

PFOS						
Source Area		Former Fire Training Area 1				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
Stockpile	200	1	200	5000	330000	1.650
6600+	175	0.5	87.5	26286	144375	3.795
600-6600	175	1	175	1604	288750	0.463
600-6600	2030	1.5	3045	1604	5024250	8.059
100-600	9450	1.5	14175	202	23388750	4.725
<LOR-100	22000	5	110000	27	181500000	4.901
Estimated mass PFAS Soil (kg)						23.592
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (100m diameter Circle)	7854	15	35343	20.75		0.733
Total Estimated Mass of PFAS within Source Area (kg)						24.325

PFOS						
Source Area		Former Fuel Farm 5				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+		0.5	0		0	0.000
600-6600		1.5	0		0	0.000
100-600	320	1.5	480	200	792000	0.158
<LOR-100	5575	5	27875	18	45993750	0.828
<LOR-100	1200	1.1	1320	18	2178000	0.039
Estimated mass PFAS Soil (kg)						1.025
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (100m diameter Circle)	7854	15	35343	13.2		0.467
Total Estimated Mass of PFAS within Source Area (kg)						1.492

Total PFAS						
Source Area		Former Fire Training Area 1				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
Stockpile	200	1	200	5000	330000	1.650
6600+	175	0.5	87.5	26585	144375	3.838
600-6600	175	1	175	1769	288750	0.511
600-6600	2030	1.5	3045	1769	5024250	8.888
100-600	9450	1.5	14175	225	23388750	5.262
<LOR-100	22000	5	110000	29	181500000	5.264
Estimated mass PFAS Soil (kg)						25.413
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (100m diameter Circle)	7854	15	35343	42.1		1.488
Total Estimated Mass of PFAS within Source Area (kg)						26.901

Total PFAS						
Source Area		Former Fuel Farm 5				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+		0.5	0		0	0.000
600-6600		1.5	0		0	0.000
100-600	320	1.5	480	213	792000	0.169
<LOR-100	5575	5	27875	19	45993750	0.874
<LOR-100	1200	1.1	1320	19	2178000	0.041
Estimated mass PFAS Soil (kg)						1.084
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (100m diameter Circle)	7854	15	35343	18.9		0.668
Total Estimated Mass of PFAS within Source Area (kg)						1.752

PFOS

Source Area Former Fuel Farms 4 & 6						
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+	80	0.5	40	9300	66000	0.614
600-6600	80	1	80	1300	132000	0.172
600-6600	1175	1	1175	1300	1938750	2.520
100-600	4510	1	4510	218	7441500	1.622
<LOR-100	14600	5	73000	28	120450000	3.373
Estimated mass PFAS Soil (kg)						8.301
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (120m diameter Circle)	11310	15	50894	30.7		1.562
Source Area (160m diameter Circle)	20106	15	90478	21.5		1.945
Total Estimated Mass of PFAS within Source Area (kg)						11.808

Source Area PFAS Containing Stockpiles						
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
Stockpile	1300	1	1300	5556	2145000	11.917
Estimated mass PFAS Soil (kg)						11.917
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
						0.000
Total Estimated Mass of PFAS within Source Area (kg)						11.917

Total PFAS

Source Area Former Fuel Farms 4 & 6						
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+	80	0.5	40	10237	66000	0.676
600-6600	80	1	80	1539	132000	0.203
600-6600	1175	1	1175	1539	1938750	2.984
100-600	4510	1	4510	272	7441500	2.024
<LOR-100	14600	5	73000	30	120450000	3.614
Estimated mass PFAS Soil (kg)						9.500
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (120m diameter Circle)	11310	15	50894	52.9		2.692
Source Area (160m diameter Circle)	20106	15	90478	27.4		2.479
Total Estimated Mass of PFAS within Source Area (kg)						14.671

Source Area PFAS Containing Stockpiles						
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
Stockpile	1300	1	1300	7500	2145000	16.088
Estimated mass PFAS Soil (kg)						16.088
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
						0.000
Total Estimated Mass of PFAS within Source Area (kg)						16.088

PFOS						
Source Area		Former ARFF Fire Station				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
<LOR-100	18000	8	144000	66	237600000	15.682
Estimated mass PFAS Soil (kg)						15.682
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (200m diameter Circle)	31416	15	141372	161		22.761
Total Estimated Mass of PFAS within Source Area (kg)						38.442

PFOS						
Source Area		Former Fuel Farm 1 & Hangar 31				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+	250	0.5	125	9900	206250	2.042
600-6600	3325	1.5	4987.5	1757	8229375	14.459
100-600			0		0	0.000
<LOR-100	4850	0.5	2425	38	4001250	0.152
Estimated mass PFAS Soil (kg)						16.653
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (300m diameter Circle)	70686	15	318086	6.2		1.972
Total Estimated Mass of PFAS within Source Area (kg)						18.625

Total PFAS						
Source Area		Former ARFF Fire Station				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
<LOR-100	18000	8	144000	78	237600000	18.533
Estimated mass PFAS Soil (kg)						18.533
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (200m diameter Circle)	31416	15	141372	227		32.091
Total Estimated Mass of PFAS within Source Area (kg)						50.624

Total PFAS						
Source Area		Former Fuel Farm 1 & Hangar 31				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+	250	0.5	125	9926	206250	2.047
600-6600	3325	1.5	4987.5	1773	8229375	14.591
100-600			0		0	0.000
<LOR-100	4850	0.5	2425	38	4001250	0.152
Estimated mass PFAS Soil (kg)						16.790
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (300m diameter Circle)	70686	15	318086	8.6		2.736
Total Estimated Mass of PFAS within Source Area (kg)						19.526

PFOS						
Source Area		Former RAAF Fire Station				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+			0		0	0.000
600-6600	175	1	175	1700	288750	0.491
100-600	750	1	750	226	1237500	0.280
<LOR-100	5500	5	27500	30	45375000	1.361
Estimated mass PFAS Soil (kg)						2.132
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (100m diameter Circle)	7854	15	35343	5.6		0.198
Total Estimated Mass of PFAS within Source Area (kg)						2.330

PFOS						
Source Area		Former Fire Training Area 2				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
Stockpile			300	38	495000	0.019
6600+	75	1.5	112.5	30000	185625	5.569
600-6600	1550	1.5	2325	1751	3836250	6.717
100-600	4200	1.5	6300	198	10395000	2.058
<LOR-100	11510	5	57550	38	94957500	3.608
Estimated mass PFAS Soil (kg)						17.971
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (120m diameter Circle)	11310	15	50894	4		0.204
Total Estimated Mass of PFAS within Source Area (kg)						18.175

Total PFAS						
Source Area		Former RAAF Fire Station				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+			0		0	0.000
600-6600	175	1	175	1911	288750	0.552
100-600	750	1	750	246	1237500	0.304
<LOR-100	5500	5	27500	38	45375000	1.724
Estimated mass PFAS Soil (kg)						2.580
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (100m diameter Circle)	7854	15	35343	9.2		0.325
Total Estimated Mass of PFAS within Source Area (kg)						2.906

Total PFAS						
Source Area		Former Fire Training Area 2				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
Stockpile			300	38	495000	0.019
6600+	75	1.5	112.5	33000	185625	6.126
600-6600	1550	1.5	2325	2011	3836250	7.715
100-600	4200	1.5	6300	212	10395000	2.204
<LOR-100	11510	5	57550	39	94957500	3.703
Estimated mass PFAS Soil (kg)						19.766
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (120m diameter Circle)	11310	15	50894	5.7		0.290
Total Estimated Mass of PFAS within Source Area (kg)						20.056

PFOS

Source Area		Current Fire Training Area				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+	250	0.5	125	26980	206250	5.565
600-6600	1465	0.5	732.5	1343	1208625	1.623
100-600	1000	1.5	1500	245	2475000	0.606
100-600	4265	0.5	2132.5	245	3518625	0.862
<LOR-100	1250	1.5	1875	25	3093750	0.077
<LOR-100	21175	5	105875	25	174693750	4.367
Estimated mass PFAS Soil (kg)						13.101
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (200m diameter Circle)	31416	15	141372	21		2.969
Total Estimated Mass of PFAS within Source Area (kg)						16.070

Source Area		Diffuse Mass of PFAS Across Investigation Area				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
IA	14000000	1	14000000	2.5	23100000000	57.750
Estimated mass PFAS Soil (kg)						57.750
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
1ug/kg	12,658,598	10	37975794	0.5		18.988
10ug/kg	5,954,498	15	26795241	5		133.976
10+	834,553	15	3755489	48		180.263
Total Estimated Mass of PFAS within Source Area (kg)						390.978

Assumptions

Density of Soil is 1650 kg per m3

Effective porosity is 30%

denotes underlying soils beneath higher-concentration locations

Diffuse PFAS assumes an average concentration of 2.5ug/kg across a 1m thickness of soil/Aquifer matrix across the IA

Total PFAS

Source Area		Current Fire Training Area				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
6600+	250	0.5	125	27071	206250	5.583
600-6600	1465	0.5	732.5	1515	1208625	1.831
100-600	1000	1.5	1500	284	2475000	0.703
100-600	4265	0.5	2132.5	284	3518625	0.999
<LOR-100	1250	1.5	1875	34	3093750	0.105
<LOR-100	21175	5	105875	34	174693750	5.940
Estimated mass PFAS Soil (kg)						15.161
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
Source Area (200m diameter Circle)	31416	15	141372	42		5.938
Total Estimated Mass of PFAS within Source Area (kg)						21.099

Source Area		Diffuse Mass of PFAS Across Investigation Area				
Zone	Areal Extent (m2)	Estimated Depth (m)	Estimated Volume (m3)	Average Concentration (ug/kg)	Estimated mass impacted soil (kg)	Estimated mass PFAS (kg)
Soil						
IA	14000000	1	14000000	2.5	23100000000	57.750
Estimated mass PFAS Soil (kg)						57.750
Zone	Areal Extent (m2)	Estimated Impacted Thickness of Aquifer (m)	Estimated Volume of Impacted Groundwater (m3)	Average Concentration (ug/L)		Estimated mass PFAS (kg)
Groundwater						
1ug/kg	12,658,598	10	37975794	0.5		18.988
10ug/kg	5,954,498	15	26795241	5		133.976
10+	834,553	15	3755489	48		180.263
Total Estimated Mass of PFAS within Source Area (kg)						390.978