitzsimmons and Rose, 2010. The diet of a Southern Boobook *Ninox novaeseelandiae* in Box-Ironbark country, central Victoria

[2] Olsen and Olsen, 1978. Observations on the diet of the Australian kestrel *Falco cenchroides*

Because of this variability in diet, together with the known availability of both mammal prey (e.g. rats and mice) and invertebrates on island, two screening levels have been developed for each species, one assuming 100% mammal diet, and one assuming 100% invertebrate diet. The lowest screening level is then retained, and is considered protective regardless of diet.

3. Screening level derivation

Screening levels derivations are presented in Attachment 1 (Norfolk Island Boobook owl) and Attachment 2 (Australian kestrel). The derivation incorporates literature data values specific to these species for a number of parameters (including body weight and food/energy requirements). These parameters are sourced from Wombaroo Food Products, 2018. *Feeding Guidelines for native birds*; the guidelines are based on a study (Rich, 2018. *Feed Guidelines for Native Birds in Rehabilitation*) which collates information regarding natural bird diets and energy requirements for a broad range of native bird species to formulate feed guidelines.

The screening levels are summarised below:

Species	PFOS screening level (mg/kg)	
	100% invertebrate diet	100% mammal diet
Norfolk Island Boobook owl	0.74	3.1
Australian kestrel	0.66	2.7

The lowest screening level is **0.66 mg/kg PFOS**, derived for kestrel eating a 100% invertebrate diet. This screening level has been adopted to offer protection to both the Norfolk Island Boobook owl and the Australian kestrel, regardless of diet.

This screening level is assessed to be highly conservative

Appendix Q1

Derivation of screening level to protect the Norfolk Island Boobook owl (*Ninox novaeseelandiae undulata*)

Parameter	Units	Value		Source
		Mammalian diet	Invertebrate diet	
Daily Threshold Effects Dose (PFOS)	mg/kg bw-day	0.386	0.386	CCME, TED for birds
Body weight	kg	0.25	0.25	Wombaroo Food Products, 2018. Feeding Guidelines for native birds. Value for the southern boobook owl (*Ninox novaeseelandiae*).
Energy requirement	kJ/day	230	230	Wombaroo Food Products, 2018. Feeding Guidelines for native birds. Value for the southern boobook owl (*Ninox novaeseelandiae*).
Energy content of food	kJ/g dw	21.7	19.3	DEFRA, 2002 presents energy content for a wide variety of food types. For mammals the value for small mammals is selected. For invertebrates, the lowest value (for soil invertebrates) is conservatively selected. Higher energy content values are listed for arthropods and caterpillars; assuming lower energy content food is conservative, as it will result in a greater biomass intake to reach energy requirements.
Food ingestion rate (dw)	kgdw/day	0.0106	0.0119	Calculated based on enery requirement and energy content of food (dry weight)
BCF Soil→diet	unitless	2.97	10.9	CCME, BCF into mammals and birds (2.97) or invertebrates (10.9) (DW)
Acceptable daily PFOS intake	mg/day	0.10	0.10	Calculated as: TED × body weight
Acceptable PFOS concentration in diet (DW)	mg/kg	9.1	8.1	Calculated as: Acceptable intake / food ingestion rate (DW)
Soil screening level (PFOS)	mg/kg	**3.1**	**0.74**	Calculated as: Acceptable concentration in diet (DW) / BCF

References:
Wombaroo Food Products, 2018. Feeding Guidelines for native birds
DEFRA, 2002. Project PN0908: Methods for Estimating Daily Food Intake of Wild Birds And Mammals

Appendix Q2

Derivation of screening level to protect the Australian kestrel (*Falco cenchroides*)

Parameter	Units	Value		Source
		Mammalian diet	Invertebrate diet	
Daily Threshold Effects Dose (PFOS)	mg/kg bw-day	0.386	0.386	CCME, TED for birds
Body weight	kg	0.175	0.175	Wombaroo Food Products, 2018. Feeding Guidelines for native birds. Value for the Australian kestrel (*Falco cenchroides*)
Energy requirement	kJ/day	180	180	Wombaroo Food Products, 2018. Feeding Guidelines for native birds. Value for the Australian kestrel (*Falco cenchroides*)
Energy content of food	kJ/g dw	21.7	19.3	DEFRA, 2002 presents energy content for a wide variety of food types. For mammals the value for small mammals is selected. For invertebrates, the lowest value (for soil invertebrates) is conservatively selected. Higher energy content values are listed for arthropods and caterpillars; assuming lower energy content food is conservative, as it will result in a greater biomass intake to reach energy requirements.
Food ingestion rate (dw)	kgdw/day	0.0083	0.0093	Calculated based on enery requirement and energy content of food (dry weight)
BCF Soil→diet	unitless	2.97	10.9	CCME, BCF into mammals and birds (2.97) or invertebrates (10.9) (DW)
Acceptable daily PFOS intake	mg/day	0.07	0.07	Calculated as: TED × body weight
Acceptable PFOS concentration in diet (DW)	mg/kg	8.1	7.2	Calculated as: Acceptable intake / food ingestion rate (DW)
Soil screening level (PFOS)	mg/kg	**2.7**	**0.66**	Calculated as: Acceptable concentration in diet (DW) / BCF

References:

Wombaroo Food Products, 2018. Feeding Guidelines for native birds

DEFRA, 2002. Project PN0908: Methods for Estimating Daily Food Intake of Wild Birds And Mammals

Appendix R: Adjusted water quality guidelines

Taxonomic Group	Species	NOEC (µg/L)
Micro Algae	*Selenastrum capricornutum*	5300
Micro Algae	*Chlorella vulgaris*	8200
Micro Algae	*Scenedesmus obliquus*	51000
Micro Algae	*Navicula pelliculosa*	62300
Micro Algae	*Anabaena flos-aquae*	82000
Macrophyte	*Myriophyllum sibiricum*	100
Macrophyte	*Myriophyllum spicatum*	3300
Macrophyte	*Lemna gibba*	6600
Crustacean	*Daphnia magna*	8
Crustacean	*Moina macrocopa*	312.5
Crustacean	*Daphnia pulicaria*	6000
Insecta - Odonata	*Enallagma cyathigerum*	7.95
Insecta – Diptera	*Chironomus tentans*	49.2
Amphibian	*Rana pipiens*	1242

R2: Adjusted PFOS screening levels

Species protection level	PFOS screening level (µg/L)
80%	148
90%	14
95%	1.3
99%	0.006

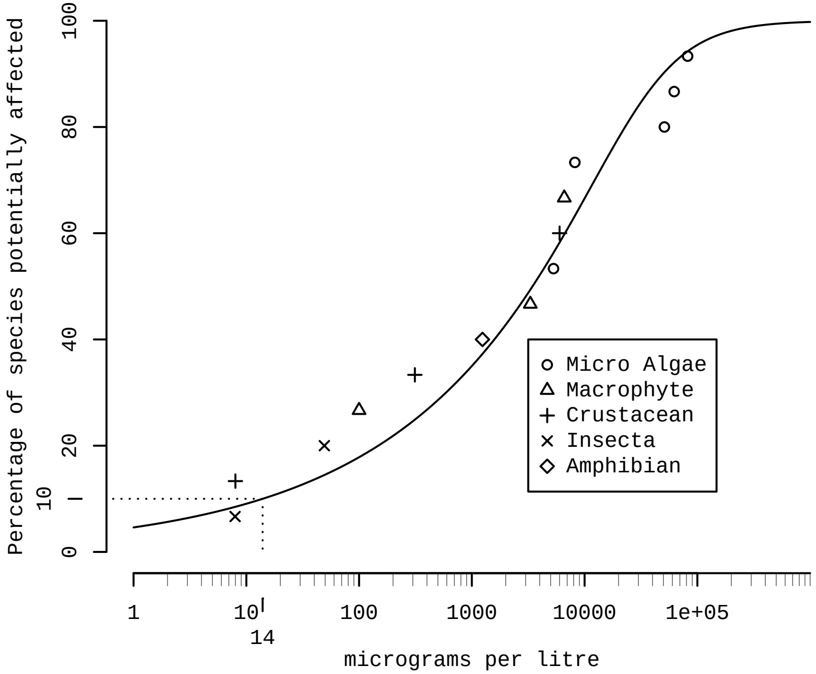
Burrlioz 2.0 report

Toxicant: PFOS
Input file: C:\Users\katie.richardson\Documents\NI\Surface water\Adjusted screening leve
Time read: Tue Sep 14 19:02:48 2021
Units: micrograms per litre
Model: Burr type III

Protection level information

Protect. level	Guideline Value	lower 95% CI	upper 95% CI
99%	0.0055	0	26
95%	1.3	0	146
90%	14	0	464
80%	148	17	1603

notes:



Data:

NOEC	Taxonomic Group
5300	Micro Algae
8200	Micro Algae
51000	Micro Algae
62300	Micro Algae
82000	Micro Algae
100	Macrophyte
3300	Macrophyte
6600	Macrophyte
8	Crustacean
312.5	Crustacean
6000	Crustacean
7.95	Insecta
49.2	Insecta
1242	Amphibian

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